DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS IN HARDAP, KAVANGO EAST AND KHOMAS REGIONS, NAMIBIA

A DISSERTATION SUBMITTED IN FULFILMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR IN NURSING SCIENCE

OF

THE UNIVERSITY OF NAMIBIA

BY

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OCTOBER 2022

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“I sought the LORD, and he heard me, and delivered me from all my fears”

Psalm 34: 4

ABSTRACT

With the adoption of the community health worker programme, the primary health care directorate of the ministry of health aimed at delivering family and community-centred promotive, preventive, rehabilitative and basic curative services to all citizens of Namibia. The programme's services focused on preventive and promotive infant and under-five-year-olds' health care, maternal and neonatal health care, adolescent and youth-friendly health services, human immunodeficiency virus and acquired immunodeficiency syndrome and tuberculosis prevention, social welfare and disability prevention. However, no functional unit with its own ideal structure for monitoring and facilitation of community health workers' services was established. The latter resulted in the programme experiencing challenges with the planning of facilitation strategies that would enhance the programme's effects.

The overall purpose of the study was to investigate the effectiveness and functionality of facilitation (mentoring, supervision, monitoring, evaluation and training) by the registered nurses to the community health workers deployed by the ministry in the Hardap, Kavango East and Khomas regions of Namibia. It was also to develop strategies for registered nurses to facilitate services rendered by CHWs based on Standard Operating Procedures Guidelines of primary health care. This study was conducted in a quantitative and qualitative nature, thus a mixed methods approach in five phases. Phase 1 being a situational analysis, phase 2 conceptual framework development, phase 3 strategy development and phases 4 and 5 comprising testing the implementability and preliminary evaluation of the developed strategies in the Khomas region. The study was conducted within a pragmatist paradigm, which employed the quantitative research approach, exploratory, descriptive, and non-experimental designs. At the same time, it was interpretive, employing a qualitative phenomenological, exploratory, contextual and descriptive research approach to understand recipients' experiences.

Four groups of respondents (138 community health workers for the quantitative design, three primary health care supervisors, 10 registered nurses and 64 community health workers for the qualitative design) were used to learn their responses and experiences. Structured questionnaires were completed for the quantitative part, while eight focus group discussions were performed with community health workers. Unstructured in-depth interviews were conducted with registered nurses and primary health care supervisors until data saturation.

The main challenges that were identified from the situational analysis include, inadequate and infrequent facilitation of community health workers' services, negative perceptions on facilitation of community health workers' services and insufficient communication among implementers.

Furthermore, the findings indicated lack of feedback and training, lack of supportive supervision, monitoring and evaluation and poor management of the community health worker programme.

The findings shaped the basis for the conceptualisation in phase 2. Key findings from the mixed methods research were linked to the practice-oriented theory of Dickoff, James and Wiedenbach (as cited in Chinn & Kramer, 2015). The practice-oriented theory consists of concepts such as agent (the researcher), the recipient (registered nurse who will primarily be introduced to the developed strategies and community health workers who will benefit from registered nurse knowledge on strategies) as well as the context (health facilities where the developed strategies are to be used and communities where community health workers are deployed and where facilitation will take place). In this study, dynamics refer to the challenges that registered nurses experience in facilitating services rendered by community health workers**.** Procedure refers to the process followed by the agent in the development of strategies for effective implementation of the community health worker programme. The terminus refers to facilitators and supervisors who utilise the developed strategies to facilitate the services rendered by community health workers, ensure the community health worker programme is managed appropriately and functioning optimally, and that community health workers are receiving in-service training and are satisfied with the facilitation of their services. Phase 3 dealt with the development of the strategies for facilitators of the community health workers. The researcher used the findings from the situational analysis (phase 1) and the survey list of Dickoff et al. (as cited in Chinn & Kramer, 2015) as the reasoning map. The Standard Operating Procedure Guidelines of the ministry of health (Ministry of Health and Social Services, 2014) supplemented the information of the five strategies.

Phase 4 aimed at determining implementability of developed strategies in the Khomas region, as there were limitations to determining implementability in the Hardap and Kavango East regions. This was done to authenticate and ensure accessibility of developed strategies. The researcher made use of national and international professionals who were experts in the field of community health workers. During phase 5, a preliminary evaluation of the strategies was done in accordance with the criteria proposed by Chinn and Kramer (2011), namely clarity, simplicity, generality, accessibility and importance. The researcher achieved this by conducting a two-day discussion workshop during which attendees gave their comments and inputs. The study recommends that districts construct a supervision structure and deploy a knowledgeable enrolled nurse to provide frequent, supportive supervision to community health workers. Furthermore, the researcher recommends compulsory attachment of community health workers to outreach teams. Another recommendation proposed is the strengthening of advocacy within the community.

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AIDS	Acquired Immunodeficiency Syndrome
ARI	Acute Respiratory Infections
ART	Anti-Retroviral Therapy
BRAC	Bangladesh Rural Advancement Committee
CBHC	Community Based Health Care
CBHP	Community-based health programme
CBHWs	Community-based health workers
CEMH	Community Empowerment and Mobilisation for Health
CHWP	Community Health Worker Programme
CHWs	Community Health Workers
Con Ed	Continuous Education
DOTS	Directly Observed Therapy Support
ELT	Experiential Learning Theory
FGDs	Focus Group Discussions
FHP	Family Health Programme
FHTs	Family Health Teams
GDP	Gross Domestic Product
GNI	Gross National Income
HAART	Highly Active Antiretroviral Therapy
HEP	Health Extension Programme
HEWs	Health Extension Workers
HIS	Health Information System
HIV	Human Immune Deficiency Virus
IEC	Information Education Communication
IMR	Infant Mortality Rate
LGBT	Lesbian, Gay, Bisexual and Transgender
LHWP	Lady Health Workers Programme
LHWs	Lady Health Workers
MDGs	Millennium Development Goals
MNCH	Maternal, Newborn and Child Health
MOE	Ministry of Education
MOH	Ministry of Health
MoHSS	Ministry of Health and Social Services
NANGOF	Namibian Non-Governmental Organisation Forum

NDHS	Namibia Demographic Health Survey
NGOs	Non-governmental Organisations
NHTC	National Health Training Centre
ORS	Oral Rehydration Solution
PHC	Primary Health Care
PLWHA	People Living with HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
RN	Registered Nurse
SKs	Shastho Kormis
SOPG	Standard Operating Procedure Guidelines
SSs	Shastho Sebikas (Bangladesh)
STI	Sexually Transmitted Infections
TB	Tuberculosis
TBAs	Traditional Birth Attendants
TOT	Training of Trainers
UNAM	University of Namibia
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VCHW	Volunteer Community Health Workers
VHC	Village Health Committees
VHTs	Village Health Teams
VHWs	Village Health Workers
WASH	Water, sanitation and hygiene
WHO	World Health Organisation

ACKOWLEDGEMENT

First, I would like to express my sincere gratitude to our heavenly Father who in spirit stood by my side and inspired me throughout my study programme during the setbacks and challenges of life.

I want to thank my main supervisor, Professor Lischen Haoses-Gorases and co-supervisor, Doctor Esther Kamenye. I appreciate their invaluable guidance and encouragement throughout this study journey. I also appreciate their ability to lighten my feelings of discouragement by their encouraging comments. I also would like to thank the following people in their own capacities:

My brother Richard and sister Elsie, who made my education a priority, my children Elton, Ettienne, Leigh-Ann, Naomi and Cecil for their trust in me. My daughters-in-law, Leonarda and Anna, sons-in-law, Ignatius and Paul, and all grandchildren for their encouragement and just being there for me.

Mr Harry Vries, who has been assisting me with driving to the different regions throughout the entire data collection process.

Dr. M.B Tibinyane, Ms. N. Uukule and Dr. O. Emvula for offering a listening ear for all my questions when I needed a push, without your friendship, I would be lost.

I thank Ms Nkazana Sarah Mwanandimai for editing my dissertation and Mr Obert Mutabani, for assisting me with the data processing for this dissertation.

I am grateful to the MoHSS for granting authorisation to use its staff members to conduct the study.

I thank all the respondents who took part in this study - the registered nurses, PHC supervisors and CHWs - for their co-operation and contributions to make this study a success.

DEDICATION

This study signifies the height of my accomplishments for a 45-year travel in the health care profession. My engagement in my profession has contributed to who I am and has had an impact on numerous health professionals in Namibia.

I, therefore, dedicate this dissertation to the people who accompanied me on my journey.

My parents, Ernst and Salonika Hanstein who always believed in me and encouraged me to take it further all the time.

All the Hanstein family and late pastor Georg Bitzer who called from Germany to find out how far I have gone.

To the Community Health Workers of Namibia who contribute positively to the health of the nation.

To all the nurses in Namibia who tirelessly care for the sick and weak.

DECLARATION

I, Sofia Hanstein Black, declare that this research report on "development of strategies for registered nurses to facilitate services rendered by community health workers in Hardap, Kavango East and Khomas regions, Namibia" is a true reflection of my own research and that all the sources have been acknowledged in the document as also reflected in the reference list. The version of this work or part thereof is original, and has not been submitted before for any degree in this or any other institution of higher education.

Student Name: Sofia Hanstein Black **Signature:**  **Date:** OCTOBER 2022

CHAPTER 1

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1. INTRODUCTION

Community health workers (CHWs) in Namibia are individuals who have completed at least Grade 10 level of high school. These individuals are selected through communities and community leaders in collaboration with the Primary Health Care (PHC) division of the Ministry of Health and Social Services (MoHSS). The individuals undergo theoretical and practical training for a period of approximately six months. Certification is done by MoHSS. CHWs are trained to implement the community health programme with support from the PHC division. They form a link between communities and health professionals (MoHSS, 2014).

World Health Organisation (WHO) has identified and maintains the importance of community-based health workers (CBHWs) in reducing inequities in access to essential health services. WHO encourages countries to adopt a sustainable skills mix, connecting the potential of CBHWs to health services (WHO, 2018).

In 2006, the Global Health Workforce Alliance, in collaboration with United States Agency for International Development (USAID), undertook a case study of CHWs in Sub-Saharan Africa, Latin America and South Asia to identify services rendered by CHWs and drawbacks of the community health worker programmes (CHWP). Enabling factors that must be put in place to capitalise on potential benefits of CHWs was also considered (WHO, 2011).

Programme functionality assessment was performed across the above-mentioned countries with the aim to ensure that CHWs receive the necessary supervision regularly. Supervision was aimed at giving feedback, mentoring, training and data-driven problem solving.

Functionality rating was performed to define the range from non-functional CHWs at level zero to highly functional CHWs at level three. Best practices would be performed at level three. Functional programmes were expected to provide maternal and child health services (WHO, 2011).

Discussions underlying the review process showed a wide range of services rendered by CHWs. It included safe delivery, counselling on breastfeeding, and the management of uncomplicated childhood illnesses and preventive health education on malaria, Human Immune Deficiency Virus and Acquired Immune-deficiency syndrome (HIV/AIDS), tuberculosis (TB) and their treatment, and rehabilitation of common mental health problems.

Country case studies have shown that CHWs provide a critical link between communities and the health and social service system. Where CHWs experienced recognition, support, skills development and utilisation, achievements were more noticeable (WHO, 2011).

Sub-Saharan Africa is lagging because of inadequate human resources, as the workforce is also affected by HIV/AIDS. Lack of supervision and equipment and drug supplies also have a major effect on the rendering of services (WHO, 2011).

The PHC approach to health care was adopted in Namibia in 1992 when the government undertook to build it on the principles of equity, accessibility, affordability and community involvement (MoHSS, 1992). Health care services at local level would be based in community health centres, clinics and remote rural posts with emphasis on family unit wellbeing and community empowerment, which would ultimately lead to self-reliance. The approach can be seen as groundwork to the modern community health programme (CHP)/CHWP, which was adopted in 2011 (MoHSS, 1992).

During the Alma-Ata conference held in Russia in 1978, Namibian and world leaders undertook to address and resolve the challenges of inequalities in health status and access to health care. Family and community participation and involvement was identified as meaningful factors in attaining health and development (MoHSS, 1992).

With the introduction of Vision 2030, the Namibian government intended to improve the standards of living and the quality of life of the Namibian people through providing a comprehensive health care service. These services were envisaged to be cost-effective, sustainable and acceptable to the most disadvantaged communities. These are foreseen to facilitate effective implementation of health strategies and interventions through facilitation of services rendered by CHWs, including monitoring and evaluation (Namibia Vision 2030, 2004).

To ensure the attainment of the development goals embedded in Vision 2030, Namibia's MoHSS, as well as line ministries concerned with service provision, were responsible for addressing matters

arising from inaccessible services. In so doing, keeping up with the stipulations set out in the Affirmative Action Act (Affirmative Action (Employment) Act 1998, 2008).

The government of the Republic of Namibia has been experiencing challenges in ensuring equitable access to health services for families and communities. Namibia Demographic and Health Survey (MoHSS, 2013) states that communities, especially those in rural and peri-urban areas of Namibia, are still underutilising health services as distance from service delivery points, inability to afford transport, lack of adequate information limit their access. Shortage of health professionals also contributes to the challenges (Namibia Vision 2030, 2004). Above-mentioned health delivery challenges have prompted the PHC directorate to adopt CHP, which aims to deliver family and community-centred health services, particularly to those in remote areas.

To enable the PHC directorate to deliver the services, a curriculum for CHWs' training was developed and endorsed by MoHSS. The curriculum consisted of seven modules on First Aid; Community Mapping; Community-Based Maternal and Newborn Care (CBMNC); Community-Based Childhood Illness; HIV/AIDS/TB and malaria; Social Welfare; and Water, Sanitation and Hygiene (WASH). A specified number of individuals, as per regional need, was selected and trained in each of the 14 regions of Namibia. CHWP was to be the link between grassroots communities and health professionals (Atakilt, 2010). CHWP was tested, piloted and established in the Kunene region in 2012 before it was rolled out to the rest of Namibia (Atakilt, 2010). Over the past six years, 1 718 community health workers were trained and deployed throughout Namibia, as shown in Table 1.1.

Table 1.1: Trained and deployed community health workers per region

No	Region	No. of CHWs trained	Year of training	Year of deployment
1	Erongo	34	2017	No deployment yet
2	Hardap	53	2014/15	Deployed-2016=36
3	//Kharas	95	2014/15	Deployed-2015
4	Kavango East	87	2013	Deployed-2014=55
5	Kavango West	86	2013	Deployed-2014
6	Khomas	94	2016	Deployed-2016/17=82
7	Kunene	181	2012	Deployed-2013
8	Ohangwena	200	2013	Deployed-2015
9	Omaheke	92	2016	Deployed-2016
10	Omusati	199	2013	Deployed-2015
11	Oshana	198	2014	Deployed-2015
12	Oshikoto	90	2014	Deployed-2015
13	Otjozondjupa	95	2014	Deployed-2015
14	Zambezi	214	2013	Deployed-2014
Total CHWs trained =1 718				

Source: MoHSS (2016)

The programme is aimed at providing equal opportunities for the utilisation of preventive, promotive, basic curative, social and rehabilitative as well as referral services (Atakilt, 2010).

1.2. BACKGROUND OF THE PROBLEM

The PHC directorate of the Ministry of Health and Social Services, in collaboration with development partners and the National Health Training Centre (NHTC), developed Standard Operating Procedure Guidelines (SOPG) to provide step-by-step directions to facilitate the implementation of community-based health programme (CBHP) (MoHSS, 2014). It also describes the roles and responsibilities of all structures involved in the CHP implementation process, which allows for uniformity.

According to the SOPG, the health facility level, among others, has its main roles and responsibilities in the selection of potential CHP candidates. Their roles are sensitisation of community leaders, facilitation of services rendered by CHWs, and provision of on-the-job monitoring and coaching of CHWs. They should also provide supportive supervision, mentoring, sharing of experiences, needs

identification, performance reviews, provision of technical updates, addressing challenges and monthly report compilation at facility level (MoHSS, 2014).

NHTC division: Continuous Education (Con Ed) reported that no follow-up training has been provided so far to assist health professionals in implementing their roles and responsibilities, as stipulated in the SOPG (MoHSS, 2016).

Another document that provides guidance to health professionals facilitating services rendered by CHWs is the Nursing Act (The Nursing Act 2004, 2018). One of the main responsibilities of the registered nurse, as stipulated in the scope of practice (under Section 17, subsection 1), is the teaching and supervisory function that should be provided and maintained with subordinates and colleagues at all times. It is through monitoring, mentoring and supervision that the newly trained CHWs will develop skills, and gain confidence and abilities to perform their roles and responsibilities effectively.

Considering the above, the researcher would want to explore how SOPG is presently being utilised as the guiding document on CHP implementation and to train registered nurses on strategies to facilitate services rendered by CHWs. It also warrants mentioning that increasing the number of health care workers alone is not adequate to attain the goal of improved health status for Namibians but developing a competent health care workforce.

1.3. PROBLEM STATEMENT

WHO country case studies urge countries to maintain efforts made by CHWs to direct communities towards behavioural change and accelerate support to CHWs. The study also reveals that only a few reports or documents are available on the use of CHWs in food security and nutrition globally (WHO, 2011).

Insufficient education impedes CHWs functionality, whereas with adequate time allocated for practical training under supervision, positive impact could be observed (WHO, 2011).

WHO country case study reports (WHO, 2011) also state that despite that HIV/AIDS has been part of the Millennium Development Goals (MDGs), the role of CHWs in reducing HIV incidence has not been the priority of CHWs' training programmes. HIV training rather focuses on awareness creation and providing Anti-Retroviral Therapy (ART) using directly observed therapy support (DOTS). Only

one country case study has reported that the concept of prevention from mother-to-child transmission (PMTCT) was conveyed to CHWs.

The study also indicates that common mental health problems, such as anxiety and depression, which are often results of global economic crises and unemployment, seem to be neglected in CHWs' roles (WHO, 2011).

With the adoption of CHWP in Namibia, its execution was placed under the supervision of the regional health directorates, as an extension of the PHC Directorate. This directorate aims at delivering family and community-centred promotive, preventive, rehabilitative and basic curative services to all citizens of Namibia. CHP services would focus on preventive and promotive infant and under-fives' health care, maternal and neonatal health care, adolescent and youth-friendly health services, HIV/AIDS and TB prevention, social welfare and disability prevention (Atakilt, 2010).

However, no functional unit with its own dedicated structure for the monitoring and facilitation (mentoring, supportive supervision, training) of CHWs' services was established by PHC. This has resulted in the CHP experiencing challenges with the planning of facilitation strategies that would enhance the programme's effects (MoHSS, 2012; Van Ginneken, Lewin & Berridge, 2010).

By means of a comprehensively developed SOPG, implementers were expected to follow the guidelines provided. Insufficient facilitation is further affected by the fact that the CHWs' training exercise focuses on the candidates and PHC supervisors rather than on strategies to enhance facilitation at operational level, as stated in the NHTC report (MoHSS, 2016a).

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Present facilitation of CHWP activities gives the impression that it is seemingly a secondary responsibility of registered nurses who are already implementing their key performance areas. Lack of

continuous quality support and skills development does not add positive value to the programme and might jeopardise its success (Huyen, 2014). No guarantee is given that skills and knowledge learnt are applied procedurally in the field if expert guidance lacks, as per peer supervision.

The researcher selected three regions, namely Hardap with 36 CHWs, Kavango East (52 CHWs) and Khomas (82 CHWs), where no assessment reports of the services rendered by CHWs were found. MoHSS, in collaboration with UNICEF, USAID and MCHIP, undertook evaluation in the //Kharas, Kunene, Omaheke, Oshana and Zambezi regions in 2017. No deployment has yet been done in the Erongo region; therefore, it has been excluded from assessment studies (MoHSS, 2017). It is against this background that the researcher aims to assess the effectiveness and functionality of CHWs in the mentioned regions and develop and implement strategies for registered nurses to facilitate services rendered by CHWs.

1.4. MAIN RESEARCH QUESTIONS

The main research questions are:

1.4.1 How effective and functional are the mentoring, supervision, monitoring, evaluation and training facilitated by the registered nurses to the CHWs deployed by MoHSS in the Hardap, Kavango East and Khomas regions of Namibia?

1.4.2 What strategies can be used to facilitate services rendered by CHWs in the Hardap, Kavango East and Khomas regions?

1.5. PURPOSE OF THE STUDY

The purpose of this study is the development of strategies for registered nurses to facilitate services rendered by CHWs in Hardap, Kavango East and Khomas regions.

1.6. OBJECTIVES OF THE STUDY

The objectives of the study are to:

1.6.1. Phase 1: Conduct a situational analysis

1.6.1.1. Sub-objective 1: [Phase 1]

Phase 1 ▪ Sub-objective 1: Determine the level of facilitation of services rendered through CHWs by registered nurses.
The approach used was non-experimental in natural settings.

Design: A quantitative research design was used.

Population: The total population of CHWs in Namibia is 1 718. Of these, a population of 173 is in the three selected regions, namely Hardap=36, Kavango East=55 and Khomas=82.

Sample: No sampling was done and all CHWs (138) who were present at the time of data collection were given the questionnaire to complete.

Instrument for data collection and validity and reliability of such instrument:
A structured close-ended questionnaire was used. The questionnaire was already used in a rapid survey done by UNICEF, UNFPA and MoHSS in Opuwo, Kunene region, and found to be valid and reliable.

Procedure for data collection: The researcher collected data with the help of a research assistant. Data collection was only initiated after permission was obtained from MoHSS. The purpose of the study was explained to respondents. The research assistant was also trained to explain the completion of the close-ended questionnaire and to clarify uncertainties.

Analysis: The Statistical Package for Social Sciences (SPSS) version 25 was used to analyse data.

1.6.1.2. Sub-objective 2 [Phase 1]

Sub-objective 2: Explore the views of PHC supervisors on the facilitation of services rendered through CHWs by registered nurses.

Design: A qualitative research design was used.

Population: The population consisted of three (3) PHC supervisors, that is, one from Hardap, Kavango East and Khomas region.

Sample and sampling method: Purposive sampling was done and all three supervisors were interviewed.

Instrument for data collection and validity and reliability of such instrument: An open-ended interview guide was used.

Procedure for data collection: For the in-depth interviews, the researcher arranged a suitable venue within the reach of the interviewees.

Audio-recording and descriptive field notes were used with consent from respondents (Brink et al., 2012). Individual open-ended in-depth interviews were performed until data saturation was reached.

Analysis: First, transcription of audio recordings and descriptive field notes were prepared. Thereafter, Techs' steps of data analysis were used to analyse the data. Second, qualitative data analysis was conducted with the aid of ATLAS. ti 9 version. The prepared transcripts were loaded into ATLAS ti 9 interface according to the groups of respondents (PHC supervisors).

1.6.1.3. Sub-objective 3 [Phase 1]

Sub-objective 3: Explore and describe the perception of CHWs on the facilitation of their services.

Approach: Focus group discussions (FDG) were performed.

Design: A qualitative research design was used.

Population: The total of CHWs in the three (3) selected regions was 173.

Sample and sampling method: Sixty-four (64) CHWs were selected randomly from the population of 173.

Instrument for data collection: A FGD interview guide was used for data collection.

Procedure for data collection: Eight FGDs were conducted as follows:
In the Hardap region, two FGDs consisting of eight CHWs each (16) were used. In the Kavango East region, two FGDs consisting of eight CHWs each (16) were used, while in the Khomas region, four FGDs consisting of eight CHWs each (32) were conducted.

Analysis: The procedure for data analysis as described for sub-objective 2 was used throughout the qualitative design.

1.6.1.4. Sub-objective 4 [Phase 1]

Sub-objective 4: Explore and describe the views of registered nurses (supervisors) on their roles towards the facilitation of services rendered by CHWs.

Approach: In-depth interviews were used.

Design: A qualitative research design was used.

Population: Twenty-four (24) registered nurses facilitating services rendered through CHWs.

Sample and sampling method: Purposive sampling of all ten (10) registered nurses who were on duty at the time of data collection.

Instrument for data collection: An open-ended interview guide was used.

Procedure for data collection: For the in-depth interviews, the researcher arranged a suitable venue within the reach of the interviewees.

Analysis: The procedure for data analysis as described for sub-objective 2 and 3 was used throughout the qualitative design.

1.6.1.5. Merging

Data of the quantitative research method used with sub-objective 1 are merged or brought together with data from the qualitative research method (sub-objectives 2. 3, and 4) to enhance greater

understanding of phenomena of this research. In this study, the researcher analysed data collected separately. Findings during the analysis of one type of data (quantitative) led the researcher to look for related information in the other (qualitative) data (Moseholm & Fetters, 2017).

During merging, the researcher was cognisant that outcomes of the two strands of research, being quantitative and qualitative, could converge, complement, conflict or diverge.

1.6.2. **Phase 2: Conceptual framework**

Objective: The objective of phase two was to develop a conceptual framework.

A conceptual framework is used to understand and inform the direction of a research project (Magher, 2018). Furthermore, a conceptual framework is described as a system of concepts, assumptions, expectations, beliefs, and theories that support and inform the research (Maxwell, 2019).

Conceptual framework is described by Maxwell (2019) as a visual or written product that explains the main aspect to be studied. It is the end-result of bringing several related concepts together to explain or predict a given event.

Findings obtained from data analysis of sub-objectives 1, 2, 3 and 4 were used in the development of the conceptual framework. The theory of Dickoff et al. (as cited in Chinn & Kramer, 2015) together with the concepts of agent, recipient, context, dynamics, procedure and terminus were used.

1.6.3. **Phase 3: Strategy development**

Objective: Development of strategies for registered nurses to facilitate services rendered by CHWs based on SOPG of PHC.

The four-stage cycle of Kolb was used: Concrete experience: Learning from experience of performing CHWs roles and tasks and receiving feedback from registered nurses. Reflective observation: This stage includes reviewing and reflecting on experiences learnt through observations of others. Abstract conceptualisation: Concluding or learning from experience in directed learning situations such as demonstrations by registered nurses and learning by constructing own conclusions. Active

experimentation: Preparation and implementation of what was learnt by engaging CHWs in discussions and simulations and creating a learning environment for CHWs to learn.

1.6.4. **Phase 4 & 5 Determining implementability and preliminary evaluation**

Objective: Testing implementability and preliminary evaluation of strategies developed for registered nurses to facilitate supervision of services rendered by CHWs.

The strategies were based on the model of Nursing Knowledge by Jacobs-Kramer and Chinn (as cited in Nicoll, 2008), which are: concept analysis, formulation and testing of relational statements, theory construction and practical application of theory. The developed strategies were introduced to facilitators in the Khomas region to determine implementability and preliminary evaluation.

1.7. SIGNIFICANCE OF THE STUDY

By developing strategies for registered nurses to facilitate services rendered by CHWs, the study might contribute to effective and efficient service delivery by CHWs to communities in rural, peri-urban and urban areas of the Hardap, Kavango East and Khomas regions.

Developed strategies might also enhance the objectives of SOPG by equipping registered nurses to utilise them effectively and contribute to efficient service provision to the community. With the current time of economic regression, findings will accelerate activities towards achieving cost-effective service delivery by CHWs that can be used throughout Namibia. This concept of CHWs has only been comprehensively evaluated by MoHSS, with financial and technical support from UNICEF and

USAID-Maternal and Child Support Programme in Zambezi, Kunene, Oshana, Omaheke and //Kharas regions in October 2017. Thus, further evaluation and development of strategies might contribute to strengthening of the programme and expansion of CHWs' scope of practice (MoHSS, 2017).

The study also holds significance for the communities since they will receive effective and efficient health services from CHWs whose services are adequately facilitated and supervised by registered-and enrolled nurses.

1.8. PARADIGMATIC ASSUMPTIONS OF THE STUDY

A paradigmatic perspective is a collection of logically linked concepts and schemes that make available a theoretical perspective that tends to guide the research approach to a specific direction (Mertens, 2015). A paradigm is a particular view or perspective describing the complexities of the real world. It leads the researcher to ask certain questions and use appropriate approaches to systematic inquiry (Kuwulich, 2012). Research is based on philosophical assumptions. These assumptions underlie what constitutes a binding research and which research methods are appropriate for the development of knowledge in a specific study (Mertens, 2015; Pretorius et al., 2016).

The importance of paradigms rest on the fact that they point out what is important in human inquiry and investigators' responses to philosophical questions (Polit & Beck, 2012).

This study adopted a pragmatist worldview. For the application of the pragmatist paradigm, the researcher used a convergent mixed methods approach by employing both a quantitative and qualitative approach to simultaneously collect and analyses both types of data. According to Creswell (2014), pragmatism arises out of actions, situations, and consequences, rather than antecedent conditions. Instead of focusing on methods, researchers emphasize the research problem and use all approaches available to understand it (Creswell, 2014). In this study, the findings are merged to develop the central concepts as a basis for the development of strategies for registered nurses to facilitate services rendered by CHWs.

A positivistic paradigm, which takes on quantitative methodology, was used to determine the roles and tasks CHWs perform under the facilitation of registered nurses (professional nurses). Data collection tools, such as questionnaires, were used as well as quantitative data analysis and data interpretation methods (Polit & Beck, 2012).

A constructive or interpretive paradigm using qualitative methodology was used to explore CHWs' perceptions of peer supervision and to describe registered nurses' view on the facilitation of CHWs' services. In-depth interviews and FGDs were used for data collection, analysis and interpretation (Mertens, 2015). The constructivist argues that reality is not fixed, and many constructions are possible. In research, constructivism relates findings to the interaction between the inquirer (researcher) and the respondents (Polit & Beck, 2012). Constructivism stresses the involvement of the CHWs and registered nurses (respondents) in their own learning experience to construct and create new ideas from previous experience. According to Mertens (2015), the basic assumptions guiding

constructivism are that knowledge is socially constructed by people active in the research process. Researchers should thus attempt to understand the complex world of lived experience from the point of view of those who live in the situation (Mertens, 2015).

Relevant paradigmatic assumptions, which form the basis of the researcher's terms of reference when developing strategies for this study, are discussed below.

1.8.1. **Ontological assumption**

Ontology refers to the study of reality and that it is for the researcher to discover that reality (Guba & Lincoln, 1989). Health care practice is the study terrain of health professionals as a science and should be directed towards this reality of health care practice. In this study, it is directed towards community health worker practice (Jooste, 2014). Hutton (2009) relates the purpose of ontology to determining what 'reality' is. Thus, by taking on ontological dimensions, the researcher acknowledges that there is reality. A reality of health care delivery by CHWs that must be facilitated by registered nurses (Engle, 2011).

With the ontological assumption, researchers embrace the idea of multiple realities and report on these multiple realities by exploring multiple forms of evidence from different individuals (De Vos et al., 2011). Part of the researcher's duty is to discover reality that is relatively constant across time and setting. Positivists believe this reality is objective and independent of the researcher's interest in it as was the case with the quantitative study with CHWs (Kuwulich, 2012). The ontological assumption regard realities as measurable and can be broken into variables. De Vos et al. (2011) note that reality should be approached objectively. It should be an external reality requiring that the researcher maintain a detached or separated position when studying it.

On the other hand, interpretivists believe that reality is socially constructed (Creswell, 2014) and that there are as many realities as there are people constructing them. Kuwulich (2012) describes reality in this sense as limited to context, space, time and individual or group in a given situation that cannot be generalised into one common reality. Registered nurses might have different or similar realities on the facilitation of services rendered by CHWs, while CHWs might have different or similar realities on their perceptions of the facilitation of their services.

1.8.2. **Epistemological assumption**

Epistemology is referred to as the philosophy that studies the truth, and it is validated accordingly. The epistemological assumption addresses the question of what constitutes knowledge. It is about developing valid and true statements about the phenomenon being studied (Jooste, 2014). Epistemological dimensions of research may be regarded as the key dimension to the attainment of the 'truth' or ideal science (Jooste, 2014; Engle, 2011).

Epistemology, as the science of knowledge, is opposed by Engle (2011). The theory of how we know that which we know is recursive by nature and to understand reality fully, we need to examine it holistically. Chinn and Jakobs (1987) mention that questions should be asked on the relationship between those who know and what is known to find knowledge on the characteristics, the principles, the assumptions that guide the process of knowing and the achievements of findings.

An epistemological assumption questions the relationship between the researcher and what is being studied (Watkins, 2008).

Subjective experience from individuals is collected based on their views from research conducted. The in-depth interviews that were conducted with registered nurses and FGDs with CHWs facilitated interaction and ensured scientific-based findings that can be shared and repeated by others to assess the quality of the research and the reliability of those findings (De Vos et al., 2011; Watkins, 2008). The epistemological assumption enabled the researcher to predict and remain aware of the possible influence they might have on the participants. This awareness enabled the researcher to control and avoid exerting influence (Creswell, 2014).

1.8.3. **Axiological assumption**

The term axiology is derived from the Greek words *axios,* meaning 'worthy', and *logos,* meaning science (Engle, 2011). The philosophical theory involves a study of goodness or value.

Axiological assumptions refer to the role of values in the inquiry on hand (Pretorius et al., 2016; Polit Beck, 2012). Facilitation of services rendered by CHWs is of value because it enables the CHWs to cope with complex scenarios they may face in the communities. It is of importance that CHWs be

committed to constantly broadening their skills with facilitation by registered nurses to make their services more efficient and effective.

The significance of axiology lies in the expansion it has given to the meaning of the term ‘value’. In conducting research, the researcher considers the declarative principle of admitting his/her bias in research. The principle ensures that the study is completed objectively without introducing bias in interpreting human behaviour (Engle, 2011; Creswell, 2011).

The axiological assumption emphasizes the values that are closely associated with ethical considerations of the study (De Vos et al., 2011; Watkins, 2008).

As constructivist research is influenced by values, the paradigm chosen for inquiry, the topic being studied, the methods of collecting data, the interpretation of findings and the method of reporting, so is the researcher also influenced by values (De Vos et al., 2011).

The description of the experience of registered nurses in the facilitation of services rendered by CHWs and the description of perceptions of CHWs on the facilitation of their services by registered nurses demonstrate the degree to which services rendered and values of respondent’ influence service delivery to families and communities (Watkins, 2008).

1.8.4. **Rhetoric assumption**

This assumption is described as ‘the art of speaking or writing effectively’ (Firestone, 2020). The rhetoric assumption is about how the researcher persuades the reader to understand the communicated information without any doubt or question (O’Neil, 2013). It is important for the researcher to report in a thorough descriptive and interpretive writing about the researched results.

This research will focus on both the quantitative and qualitative methods thus using a mixed methods design. Firestone (2020) argues that quantitative methods express the assumptions of a positivist paradigm that embraces that behaviour can be explained through objective facts. Qualitative methods, on the other hand, express the assumptions of phenomenological paradigm that there are multiple realities that are socially defined. Herein, rich descriptions persuade the reader through enough detail to understand the situation. Thus, while rhetorically different, the results of the two methodologies can

be complementary in a mixed methods design. The methods can present different kinds of information that can be used to triangulate and gain more confidence in reaching a conclusion (Firestone, 2020).

The findings were presented from the viewpoint of the researcher (quantitative) as well as from the viewpoint of the respondents to clarify their perspective (Kuwulich, 2012; Creswell, 2011). In the positivistic part of the study, a full description of the sample, the method used to collect data and the statistical procedure used to analyse data make the report convincing, the researcher's report is based on what has been observed in the most detached manner possible to allow comparison and contrast in the findings.

The constructivist (qualitative) part of the study provided a rich description of the procedures and findings in a subjective and interactive manner.

1.8.5. **Methodological assumption**

Methodology refers to seeking the best methods by which to gain knowledge (Polit & Beck, 2012). Methodology is best understood as the overall strategy for resolving the complete set of choices or options to the researcher (Guba & Lincoln, 1989). This dimension is concerned with how 'valid' knowledge is attained and how a research goal is being reached. The aim of this research is to develop strategies for registered nurses and at the same time expanding the body of CHWs knowledge (Jooste, 2014; Creswell, 2014 a). This study was conducted in a quantitative and qualitative nature, thus using the mixed methods approach in four phases. Phase one being a situational analysis, phase two a conceptual framework development, phase three, strategy development and phases four and five comprising determining implementability and preliminary evaluation of the developed strategies.

In the positivist paradigm, the purpose of the research is to predict, test a theory or find strength of relationship between variables. The methodological design that was applied in this part was quantitative with questionnaires used to gather data from CHWs. The purpose of qualitative (interpretative) research is to understand people's experience in a natural setting where respondents make their living (Kuwulich, 2012; Sitwala, 2014).

1.9. THEORETICAL BASIS OF THE STUDY

Social scientists define theory as "a system of logical statements or propositions that explain the relationship between two or more objects, concepts, phenomena or characteristics of humans" (De Vos et al., 2011: p301). The theoretical assumptions include models and theories that already exist in scientific disciplines (Mouton & Marais, 2008). Three fundamental theories are described below: the practice-orientated theory of Dickoff et al. (as cited in Chinn & Kramer, 2015), Kolb's experiential learning theory and theory generation of Jakobs-Kramer and Chinn (2015).

1.9.1. **Practice theory of Dickoff, James and Wiedenbach**

This study used the concepts in the survey list as drawn up by Dickoff et al. (as cited in Chinn & Kramer, 2015) that included the concepts of agent, recipient, context, dynamics, procedure and terminus.

The practice-orientated theory of Dickoff et al. (as cited in Chinn & Kramer, 2015) was used to shape the concept into logical reasoning to develop strategies for the facilitation of CHWs services by registered nurses at health facilities of MoHSS. The components discussed in the practice-orientated theory of Dickoff et al. (as cited in Chinn & Kramer, 2015) were adopted to describe the situation of developing strategies for registered nurses to facilitate CHWs services. The components are discussed in Chapter 3. The components were applied as follows:

Agent:

The 'agent' in this study referred to the researcher who facilitated the implementation of the strategies to facilitate services rendered by CHWs at health facilities of MoHSS by registered nurses. The 'agent' is the main person responsible for the development of strategies, according to Dickoff et al. (as cited in Chinn & Kramer, 2015).

Recipients:

The recipients of this study are registered nurses who participated in the discussions on strategies to facilitate CHWs services at health facilities where CHWs are deployed (Dickoff et al., as cited in Chinn & Kramer, 2015).

Contexts:

The contexts are the health facilities and communities where CHWs are deployed. All registered nurses facilitating CHWs services at the MoHSS facilities and communities are targeted to receive training on facilitation strategies (Dickoff et al., as cited in Chinn & Kramer, 2015).

Dynamics:

The dynamics in this study are the challenges that registered nurses experience in facilitating services rendered by CHWs. To improve facilitation of CHWs services, the registered nurses need support, knowledge and skills to implement SOPG of MoHSS. The outcomes of this study was the successful implementation of the facilitation process (Dickoff et al., as cited in Chinn & Kramer, 2015).

Procedure:

Procedure is the process, which the facilitators employ to address specific problems. They are also to guide the actions to implement programmes. SOPG are the procedures to be employed to address challenges or to guide implementation towards set goals (Dickoff et al., as cited in Chinn and Kramer, 2015).

Terminus:

The terminus is the endpoint of the developed strategies for registered nurses to facilitate services rendered by CHWs. This refers to competent registered nurses and CHWs who execute their responsibilities with quality health care (Dickoff et al., as cited in Chinn & Kramer, 2015).

1.9.2. **Kolb's experiential learning theory**

Kolb's theory of experiential learning guided the procedure and technique during the implementation of the facilitation strategies. The four-stage cycle includes:

Concrete experience learning:

The registered nurses use imagination to solve problems. They are more practical and use time to listen to others. According to Kolb in (McLeod, 2017), they are ‘diverging’ because adults perform better in situations that require idea-generation and thinking. Similarly, CHWs are interested to work in teams, they are open-minded and accept personal feedback (McLeod, 2017).

Reflective Observation:

The registered nurses and CHWs understand a wide range of information and organise it in a logical format. They require good, clear explanations rather than a practical value. In formal learning situations, these people are assimilating and prefer reading, lectures, exploring analytical models and having time to think through (McLeod, 2017).

Abstract Conceptualisation:

The registered nurse with a converging learning style can solve problems and will use their learning to find solutions to practical issues. Adults with a converging learning style are more attracted to technical tasks and problems than social or interpersonal issues. They would rather experiment with new ideas, simulate or work with practical applications (McLeod, 2017).

Active Experimentation:

Registered nurses and CHWs with an accommodating learning style use ‘hands-on’ experience and rely on intuition rather than logic. They tend to rely on others for information than carry out their own analysis, and prefer to work in teams to complete tasks (McLeod, 2017). Figure 1.1 outlines Kolb’s four-stage learning cycle.

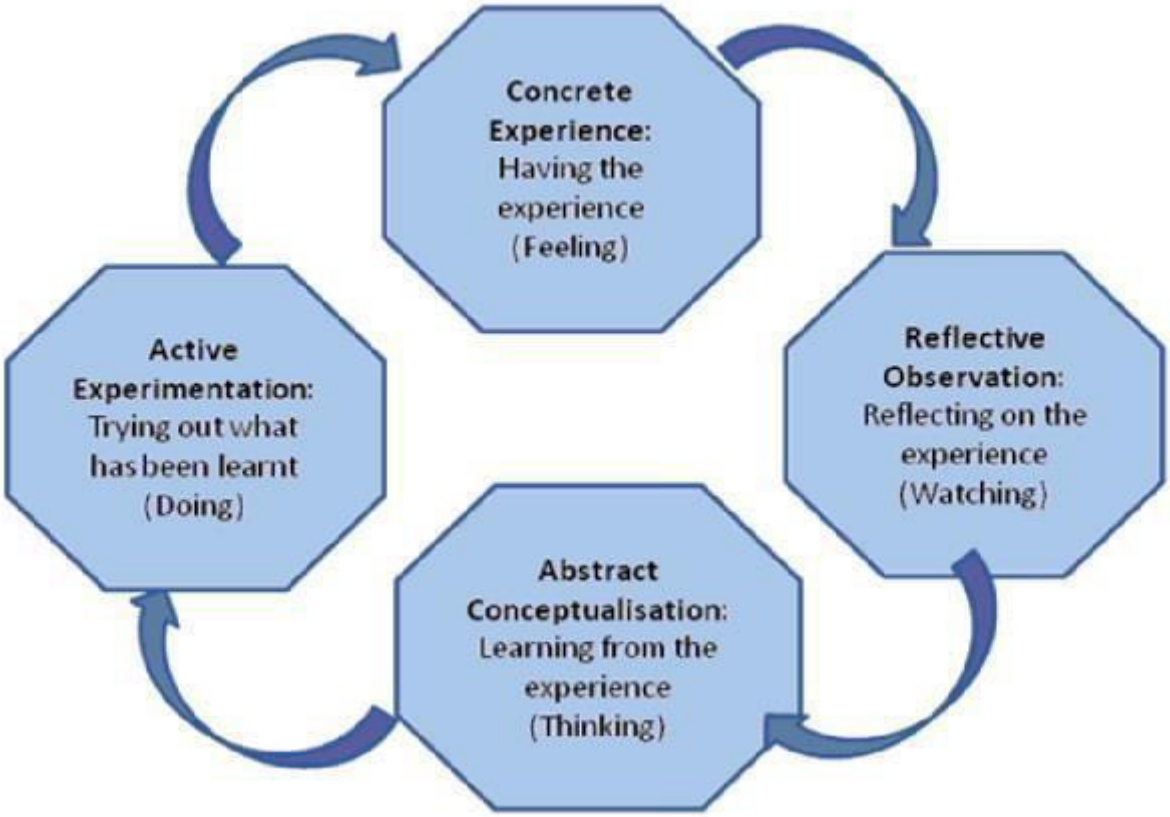


Figure 1.1: Kolb's learning styles

Source: McLeod (2017)

1.9.3. **Steps used to develop strategies**

In the development of the strategies for this study, the researcher employed the five interrelated tasks of strategy formulation by Thompson and Strickland (2010). The following figure demonstrates the five steps followed in developing the strategies.

Figure 1.2: Steps to strategy development

Adapted from Thompson & Strickland (2010)

1.9.4. **Theory generation of Jakobs-Kramer and Chinn**

The strategies were based on the model of nursing knowledge by Jacobs-Kramer and Chinn (as cited in Nicoll, 2008), which are: concept analysis, formulation and testing of relational statements, theory construction and practical application of theories. Theory development in nursing occurs within the environment where nursing care is given. Concept analysis and practical validation of theory are the two activities of central importance in theory development (Chinn & Jakobs, 2004).

Theory supports nursing aims of promoting health through the application of expert practice derived from a developing body of nursing knowledge. This theory development assists registered nurses at health facilities to mature in professional autonomy. Theory can also help develop coherence and consensus in nursing, whereby facilitation of CHWs services by registered nurses can be addressed through a common frame of reference. Chinn and Kramer as cited in (Nicoll, 2008) view nursing theory as contributing to a well-founded basis. It is useful in analysing and explaining relationships among phenomena, predicting consequences and prescribing actions.

1.10. DEFINITION OF KEY CONCEPTS

The researcher addressed the following concepts for the purpose of this study.

Community-Based Health Programme

This is a programme initiated to provide comprehensive, universal, equitable and affordable health services for urban, rural and peri-urban populations. The programme focuses on health promotion and education, which targets households, particularly mothers and women through house-to-house visits (Gebru, Taha & Kassahun, 2014; Medhanyie et al., 2012). In this study, strategies are developed to enhance the effective utilisation of SOPG by registered nurses, in so doing effectively facilitating CHWs services.

Community Health Workers

CHWs in Namibia are individuals who have completed at least Grade 10 level of high school. These individuals are selected through communities and community leaders, in collaboration with the primary health care division. The individuals undergo theoretical and practical training for six months after which they are awarded certificates by the ministry of health (MoHSS, 2014 a). In this study, the intention was to ensure CHWs render effective and efficient services to the communities, as they form a link between communities and health professionals.

Health Professionals (Registered Nurse)

A registered nurse is a clinical registered/midwife/accoucheur registered with the Nursing Council of Namibia (under Section 17 (1) of the Nursing Act (Act No. 8 of 2004) as amended (Nursing Act 2004,

2018). In this study, the teaching and supportive supervisory role of the registered nurses forms the basis of facilitation of all subordinate services.

Primary Health Care

PHC within MoHSS is based on four core pillars: health promotion, disease prevention, curative services and rehabilitation services. PHC has core elements that are directly linked to the services CHWs render. These are: promotion of proper nutrition and supply of safe water, maternal and childcare, immunisation, sanitation, prevention and control of diseases, prevention and control of community health problems, treatment for common diseases and injuries, community participation in health and social matters (MoHSS, 2013; WHO, 2018).

Strategies

Strategies are plans to set priorities for institutions and businesses. They determine where to focus energies and resources and set goals for those who are assigned to implement them. In the context of CHWs, strategies focus on priorities that facilitate successful implementation of CHP (Nagy & Fawcett, 2018).

For this study, developed strategies emphasise on visualisation and understanding the implementation of CHP and look at the long-term objectives on effective and efficient health care service delivery.

Facilitation

Facilitation is defined as the process of making something easier to perform (Merriam-Webster, 2019). Concerning the CHP, facilitation by registered nurses enhances the effectiveness of CHWs services.

Facilitation is further described as supporting and enabling practitioners (CHWs) to improve through evidence implementation. It is an individual role of registered nurses as well as a group role of health teams, with emphasis on evaluation and linking outcomes to actions (Doherty, Harrison & Graham, 2013). In this study, facilitation refers to any health-related training that is critical for skill development and capacity building. Adequate preparation of health facilitators (registered nurses) is necessary to understand their roles in CHWs' training (Doherty et al., 2013).

1.11. CHAPTER LAYOUT OF THE STUDY

The chapters for the study are structured with the aim to develop strategies for registered nurses in the Hardap, Kavango East and Khomas regions to facilitate services rendered by CHWs. The chapters are presented as follows:

Chapter 1: Introduction and background

Introduction to the study, background, problem statement, aim and objectives, significance of the study, study limitations, paradigmatic assumptions of the study, theoretical basis and definition of key concepts are discussed.

Chapter 2: Literature review

Chapter 2 focuses on literature review and describes CHWs practices globally. It also describes best practices of CHWPs.

Chapter 3: Research methodology

In this chapter, the methodology as used to collect data is discussed. It covers quantitative and qualitative methodologies as used in the mixed methods design. Ethical considerations are also presented in this chapter.

Chapter 4: Data analysis, discussion, literature control and merging

Research findings, data analysis and merging are presented in a mixed methods design. Part one presents findings from the quantitative design, while part two presents findings from the qualitative design. Part three presents merging of results.

Chapter 5: Conceptual framework

In this chapter, the conceptual framework of the study is discussed to guide the research towards development of strategies to implement SOPG.

Chapter 6: Development of strategies

This chapter focuses on the development of the strategies for registered nurses to facilitate services rendered by CHWs in the Hardap, Kavango East and Khomas regions.

Chapter 7: Determining implementability and preliminary evaluation of developed strategies

In this chapter, the researcher determines the implementability of developed strategies within the Khomas region. A preliminary evaluation of developed strategies in the Khomas region is presented.

Chapter 8: Conclusion, contributions, limitations, recommendations and summary

This chapter summarises and concludes the study. The researcher also presents unique contributions, limitations and recommendations.

1.12. SUMMARY

Chapter 1 presented an overall picture of the study. It discussed the steps that were followed in the study and offered background information about the research problem and the aims of the study. Operational and conceptual definitions of the main concepts were defined as well as the theoretical foundations. The theoretical assumptions of the study were also part of the chapter. The research designs and methods that the researcher employed in the study were briefly discussed, along with the population, sampling techniques, data collection and methods of data analysis. Chapter 2 provides an extensive literature review for the study.

CHAPTER 2

LITERATURE REVIEW OF THE STUDY

2.1. INTRODUCTION

Chapter 1 focused on giving an overview of the CHP. It also presented the rationale for understanding this research project. The purpose of Chapter 2 is to explore and describe literature on strategies to facilitate services rendered by CHWs. The review was steered by the objectives of the study. The researcher consulted several sources, such as textbooks, CHWP research documents, journal articles, reports and guidelines of MoHSS.

The purpose of literature review is to make available up-to-date data that deliberates on the research findings of the topic in the study. It also provides a point of exit for other goals and explanation for future research (Cano, 2018; Cronin, Ryn & Coughlan, 2008). Literature review can also be classified according to six characteristics, which are: focus, goal, perspective, coverage, organisation and audience (Cano, 2018).

Insight gained from the literature review supported the researcher in regulating the extent of what has been done previously in relation to what needs to be done in the field of CHWP in countries that have launched CHWs programmes. The literature of this study was discussed twofold, that is, first, introduction to global outlooks and practices for CHWs and, second, a discussion of best practices of CHWs programmes.

2.2. STRATEGIES UNDERLYING CHWPs

High-level strategies give direction towards priorities and understanding when and how to select among opportunities. These strategies provide a coordinated and systematic way to develop a course and direction to guide the CHWP to enhance future potential. CHWs strategies might also direct the programme through the development of detailed supervisory, training, monitoring and evaluation methods (Nagy & Fawcett, 2018).

Considered details of CHWs strategies are based on policies that make the CHWP realistic, implementable and trackable. Specific responsibilities, activity deadlines and budgets are critical to

the success of the CHWP. Therefore, financial planning is one of the most important resources that would make the implementation of CHWP achievable (Berry, 2019).

2.2.1. WHO health system categories in relation to CHWPs

WHO (2011) studies were conducted and reported according to health system categories. Hence, the researcher considered literature from different CHWPs as categorised below.

Categories

CHWs programmes with a short to intermediate duration training

These offer preventive and basic curative tasks for CHWs. The programmes have relatively strong supervision activities within a weak health system. The Zanmi Lazante's Community Health Programme of Haiti was considered.

CHWs programmes with a long duration training

These offer preventive and basic curative tasks for CHWs. The programmes have a relatively weak supervision system within a weak health system. The Ethiopian Health Extension Programme was considered.

CHWs programmes with a short duration training

These offer preventive and basic curative tasks for CHWs. The programmes have relatively strong supervision systems within a weak health system. The Uganda Village Heath Programme was considered.

CHWs programmes with a long duration training

These offer promotional, preventive and basic curative tasks for CHWs. The programmes have relatively strong supervision systems within a relatively weak health system. Pakistan's Lady Health Workers Programme (LHW) was considered.

CHWs programmes with a short duration training

These offer promotional, preventive and basic curative tasks for CHWs. The programmes have relatively strong supervision system within a relatively strong health system. Bangladesh Rural Advancement Committee (BRAC) in Bangladesh was considered.
CHWs programmes with a long duration training

These offer promotional, preventive tasks and very restricted and basic curative tasks for CHWs. The programmes have relatively strong supportive supervision system within a relatively strong health system. The Family Health Programme (FHP) in Brazil and the New York Community Health Workers were discussed (WHO, 2011).

2.3. INTRODUCTION TO GLOBAL OUTLOOKS AND PRACTICES FOR CHWs

2.3.1. South American Experience (the Brazilian Family Health Programme)

Brazil is the largest country in South America with a population of 191.6 million. While it is an upper-middle-income country, 22% of the population still lives below the national poverty line. The north and north-eastern parts of the country have the poorest segments of the population (WHO, 2011). Mortality in Brazil has changed since the inception of FHP. Infectious diseases have declined and childhood deaths due to diarrhoeal diseases and acute respiratory infections have dropped. Infant deaths have decreased to 34%, meningitis (86%), HIV (69.8%) and intestinal infections (65.1%). The risk that a child could die before reaching the age of one year increased 23 times in the north-east than in the south (Zulliger, 2017).

In 2004, average maternal mortality was established at 76/100,000 live births due to direct obstetric causes: eclampsia, and ante partum haemorrhage as well as indirect causes such as infectious diseases, diabetes, anaemia and cardiovascular diseases (WHO, 2011).

The public health sector provides universal health care to 75% of the population but is still open to those who use private health services for costly and complex services. The Brazilian ministry of health is responsible for health education, research, tertiary care and delivery of special services (Zulliger, 2017; Johnson et al., 2013).

Brazilian Community Health Workers

The FHP is the most important comprehensive health care initiative and emphasises promotional and preventive health activities performed by CHWs. CHWP of 1994 is the predecessor of the present FHP of 2004. The programme that is now functional for four decades has evidenced positive impact on several health indicators (Zulliger, 2017; Novotny, 2018).

The main aim of the health reform of Brazil has been to offer health care as a basic human right for all citizens. Brazil aimed to reach universal coverage while emphasising decentralisation, equity, community participation, integration, shared financing among government levels and complementary participation of the private sector. PHC was given the responsibility to render quality health services to the neediest areas and ultimately to the whole population (WHO, 2011). The country instituted a per capita payment service to PHC services in the mid-1990s, which resulted in a major improvement in the equity of the health system. Municipalities implemented FHS while the ministry of health played a stewardship role (Zulliger, 2017; Novotny, 2018).

The family health teams (FHTs) composed of a family doctor, nurse, assistant nurse, dentist assistant dentist, social worker and six CHWs. These teams are in-charge of specific geographical areas and in the households. FHTs enrol and monitor the health status of the population of approximately 4,500 they are assigned to.

Recruitment of CHWs

Community involvement plays a major role in the recruitment of CHWs. The criteria of selection include the following:

Candidates should be 18 years old, have a leadership and solidarity spirit, minimum of eight years of schooling (be able to read and write), should have resided in the specific community for at least two years, have enough time to perform assigned activities and take responsibility for follow-up of a maximum 150 families or 750 individuals per month. The State Health Secretariat, with assistance from the Municipal Health Council, does the recruitment (Johnson et al., 2013).

Training

The training process is gradual and continuous over eight weeks and four weeks of strict supervised fieldwork. FHTs participate in the training process and are assisted by specialised nurses from local public clinics. Monthly and quarterly meetings are held, while needs are addressed. Training continues after the initial 12 weeks in areas of follow-up, fighting endemic problems of the community, elderly care, adolescent care, special needs and risks, acute respiratory infections and procedures of reporting causes of deaths. Trainers (nurses) are prepared on a 0-hour module and may pursue a 540-hour course as specialisation after which they become specialists in professional health education (Zulliger, 2017; Novotny, 2018).

Supervision Strategies

Municipal nurses' supervisors make supervisory visits at least once per month to review problem cases and collect service data. The nurses' supervisors have meetings with the central office at least once every two to four months. During supervisory visits, bookkeeping is done and data are collected for the health programme agent. Supplies are also checked, and accomplishments of set goals reviewed (WHO, 2011; Zulliger, 2017; Novotny, 2018).).

Assessments involve the evaluation of CHWs' performance in relation to defined goals and activities. These goals include the proportion of families enrolled, mean monthly number of household visits performed and family updates as well as enrolment and follow-up of children under five years. The goals include proportion of children under two years weighed and the proportion of children under one year with an up to date immunisation schedule. They also include diagnosed pregnant women and hypertensive patients in micro area, follow-up of diabetics, TB, leprosy patients, children below four months on exclusive breastfeeding, proportion of deaths in children younger than one year, and diarrhoeal and respiratory infections (Zulliger, 2017; WHO, 2011; Johnson et al, 2013).

Performance appraisal

A performance appraisal on Brazil's family health programme has shown some direct and indirect impacts. Indirect outcomes of the programme include changes in health, household behaviour towards child labour and schooling, employment of adults and fertility.

The report also indicates consistent effects of the programme on the reduction of mortality across all ages, more so in younger age groups. According to the report, the CHWs programme has benefited the poorest communities mostly with increased labour supply of adults, reduced fertility and increased schooling (Zulliger, 2017; WHO, 2011).

The programme showed a reduction in mortality of 5.4/1 000 compared to municipalities not covered by the programme, especially in the north and north-eastern regions. The coverage of the Brazilian Health Programme is 30 000 FHTs, with 100% supervision and 50% of the entire population.

Remuneration

CHWs' minimum monthly incentive is an equivalent of N$1 500, which come from a central state fund although it differs slightly between municipalities.

Community Participation

Community participation is an integral part of the CHWs programme with established community health committees. Municipalities are in full charge of primary health care and ensure that community health committees are existent. FHPs promote committees and guarantee that the community can exercise effective control of actions and health services, and develop strategies for specific health interventions (Zulliger, 2017; WHO, 2011; Johnson et al., 2013).

Referral System

Whenever the CHWs identify a family/community member at risk or sick, they immediately report to the nurse of the FHT for further evaluation. Depending on the severity of the case, the CHWs accompany the patient to the nearest health facility and maintain contact with the family. Once the patient is discharged, CHWs follow-up and maintain contact. CHWs keep records, which they present monthly to the FHTs.

Professional Advancement

Although each individual is free to pursue any professional development path, the CHWs remain a unique profession whose aim is to work for the FHT only. No mechanism for promoting CHWs is in place in Brazil but they are empowered to negotiate with national and local authorities the range of salaries at local settings (WHO, 2011; Johnson et al, 2013).

Information Management

FHTs maintain an information system aimed at monitoring decisions and health outcomes. FHTs and CHWs are required to systematically collect and report geographical, demographic and health information on the assigned families and to use such information for monitoring their activities and performance to make necessary adjustments (Zulliger, 2017; WHO, 2011).

2.3.2. The South American Experience (Haiti, Zanmi Lazante's Community Health Programme)

Haiti is one of the poorest countries in the world and has inequalities in access to basic services, including health and education. Life expectancy at birth is 60 years; infant mortality rate stands at 60/1,000 live births, HIV prevalence among the 15-49 years age group is 2.2% and a literacy rate is 43%. In recent years, the country experienced a natural disaster that left about a tenth of the population needing humanitarian assistance (WHO, 2011). Health services only reach 60% of the population.

In 2000, Haiti received aid through non-governmental organisations (NGOs) for health and education and this weakened and crippled the health system even more. According to the Pan African Health Organization, there are only 371 health posts, 217 health centres, and 49 hospitals in Haiti (WHO, 2011). The country lacks minimal financial infrastructural and human resources to render basic preventative health and medical services to the population. During the reporting period, there were only 26 doctors, 11 nurses and one dentist per 100 000 population.

The Haitian Community Health Workers

The weak public sector in Haiti is unable to provide the most needed number of capable and motivated health workers to segments of the population, especially in rural central areas. NGOs cover a large area of health care provision to Haiti and have resorted to CHWs.
However, reports from health reviews do not mention the role of CHWs. Reports fail to clarify the relationship between CHWs and the health system (WHO, 2011).

The World Bank has introduced a technical assistance programme for Haiti to improve the capacity and effectiveness of nutrition-related programmes that address chronic malnutrition among the vulnerable. This allows for on-going discussions on how to involve CHWs to take advantage of their

experience. However, due to the weak involvement of that country's ministry of health, strong and sustainable links with the public health system are limited.

Zanmi Lazante's CHWs programme activities are discussed because it is consistent and relies on the participation of CHWs in providing access to health care to poor and remote areas (WHO, 2006).

The Zanmi Lazante's CHWs programme was founded in 1985 and is affiliated with the Harvard Medical School that has been at the forefront of HIV services provision. It has also provided wider PHC services for the range of public health problems affecting low-income households. CHWs serve a critical role in bridging the gaps in access to health care that arise from lack of communication. In Haiti, CHWs are lay people selected by the community to be trained and employed as health agents. They have been involved in DOTS for TB treatment since the mid-1980s. Modelled after the successful outpatient treatment of TB, access to highly active antiretroviral therapy (HAART) was expanded through CHWs and named HIV Equity Initiative. HAART was administered directly through DOTS to patients at home. Preventive education to minimise stigma and refer HIV and TB contacts at risk to clinics was provided.

Zanmi Lazante has expanded its programme to CHWs involving activities such as encouraging voluntary HIV testing, HIV, TB and treatment of other chronic diseases. Supervision, health education, educational and psychological support to families of affected patients, reproductive health and assessment management of maternal and child health problems are also addressed.

Zanmi Lazante's CHWs programme includes several groups of CHWs with different names and roles such as:

Health Agents, who are the most educated groups and provide basic health services, vaccination, health education, family planning, hygiene education, demographic information, treatment for malaria, diarrhoea and non-complex health problems.

Women's Health Agents focus on reproductive health counselling, modern contraceptives, PMTCT, and HIV prophylaxis.

Accompagnatears focus on HIV/AIDS, TB, and DOTS for HIV/TB and psychological support to families. They also supervise treatment adherence for chronic diseases.

Youth Monitors provide education and peer support to youth groups on HIV, sexually transmitted disease, sexual issues and other reproductive health problems, including early pregnancy (WHO, 2011).

Traditional Birth Attendants (TBAs) refer pregnant women at any stage and provide HIV medication as part of PMTCT. They are trained to recognise signs and symptoms of pregnancy complications and accompany affected women to the clinic.

Agricultural Agents are involved in teaching agricultural techniques and educate communities on how to improve productivity. Nutrition is promoted and family income increased. These agents even if not directly involved in the provision of health care services, they are key components in Zanmi Lazante's Community Health Programme services (WHO, 2011).

Recruitment of CHWs

The selection and hiring process of CHWs involves a strong communal component. Members of the community discuss and elect the most suitable candidates. More than 50% of "accompagnatears" are female because of the vulnerability of women in the HIV epidemic. Furthermore, the CHW candidates should be older than 18 years and be literate and should have lived in the community they are to serve for several years. They are expected to have a basic background of the patients so that they are comfortable sharing their concerns. This enables the CHWs to have first-hand knowledge of problems and obstacles patients face daily. CHWs might also be HIV positive or former TB patients or know someone with HIV or TB (WHO, 2011). Furthermore, CHWs should be motivated, trustworthy and respected by the community, and should be committed and driven by a desire to assist the needy.

Interviews in the recruitment process are performed by doctors, nurses, social workers and programme managers. Literacy and medication identification tests are performed, and patients play an important and active role in the selection of CHWs (WHO, 2011).

Role of the CHW

Depending on the specific sub-group of CHWs and the training they received, their responsibilities range from general preventive services, the provision of medicine and health education to agriculture.

Training

The CHWs receive rigorous orientation and training from clinical staff at the health centre and as designed by the Zanmi Lazante's CHP. The curriculum comprises 15 units focusing on HIV and TB for seven days. The training staff and facilitators are drawn from the health centres and have experience in training or education to ensure that they have knowledge and competence in participatory-based learning and training methods suited for low-literacy adult learners. The objective of the CHWs training is to instil a sense of solidarity and social justice in supporting patients, households and communities. Training goals include:

- Providing correct information about treatment of HIV, TB, malaria, and other infections and chronic diseases.
- Definitions of roles and responsibilities of CHWs, helping CHWs to recognise and reduce stigma.

Formal Training of Trainers (TOT) is offered to the best performing CHWs. Equipment and supplies are provided monthly to CHWs, according to their responsibilities and competencies. These include dressing kits, flipcharts for education, vaccines, syringes, oral rehydration solution (ORS), weighing scales, thermometers, boots, raincoats, charts, data collection forms, reporting forms (daily and monthly), pills and agricultural material.

Ongoing monthly education takes place for a year and beyond, with additional training in areas of nutrition, malaria, paediatric HIV/AIDS, diarrhoeal diseases, family planning, active case finding, worms and parasites, chronic diseases, first aid, the role of traditional healers and oral hygiene. Training is conducted by health centres and lead training teachers. The newly trained CHWs join a veteran CHW in conducting patient visits and are further trained hands-on. Programmatic follow-up training is done monthly and refresher training is offered yearly. Monitoring and evaluation training and new forms for reporting to donors are addressed (WHO, 2011).

Supervision Strategies

The supervision system is based on levels of hierarchy involving all agents. It is organised around monthly meetings during which activities and continuing training is provided. Planned and unplanned supervisory visits are carried out by each level of supervisors. CHWs are directly supervised by clinical staff, which could be a doctor or nurse assigned to the care of HIV or TB patients. The Zanmi Lazante's CHP identified the need for constant supervision and took advantage by making use of the experience

and skills of senior CHWs. The CHWs leader is an existing CHW, who has been chosen based on the high quality of their work, leadership qualities and their standing in the community, as well as the length of time working as CHWs, level of education and experience.

The leader CHWs ensure that the CHWs under their supervision visit their patients daily, administering medication correctly and monitoring patient's health. The leader helps the clinical team to answer patients' questions, joins the team on patient visits and identifies problems between CHWs and patients. Unannounced visits are made by the leader CHWs and pharmacy supervision is done when kits are refilled. CHWs leaders meet monthly with health centres' staff to exchange information and discuss common issues (WHO, 2011).

Performance Appraisal

Several assessments done and published show increased coverage of health care for HIV and TB patients, voluntary HIV testing and HIV/TB treatment adherence in Zanmi Lazante CHP's areas of influence.

There is also increased trust by community members in health facilities run by committed and capable organisations such as Zanmi Lazante's CHP.

Other indicators, such as infant and child mortality, maternal and reproductive health, show a decline (WHO, 2011).

Remuneration

All the groups within the Zanmi Lazante's CHP are paid in addition to other social benefits. The payment depends on the hours of commitment and range between N$70 and N$2 100 per month. Youth groups that are part-time workers receive school fees as well as provision of some equipment.

Community Participation

CHWs are community selected and serve as liaisons between the community and clinics, which helps prioritise needed services. CHWs attend clinic staff meetings where they bring the community's voice to decision makers (WHO, 2011).

Referral System

The referral system is very active, and all groups refer to the clinics. CHWs mostly accompany patients to the clinic and use referral forms. Feedback is provided to them, and follow-up care is discussed (WHO, 2011).

Professional Advancement

CHWs who would have demonstrated outstanding performance are promoted to supervisory positions but advancement is still under discussion for better structuring (WHO, 2011).

Information Management

Monthly data collection forms are given to all groups. Forms for health posts, special vaccination days and routine vaccination are used. Zanmi Lazante's CHP has set up a web-based medical record system linking remote areas in rural Haiti.

2.3.3. South East Asian Experience (Bangladesh, BRAC)

Bangladesh is located in South East Asia, between India and Burma, and has a population of 156 050 883. The population growth rate is 1.3%. Children under four years of age make up 36.4% of the population, while 4% of the population is over the age of 65 years. Most of the population is aged between 15 and 64 years, and 27% of the population resides in urban areas. Life expectancy at birth is 60 years, while the degree of risk due to major infectious diseases is high (Zulliger, 2017). The country has made considerable progress in improving the health and nutrition status of the population. In poor households, mortality and morbidity are influenced by poor maternal and child health, malnutrition and communicable diseases. New health concerns arising are non-communicable diseases from environmental hazards such as air- and water pollution and behavioural causes such as smoking, accidents and violence. The country has a three-tier health service of public facilities at tertiary, secondary and primary levels. Less than 20% of curative services are consumed from the public sector.

The private sector is the major provider of curative services for both the poor and the rich in both rural and urban areas.

The Bangladesh Community Health Workers

BRAC is a large non-governmental organisation that incorporates semi-voluntary community health workers. Since 1977, BRAC has been supporting CHWs with essential care and the provision of basic curative and preventive health care. Shastho Sebikas (SSs) is an alternative term for CHWs in Bangladesh, which is a class under the PHC approach. BRAC focuses on the sustainability of projects and generate funds from donors, own support enterprises and microfinance projects. There are 100,000 SSs in the country (Zulliger, 2017).

Recruitment of CHWs

SSs are self-selected from within the microcredit saving and loan programmes. The village organisation usually nominates prospective SSs to the regional office after which candidates undergo an interview based on the following criteria: incumbents should be female 25-45 years of age, married with children older than five years, have some schooling, be motivated and should not live close to a health care facility (Zulliger, 2017).

Role of the CHWs

SSs work for 15 days per month, usually in the afternoons. They perform health education and promotional activities in water and sanitation, immunisation, health and nutrition education, family planning and basic curative services. They sell medication, contraceptives, sanitation latrines, tube wells and vegetable seeds. CHWs are tasked with treatment of and education on diarrhoea, dysentery, fever, common cold, worm infestation, gastric ulcer, allergic reactions, scabies and ringworm infections. They identify and refer pregnant women to government facilities, make postnatal visits, and give special care to low birth weight babies. They organise income generating activities, prepare monthly progress reports and work on DOTS (Zulliger, 2017; WHO, 2011).

Training

SSs undergo vital and necessary curative training for four weeks. The training includes common illnesses like anaemia, angular stomatitis, common cold and cough, diarrhoea, dysentery, gastric and peptic ulcers, different worm infestations, and scabies. They are given additional training, when necessary, for specific programmes like DOTS, acute respiratory infections (ARI) and safe

motherhood. SSs undergo training conducted in an interactive and problem-solving way on a monthly basis.

Problems encountered during the course of the month are discussed at those trainings and SSs are kept abreast of health innovations and management matters (Zulliger, 2017; WHO, 2011). After training, BRAC issues equipment and supplies to the SSs, which they can sell for a small profit. Kits contain sanitary napkins, contraceptives, delivery packs, soap and iodised salts. Medication kits contain paracetamol, vitamins, antihistamines, ORS, antacids and anthelmintic (WHO, 2011).

Supervision Strategies

Supervision is performed by BRAC programme officers known as Shastho Kornis (SKs). SKs are paid health care workers with a minimum of 10 years schooling. They supervise 25-30 SSs by reviewing work done regarding DOTS, family planning and immunisation. Registers are also checked for maintenance. SSs are also visited by programme officers who review their activities regarding the diverse services provided. Programme officers' visits are undertaken three to four times per month. SKs are selected by BRAC based on experience, community selection, willingness to work, and beyond the age of 30-45 years (Zulliger, 2017; WHO, 2011). Supervisors are given two weeks' training on monitoring, supervision and communication in addition to all the content covered in SSs training. They are paid though incentives from income-generating and donor funding for antenatal and postnatal services.

Performance appraisal

Evaluation of CHWs and their impact by BRAC has shown that they are well recognised by communities. They are motivated and have increased patient compliance as well as service provision and utilisation. Awareness on HIV/AIDS among communities and sex workers has increased while there was a significant reduction in low birth weight babies in BRAC volunteer areas. TB control stands at 83.3% (Zulliger, 2017; WHO, 2011).

Remuneration

SSs earn income from the sale of medicine and health commodities and receive incentives from specific performance-based work for completed treatment for DOTS programmes. SSs receive N$2,100 for patients under their care (Zulliger, 2017; WHO, 2011).

Community Participation

SSs involve communities in their tasks by developing advocacy and support groups. They discuss issues and influence communities to participate and help with suggestions for action plans that would address specific problems. Patients are also identified by communities for referrals ((Zulliger, 2017; WHO, 2011).

Referral System

Referrals, verbal or otherwise, are made to local health facilities. Transport is then arranged by health workers to transfer patients to health facilities, while SSs continue follow-up through home visits.

Professional Advancement

CHWs accumulate experience and are used as trainers of junior SSs. No retirement plan is available for CHWs in Bangladesh.

2.3.4. South East Asian Experience (Pakistan, Lady Health Workers Programme)

Pakistan is situated in South East Asia, stretching from the coastal areas of the Arabian Sea in the south to the mountains of the Karakora in the north. The population is estimated at 161 000 000. The country's health situation is characterised by a high birth rate with a comparatively low death rate thus a rapid population growth rate (Zulliger, 2017). The under-five mortality rate was 117/1 000 live births in 1991 and by 2010 only 1.8% progress was made reducing deaths to 87/1 000 live births. However, maternal mortality significantly reduced from 533/100 000 live births in 1991 to 260/100 000 in 2010 (Zulliger, 2017).

Total fertility rate stands at 5.4 children attributed to restriction of women to access health facilities due to limited mobility caused by social and cultural barriers. Pakistan has a three-tier health system: federal, provincial and district. Responsibility of health services falls under provinces since 2011. Provinces are responsible for LHW allocation, training and performance while districts are responsible for further allocation and supervision.

The Pakistani Community Health Workers

The Lady Health Workers Programme (LHWP) launched in 1994 as a federal development programme. LHWs are recruited from local communities, particularly in rural areas, to provide preventive, promotive and curative health services.

LHWP has expanded rapidly since 2000 and now stands at 90,000. These workers are attached to local health facilities but are community-based and work from their homes. Each LHW is assigned 1,000 people and they prioritise couples of reproductive age and having children under five (Zulliger, 2017). They visit approximately 27 households per week, give advice and conduct consultation with an average of 22 people each week. LHWs work six to seven days per week and at least five hours per day.

The role of LHWs includes:

Promotion of family planning and contraceptives, ante- and postnatal care, treatment of illnesses such as diarrhoea, malaria, ARI and intestinal worms, DOTS provision and surveillance for polio cases. LHWs keep comprehensive records of all patients in their care and promote hygiene and vaccination. Pakistan plans to expand LHWP to 100 000 to obtain optimal health coverage (Zulliger, 2017).

Recruitment of CHWs

LHWs are women at least eight years old with basic education, though this requirement has been a challenge in some areas where there are a few or no women with this education level. They must be between 18 and 50 years and recommended by the communities that they are to serve. They must preferably be married with children and willing to work from home. Preference is given to women who have prior experience in community work. LHWs posts are advertised, and interviews are conducted by a selection committee consisting of a medical officer-in-charge (as chairperson), a female medical officer, a female medical technician, a male medical technician and a community member. Recommendations are required from councillors who are locally elected. LHWs are required to sign an affidavit that states that they will work for at least one year after training. Formal appointment is done by the district health officer (Zulliger, 2017).

Training

Training is conducted over a 15-month period with continual training and refreshers. The training is divided into an integrated three-month course that covers PHC subjects such as immunisation, diarrhoeal control and reproductive health (including maternal and child health and family planning), nutrition, common ailments, hygiene, community organisations and interpersonal communication skills. Furthermore, 12 months are spent on task-based fieldwork training for three weeks and one week classroom training. The job-specific training focuses on carrying out instructions related to the LHWs tasks (Zulliger, 2017; WHO, 2011).

During the training period, LHWs are also attached to communities. Refresher or ongoing training is offered one day per month on identified topics. Trainers of LHWs are prepared by district trainers for nine days followed by a three-day assessment workshop to ensure quality of training (WHO, 2011).

LHWs are provided with contraceptives, condoms, and a wide range of adult and child medication to treat common ailments. Non-drug items include cotton wool, sticking plaster, pencil torch, thermometer, scissors, weighing scale and salter scale with trouser (WHO, 2011).

Supervision Strategies

Supervision is highly organised and tiered in the country's LHWP. LHWs are supervised by Lady Health Supervisors (LHSs), who are themselves supervised by the district coordinator and assistant coordinator. Supervision of LHWs should at least take place once per month and develop a work plan for the next month. LHSs also meet with clients to review the work done by LHWs. Checklists are used by LHSs during meetings to score LHWs' performance, even if the score is not shared with them. One LHS is assigned to monitor about 25 LHWs. At provincial level, field programme officers on contract monitor the programme in two or three districts. In case of non-performance, the district health officer has the authority to terminate the LHW's contract (Zulliger, 2017; WHO, 2011).

Performance appraisal

Previous evaluations show that the LHWP has made significant impacts on health outcomes. All provinces have households registered with the programme though it is lower in the hilly terrains where the population is scattered. In these areas, LHWs work less than 15 hours per week. Results of evidence-led training and community tools for LHWs have shown that women are more likely to avoid

heavy routine work during pregnancy and were also more likely to exclusively breast feed. Additional supervision provided to the LHWs seemed to improve their performance (WHO, 2011). Other studies have revealed that women served by LHWs are more likely to use modern reversible contraceptives methods than women in communities not served by LHWP.

Areas served by LHWs have shown improvement in several indicators such as tetanus toxoid coverage, attended deliveries and proportion of children fully immunised. However, prevention of diarrhoea and growth monitoring have stagnated partly due to unavailability of medicine and equipment. Irregularities in salary payments have affected the performance of LHWs (Zulliger, 2017; WHO, 2011).

Remuneration

LHWs are paid N$50 per day during the first three months of their training and thereafter N$400, an annual raise of N$100 is given as an incentive and the salary after training is N$550-N$600. Other incentives are the sale of contraceptives, which is N$500 (Zulliger, 2017; WHO, 2011).

Community Participation

Communities are involved in decision making during project planning and implementation at local level. They also monitor and evaluate LHWs' performance and are involved in advocacy and awareness-raising activities (Zulliger, 2017; WHO, 2011).

Referral System

LHWs refer patients to health facilities. They provide motivation and referral for common ailments, antenatal - safe delivery and postnatal care. There is close coordination with local health facilities, TBAs and other skilled birth attendants (Zulliger, 2017; WHO, 2011).

Professional Advancement

LHWs learn new skills to advance to LHSs and later to Field Programme Officers. This process takes three or more years after training as LHWs. Advancement is also intended to reward good performance or achievements (Zulliger, 2017; WHO, 2006).

Information management

LHWs use community maps, family registers, community charts, treatment and family planning registers and diaries, mother and child health cards, referral slips and monthly reports. With the wide scope of health problems covered an efficient information system is essential. Data are passed on to the district, provincial and federal level for compilation and analysis. Reports are compiled on a monthly, quarterly and annually (Zulliger, 2017; WHO, 2011).

2.3.5. **North American Experience (New York City)**

In New York City, the Mailmen School of Public Health and the Community Health Workers Network of New York City, in 2005, deliberated on the establishment of scope of practice and training standards of CHWs. In addition to the deliberations on the scope of practice of CHWs, the perceptions of CHWs on their roles and skills for their profession as well as the perception of possible employers on CHWs' roles and skills was studied at length. Columbia University Mailmen School of Public Health was tasked with developing CHWs roles, training, supervision and feedback (Findley et al., 2012).

To keep CHWs abreast with new developments, the Community Health Workers Network holds annual conferences and training programmes. CHWs are expected to be skilled in 25 areas, which include interpersonal communication, teaching and organisational skills, supervision and personal safety, computer skills, wellness, nutrition, family planning, HIV/AIDS, domestic violence, maternal and child health, diabetes, substance abuse, mental health, smoking, hypertension, injury prevention, immunisation and asthma (Findley et al., 2012).

With these specialised skills expectations, CHWs are required to have a high school diploma or a general equivalent diploma at entry level. The most important contributions brought about by CHWs in New York City include outreach and enrolment, improving health outcomes, retention of clients, health education, establishment of rapport and trust, facilitating access to social services, organising group education and social support, communication with health care providers, home visits and provision of patient navigation services. CHWs are mostly privately employed according to their competencies and scope of practice. They are members of the Community Health Workers Association, which guides their performance (Findley et al., 2012).

2.3.6. **African (Sub-Saharan) Experience (Uganda, Village Health Programme)**

Uganda is a land-locked country in East Africa. The physician-to-population ratio is 8:100 000 with a total population of 39 million. The population growth rate stands at 3.24%, with a median age of 15 years in 2002. The infant mortality rate is approximately 76/1 000 live births and child mortality stands at 137/1 000 live births, according to the demographic health survey of 2006/07. Maternal mortality ratio is 435/100 000 live births and the fertility rate is 6.7%. Life expectancy stands at 50.4 years (WHO, 2011; Namazzi et al., 2017). Uganda operates a decentralised health system following the administrative structure of the country. Policies and guidelines for programme implementation are set by health headquarters. The functions of resource mobilisation, capacity building, monitoring and evaluation, supportive supervision, planning and implementation are done at district level. Eighty percent of outpatients is served by private health care providers with out-of-pocket payments (WHO, 2011; Ministry of Health of Uganda 2019; Namazzi et al., 2017).

The Uganda, Village Health Programme

The need to meet poverty eradication targets and MDGs necessitated community empowerment and mobilisation for health. The well-structured nationwide village health teams (VHTs) strategy was rolled out in 2003. With a clear curriculum, the training was implemented as a community-based health intervention by the government (WHO, 2011; Namazzi et al., 2017).

Recruitment of village health workers

Community members are educated about VHTs and the need thereof before selection takes place. The criteria used for selection include maturity age of 18 and residents in the village, and ability to read and write in the local language. The incumbent should be a dependable and trustworthy person with good communication skills and should be a mobiliser. The individual should be interested in health and development and show a spirit of voluntarism. Preference is given to those who have already served successfully as CHWs. The village health workers (VHWs) are not remunerated or salaried and work without contracts on a voluntary basis. VHWs can be rejected by the community they serve and can be replaced by supervisors at the health facility (WHO, 2011; Namazzi et al., 2017).

Role of village health workers

The role of the VHWs includes medicine distribution, hygiene and sanitation, peer education and TBAs in different categories. Some VHWs are used for community mobilisation and sensitisation activities like immunisation, pregnancy monitoring, patient referrals and recordkeeping.

Training

Training sensitisation to communities is done by national level health facilitators from ministry of health or other development partners. Development partners are involved in the training because of resources constraints. The district health team trains trainers from health centres. Comprehensive training manuals are developed that cover almost every community health aspect. The initial training lasts 10 days with needs-based sessions conducted quarterly.

The modules for VHWs training cover VHWs concepts, communication, community and development, control of communicable diseases, sexual and reproductive health, environmental health and non-communicable diseases. VHWs are issued with equipment and supplies, depending on the programme and availability of resources. Development partners provide bicycles, umbrellas, T-shirts, gumboots and allowances in areas where they are involved (MOH, 2019; WHO, 2011; Namazzi et al., 2017).

Supervision strategies

Supervision of VHWs is done in a supportive and fault-finding manner to hold the VHWs responsible and accountable. Supervisors are tasked to provide support and guidance, monitor patients in case of adverse reactions to medicine, supply provisions, and track medicine and other supplies released to VHWs. Spot checks are conducted by the nearest health facility and register checks are done. Where failures occur, VHWs are replaced or corrected. Communication between VHWs and health professionals takes place quarterly, where needs are identified and addressed.

Performance appraisal

Recent evaluation of the VHW programme has shown the following achievements: 70 districts have 100% VHWs trained in the villages, 29 have partially trained VHWs, while policies and costing strategies were established for VHWs in the country. The curriculum and training materials have been

developed, and regular monitoring and supervision are conducted throughout the country. The country has also developed electronic data collection and registration tools with assistance from partners (MOH, 2019).

Remuneration

VHTs do not receive any salary or stipend. Mechanisms to support them are left at the discretion of the communities they work in. Recently, strategies have been developed to institutionalise VHWs into government health care structures so that they can be paid a salary (MOH, 2019; Namazzi et al., 2017). The country plans to train 15 000 VHWs, who will be accountable to government.

Community participation

Community involvement takes place as early as the selection process and it monitors the VHWs' performance in relation to its expectations and dissatisfied communities may dismiss VHWs. The community is linked to health facilities through the VHWs.

Referral system

VHWs are not considered part of the formal health system. Their functions are limited to disease prevention through health promotion. The only way they are involved in curative services is when they are provided with basic medicine to administer to patients in the community. Referrals involve calling health professionals to attend to complicated cases (Namazzi et al., 2017).

Professional advancement

Experienced VHWs are used to train others. Attrition is high among young people, who might get married or get better career opportunities and leave. However, new strategies to develop, train and employ VHWs might bring opportunities for advancement since training will be at certificate level (MOH, 2019).

Information management

Though records vary according to different programmes, data tools have been harmonised for use by the VHWs. The government plans to introduce electronic data collection tools to ease the process (MOH, 2019; Namazzi et al., 2017).

2.3.7. **African (Sub-Saharan) Experience (Ethiopia, Health Extension Workers Programme)**

Ethiopia is a federal republic with nine states and two city administrations. It is divided into 819 districts or 'woredas' and more than 15 000 sub-districts or 'kebeles'. Of these kebeles, 10 000 are rural and 5 000 urban. The country has been hit by famine and drought, which has had a detrimental effect on the socio-economic development of the country's 80 million population, with 47% of the under-five population experiencing moderate to severe stunting (WHO, 2011). Life expectancy at birth is 53 years.

The health system is organised in four tiers, that is, PHC, district hospitals, zonal hospitals and specialised referral hospitals. The system is generally weak, underfunded, inequitable and inefficient. The infrastructure is underdeveloped and poorly staffed due to misdistribution of resources and gender imbalances of health staff. Infant mortality rate stands at 77/1 000 live births, maternal mortality is 673/100 000 live births, coverage of deliveries attended by skilled staff is 6%, antenatal attendance is 27% and access to postnatal services 11%, expanded programme on immunisation coverage is estimated at 81%, which is attributable to the recently implemented health extension programme. Preventable health problems, which stand at 70-80%, are due to infections and nutritional disorders (WHO, 2011; Mangham-Jefferies et al., 2014).

Malaria, acute respiratory infections and helminthiasis are the top causes of outpatient visits, while deliveries, malaria and bronchopneumonia are the leading causes of admission. The federal ministry of health is responsible for policymaking, regulation, technical support and standardisation of services. The regional health bureaus are accountable for roles, services and management of the workforce and health facilities (Zulliger, 2017; WHO, 2011).

The Ethiopian Health Extension Workers

Ethiopia adopted PHC after the Alma-Ata Declaration of 1978 and endorsed rural health services, prevention and control of common diseases, self-reliance and community participation as a policy direction. The Health Extension Programme (HEP) was introduced in 2004 during the second five-year plan after the evaluation of the first five-year plan. The evaluation revealed that necessary health services had not reached the people at the grassroots level, as desired. The Ethiopian government launched a strategy known as Accelerated Expansion of PHC Coverage that guided the investment plan. The plan gave government direction in the construction of health posts and health centres, and

investment in the workforce that included health extension workers (HEWs) (WHO, 2011; Mangham-Jefferies et al., 2014).

HEP includes basic and essential promotive, preventive and selected curative health services, targeting households in the community. This is based on the principles of PHC to improve the health status of families with their full participation. Local technologies, skills and wisdom of communities were used to form the basis of the national health system. The programme was initiated from the high-level political leadership of the country. It was inspired by enhanced implementation and performance of the agricultural extension programmes where communities, families and individuals were empowered to take care of their own health (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

The implementation of HEP consists of four major areas:

Administrative duties

Collection of demographic data, planning, coordination and leadership in the kebeles (smallest administrative unit) and with community members are some of the tasks. HEWs also give inputs for implementation in the HEP; strengthen the implementation process, documentation of referrals, registers and forms used. Equipment and medical supplies requisitions are done by HEWs (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

Prevention and promotion activities

HEWs organise, train and coordinate volunteer activities and conduct home visits during which they identify defaulters and assist them. Vaccination, family planning, nutrition, complementary feeding, feeding the sick child, growth monitoring, identification of nutritious foods, nutrition counselling for pregnant and lactating women, distribution of Vitamin A and zinc, newborn care, maternal care, disease surveillance, hygiene, including human waste disposal, are some of the HEWs' responsibilities (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

Basic treatment and referral services

Pain relievers, treatment of malaria, diarrhoea, intestinal parasites, trachoma, scabies and referrals are encompassed in these activities.

Information, education, communication activities

Inter-personal communication, role-plays, folklore, poetry, proverbs and demonstrations are all incorporated in these activities. The activities are prepared and delivered in 16 packages and in different languages (WHO, 2011). Information, education, communication (IEC) services are provided to the target communities in three modules of health post-based services, family packages and community-based packages. Deployment of HEWs is done in the health post that serves 5,000 people. Five posts and one health centre constitute a PHC centre (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

Recruitment of health extension workers

Criteria used to select HEWs are that they must be female and 18 years and above, they should have completed Grade 10 with a good grade and be from the target community. They must be respected and recommended by the community and be willing to live and serve the community after training. They should be selected by the community, district health office, and capacity-building and education offices. These criteria are at times reconsidered with pastoralist communities where it is difficult to find women and/or to include men (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

Training

Training is based on PHC principles for the duration of one year consisting of 30% theoretical and 70% practical training, with apprenticeship attachment at health centres and clinics. Three months is spent in community work. The training is conducted at technical and vocational training schools and focuses more on rural communities.

HEWs train VHWs in their own communities to assist them. Recently, training of HEWs has been extended to urban communities (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014). To improve skills and sustain motivation, HEWs attend integrated refresher training. District health officers identify gaps in the knowledge and skills of HEWs through regular supportive supervision.

Trainers of HEWs are based at technical vocational training schools, which are under the Ministry of Education (MOE) and throughout the country. Trainers who are mostly, but not always, nurses and environmental health workers are recruited by MOH and trained for three months at MOE institutions (Zulliger, 2017; WHO, 2011).

Supervision strategies

Studies undertaken on effective supervision of HEWs state that it contributes to a more motivated cadre of health workers that creates a sense of legitimacy to both health workers and community members being served (WHO, 2011; Huyen, 2014). Reviews of HEWs' supervision done by Hill and colleagues (as cited in Huyen, 2014) have described some key findings that can be used as standard practice:

Gold-standards for HEWs' supervision

This is a supportive/facilitative supervision process, which is seen as a process of guiding, monitoring and coaching HEWs. This is done to promote compliance with practice standards. It allows health professionals and HEWs to work together and achieve goals and objectives together. This approach can, however, be time consuming but provides intensive external support.

Innovative approaches to HEWs' supervision

This approach is seen as time and resource-efficient because it allows supervisors to cover a larger area with more HEWs at a low cost. The HEWs can be monitored at facility level as well as in the community. Meetings are scheduled monthly or quarterly, where challenges are discussed, and continuing education is given.

Peer supervision

This approach has potential in that peers support and solve problems together and learn new skills from each other.

Community supervision is based on the idea that a community can hold HEWs accountable if they have relevant information about the delivery of service and patient rights.

In this approach, the community plays a role in stating their expectations from HEWs and monitoring their activities through monthly or quarterly meetings. The approach might, however, be challenged by lack of resources, measuring impact and community-based training (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

Periodic self-assessment

With this approach, HEWs can identify their own strengths and weaknesses in different areas by means of checklists or knowledge tests and discuss this with the supervisor on a monthly or quarterly basis. There is a possibility though that HEWs might not to be very accurate and honest when filling in their self-assessments.

Performance appraisal

Cross-sectional studies have been performed to look at the performance of the HEP in terms of facilities and productivity. Appraisals were conducted in 2005 and 2007 and they revealed that the Ethiopian HEP has achieved 80% recruitment and 38% comprehensive knowledge on antenatal care, while 60% of the minimum set of medical equipment was ensured (WHO, 2011).

Remuneration

Ethiopia has introduced a paid cadre of HEWs (civil servants). The monthly salary is slightly different per region ranging between N$6 000 and N$6 500 (18 000 and 20 000 Ethiopian Birr). However, HEWs are not satisfied with the level of payment compared to the workload and duration of training they undergo (WHO, 2011).

Community participation

Communities are involved in the selection and support of HEWs who will work in their areas. Community members communicate health information to HEWs, community-based organisations (CBOs) provide mobilisation (WHO, 2011).

Referral system

HEWs screen patients, provide treatment to those falling in their scope and ability, and refer those beyond their ability to the health facility. Patients on long-term treatment are followed up.

Professional advancement

HEWs have a career path that entitles them to upgrade from certificate to diploma level (Registered Nurse). The advancement could be taken on distance course mode to higher degree qualifications such as bachelors, masters and PhD.

Information management

HEWs keep basic records of clients/patients seen and referred and items dispensed (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

2.4. THE NAMIBIAN COMMUNITY HEALTH WORKERS PROGRAMME

To reduce mortality and morbidity, and improve the quality of life, MoHSS launched the national PHC/community-based health care (CBHC) guidelines in 1992 (MoHSS, 1992). In 2007, the Namibian Non-Governmental Organisation Forum (Nangof) registered 290 civil organisations that were supporting approximately 20 000 volunteers, who provided health care and support to various communities. The support also included TB programmes, which achieved an improvement in case-finding and DOTS. Community-Based Health Care Workers were trained to provide health care services such as hygiene, home-based care, prevention and basic treatment. These trainees also provide services to people living with HIV/AIDS (MoHSS, 2006).

The disease burden of rural and peri-urban Namibia is communicable diseases and malnutrition, especially among the under-fives. The services of CBHWs were introduced to enhance family-oriented community-based health services and positive behavioural changes (MoHSS, 2014).

Namibia is a vast country with a sparsely distributed population. This causes geographical challenges in the provision of health and social welfare services (MoHSS, 1998). Under-five mortality rate dropped from 83/1 000 live births in 1992 to 62/1 000 live births in 2000. It, however, increased again to 69/1 000 live births in 2006 (MoHSS, 2014). Infant mortality rate (IMR) is high at 46/1 000 live births and is ascribed to preventable causes such as diarrhoea, pneumonia, malaria and HIV/AIDS (MoHSS, 2013). The IMR varies considerably per region. Furthermore, Namibia has a high maternal mortality rate.

Principles guiding the CHWP/HEP

The following principles were developed to guide the implementation process of the CHWP:

- Community participation and ownership
- Building on existing experiences
- Equity
- Evidence-based approach
- Learning by doing
- Integrated community-based approach
- Inter-sectorial collaboration and coordination
- Family and community empowerment
- People-centred development approach (MoHSS, 2014, p.10-11).

Overall objectives

- To empower families and community to improve health practices and health-seeking behaviour through the provision of promotive, preventive, rehabilitative and basic curative services at household and community level.
- To bring basic health services closer to the community and ensure equitable distribution of community and household-centred health services (MoHSS, 2014, p.10-11).

Specific objectives

- To increase access to, and coverage of promotive, preventive, rehabilitative, and basic curative services with focus on maternal, neonatal and child health and nutrition.
- To strengthen and expand the continuum and quality of care and support including bi-directional referral between the community and the health facility.
- To empower local communities through awareness building and training of CBOs to promote healthy lifestyles.
- To promote ownership and participation through the involvement of community members in planning, implementation and monitoring of the CHP.
- To collect and analyse household-level data for planning, reporting and decision making CHWs work with families, communities and stakeholders at community level and receive regular technical support from the catchment health facility.

It is the responsibility of CHWs to:

- Educate families and community members to encourage them to improve household health practices.
- Conduct home visits to identify, screen and provide support for pregnant women, newborns and young children, including screening and treatment of childhood illnesses such as malaria, pneumonia and diarrhoea and HIV testing and counselling.
- Conduct growth monitoring and nutrition counselling.
- Provide care and support for the elderly and people with disabilities
- Refer clients that require the attention of the health facility and conduct follow up visit to ensure the clients receive services from the referral points.
- Mobilise community members and families for outreach services.
- Establish and strengthen village health communities (MoHSS, 2014, p10-11).
- Collect and analyse data from households and discuss the analysis with village health committee to recognise village-level achievements, explore barriers to services and take timely action.
- Identify appropriate community structures and groups to empower and encourage peer-to-peer health promotion practices within the community (MoHSS, 2014, p10-11).

Recruitment

The selection of CHWs is done by people who are properly oriented on CHWs. Effective and proper selection processes are applied and the identification of the right candidates. Customisation of selection criteria to the regional context impacts the result of CHP implementation.

The national level provides clear selection criteria to all regions to ensure uniformity and mitigate issues in relation to selection of CHWs (MoHSS, 2014a).

National guidelines state that incumbents should be mature men or women aged at least 23 years, they must Namibian citizens and live in the geographical area they have been assigned to. It further states that incumbents must have completed Grade 10, with good writing and communication skills in English. They must be able to speak and understand local language(s) in the area of deployment, and be willing to work with people (MoHSS, 2014a).

Training

Facilitators and trainers of CHWs are experienced staff from the national and regional health training centres as well as experienced programme managers at national and regional levels. During the initial curriculum and module development process, development partners gave significant technical support. The duration of training is six months (MoHSS, 2014a). Capacity building of CHWs is supposed to be achieved through in-service and professional development (MoHSS, 2014a).

Supervision strategies

CHWs are supervised by the registered nurse in charge of health facilities from where they get supplies and refills for CHWs kits. To facilitate supportive supervision, MoHSS developed a supportive supervision guide and checklist (MoHSS, 2017).

Performance appraisal

A study was conducted in 2017 to assess the progress and challenges of the CHWP from its initiation in five regions. It also assessed alignment and appropriateness of policies and guidelines as well as the extent and depth of collaboration and coordination for partnership. According to the study findings, programme performance could be improved through the development of future strategies, interventions and plans (MoHSS, 2017).

The study objectives included impact assessment, relevance, effectiveness, efficiency, coherence, sustainability, coordination and human rights-based approaches, and identification of best practices in the implementation and management of the CHWP. Provision for evidence-based improvement of the programme design and related policy changes was made available (MoHSS, 2017).

The study sampled five regions namely: //Kharas, Kunene, Oshana, Omaheke and Zambezi. The key findings of the evaluation showed noteworthy improvement in services and community understanding of the CHWP in those regions. The need for improvement was noted in maternal, newborn and child health service utilisation, health awareness, health-seeking behaviour and knowledge among community members, and increased access to diarrhoeal management and immunisation (MoHSS, 2017).

Remuneration

CHWs are paid according to government salary grade 13 N$3 027.88 for starting salary, and promotional posts for grade 12, which is N$4 627.88. MoHSS pays CHWs salaries after the successful completion of the CHWs training. The ministry is also responsible for the procurement of kits, supplies and operation costs for the CHWP (MoHSS, 2014a).

Community participation

The implementation of CHWP gave due attention to the role of community members, families and community groups who have a greater role in influencing the delivery and utilisation of CHWs' services. The PHC team at national, regional and district levels are expected to explore the community structures and guide CHWs on how to use the groups to maximise CHWP benefits and accelerate its implementation (MoHSS, 2014a).

Referral system

Existing community level registers are updated and CHWs trained in their use. Information collected by CHWs is compiled at the health facility, district and regional levels. Monthly, quarterly and annual reports are compiled and disseminated (MoHSS, 2014). This process helps identify implementation gaps and challenges and how to overcome them. The monitoring and evaluation framework was designed with the participation of all stakeholders to enhance execution of targets stated in the operational plan on time. The framework also helps in the documentation, analysis and implementation of good practices to improve programme outcomes. Mechanisms of integrated supportive supervision, regular performance review meetings, and a continuous mentoring mechanism for CHWs are designed and implemented at different levels (MoHSS, 2014a).

Professional advancement

To improve the transitioning of the current CHWs in-service training approach to pre-service training, MoHSS is considering extending the duration of training from six months to one year, to incorporate updates and additions to interventions into the CHWs training curriculum.

The study found an attrition rate of 15% among CHWs, pointing to the need to plan for the replacement of those who leave the service (MoHSS, 2017). The study, therefore, recommended compulsory service of two years after deployment for best retention and the establishment of a career development plan for CHWs, who also qualify for higher-level health care cadres (MoHSS, 2017).

Information management

Community-based monitoring and surveillance systems were developed or strengthened to track inputs, outputs and coverage of selected village targets. Monitoring and evaluation mechanisms were built into the programme from the start, as an integral part of planning. The monitoring and evaluation requires good collaboration with the health information system (HIS) to measure progress against objectives indicators and targets.

Both qualitative and quantitative methods, including baseline and evaluation surveys, helped gauge the trends and progress of CHWP, and tools or techniques used in collecting qualitative data are observations, in-depth interviews, and FGDs (MoHSS, 2017). In quantitative evaluations, surveys and quantitative and qualitative data are used to give a clear picture of programme performance (MoHSS, 2017). In addition to information collected through HIS, qualitative and quantitative monitoring and evaluation tools, regular reviews at different levels are recommended (MoHSS, 2017).

According to SOPG, monthly reviews at health centres and clinics by the direct supervisors, quarterly reviews at the district level, twice annual reviews at regional level and annual review at national level should provide a strong support system as well as opportunities to address issues and challenges in real-time (MoHSS, 2014a). Please see Figure 2.1, which illustrates data flow.

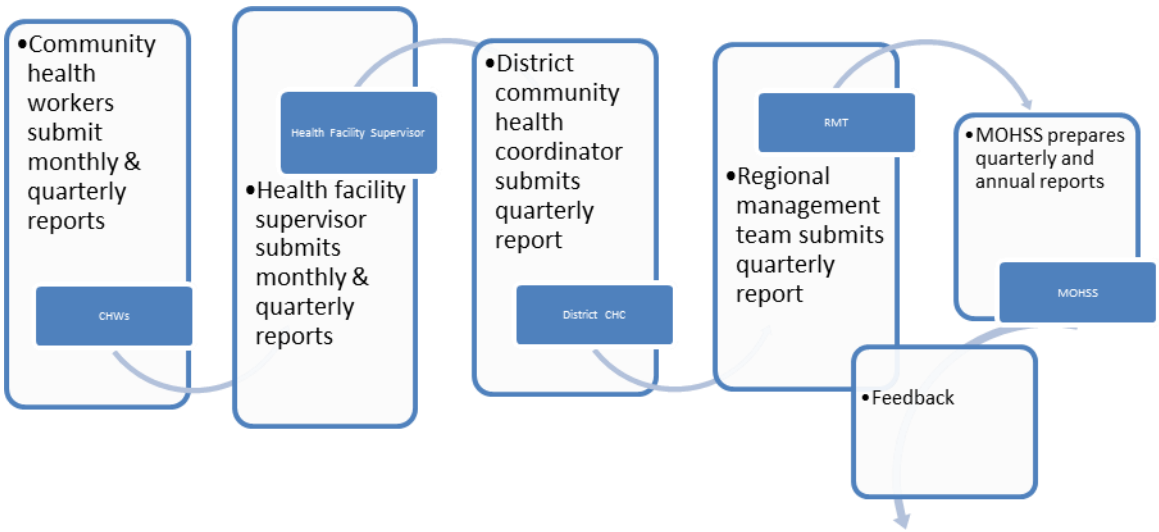


Figure 2.1: Community Health Worker Programme Data Flow

(Adopted from MoHSS (2014) Standard Operating Procedures Guidelines)

2.5. BEST PRACTICES

Table 2.1: Community health worker programme functionality and best practices

Community Health Worker Programme Functionality and Best Practices		
Country Programme	**Component**	**Best Practices**
Brazil	Recruitment	All recruitment is done from the community, where possible. Where it is not possible, the community is consulted during the process and agrees on recruitment selection.
	Initial Training	Initial training is provided to all CHWs within the first six months that is based on defined expectations of CHWs. Some of the training is conducted in the community or with community participation. Training is consistent. Health facility is involved and gives guidelines for community care.
	On-going Training	On-going training is provided to CHWs to learn new skills, reinforce initial training and ensure that these skills are practised. Training is tracked and opportunities are offered consistently and fairly to all CHWs.
	Equipment and supplies	All necessary supplies are available. No stock-out is experienced.
	Referral System	CHWs know when to refer clients. CHWs and community members know where referral facilities are. They also have logistics plans for emergencies (like transport and funds). Client referrals are done using slips of paper with information. Information flows back to CHWs with a return referral form.
	Documentation, Information Management	CHWs document their visits consistently. Group monitoring visits to facilities are attended by CHWs who bring monitoring forms. Supervisors monitor quality of documents and assist where necessary. CHWs and communities work with the supervisor of referral facilities using collected data to solve problems at the community level.
	Supervision	Regular supervision visits are performed every one to three months that include reviewing reports and monitoring data collected. Data are used for problem-solving and coaching. Supervisors visit community, make home visits and provide skills coaching to CHWs. Supervisors are trained in supervision and are equipped with supervision tools.

	Performance Evaluation	This is done at least once a year and includes individual performance and evaluation of coverage or monitoring data. Community is asked to provide feedback on CHWs' performance. There are rewards for good performance and the community plays a role in providing rewards.
	Incentives	Financial and/or non-financial incentives are partly based on good performance. Incentives are balanced and in line with the expectations of the CHWs.
	Community Involvement	The community plays an active role in all support areas for CHWs. They develop roles, solve problems, provide feedback and incentives, and help with the establishment of CHWs as leaders in the community.
Haiti	Recruitment	This is done from the community, where possible. If not possible, the community is consulted during the process and agrees on recruitment selection.
	CHWs role	CHWs' role, expectations and policies are designed by the health system, community and CHWs. The role and expectations are clear to all stakeholders. Processes for update and discussions are in place.
	Initial training	Initial training is provided to all CHWs within the first six months that is based on defined expectations of CHWs. Some of the training is conducted in the community or with community participation. Training is consistent with health facility guidelines for community care. The health facility is involved in training.
	Supervision	Supervision visits every one to three months to review reports and monitor data collected. Data are used for problem-solving and coaching. Supervisors do community home visits and provide skills' coaching to CHWs. Supervisor is trained in supervision and has supervision tools.
	Incentives	Financial and/or non-financial incentives are partly based on good performance. Incentives are balanced and in line with expectations placed on CHWs.
Bangladesh	Recruitment	This is done from the community, where possible. If not possible, the community is consulted during the process and agrees on recruitment selection.
	On-going Training	On-going training is provided to CHWs to learn new skills, reinforce initial training and assure that these skills are practised. Training is tracked and opportunities are offered consistently and fairly to all CHWs.
	Equipment and supplies	All necessary supplies are available. No stock-out is experienced.

	Supervision	Regular supervision visits every one to three months to review reports and monitor data collected. Data are used for problem-solving and coaching. Supervisors do community home visits and provide skills' coaching to CHWs. A supervisor is trained in supervision and has supervision tools.
	Community Involvement	The community plays an active role in all support areas for CHWs. They develop roles, provide feedback, solve problems, provide incentives, and help with the establishment of CHWs as leaders in the community.
Uganda	Recruitment	This is done from the community, where possible. If not possible, the community is consulted during the process and agrees on recruitment and selection.
	Initial Training	Initial training is provided to all CHWs within the first six months that is based on defined expectations for CHWs. Some of the training is conducted in the community or with community participation. Training is consistent. Health facility is involved and gives guidelines for community care.
Pakistan	Recruitment	This is done from the community, where possible. If not possible, the community is consulted during the process and agrees on recruitment and selection.
	CHWs role	The CHWs role, expectations and policies are designed by the health system, community and CHWs. The role and expectations are clear to all stakeholders. Processes for up-date and discussions are in place.
	Initial Training	Initial training is provided to all CHWs within the first six months that is based on defined expectations for CHWs. Some of the training is conducted in the community or with community participation. Training is consistent. Health facility is involved and gives guidelines for community care.
	Supervision	Regular supervision visits are performed every one to three months that includes reviewing of reports and monitoring of data collected. Data are used for problem solving and coaching. Supervisors visit community. Do home visits, provide skills coaching to CHWs. Supervisors are trained in supervision and have supervision tools.
	Performance Evaluation	This is done at least once a year and includes individual performance and evaluation of coverage or monitoring data. Communities provide feedback on CHWs performance. There are clear rewards for good performance and the community plays a role in providing rewards.

Ethiopia	Recruitment	This is done from the community, where possible. If not possible, the community is consulted during the process and agrees on recruitment selection.
	CHWs role	CHWs roles, expectations and policies are designed by the health system, community and CHWs. The roles and expectations are clear to all stakeholders. Processes for up-date and discussions are in place.
	Initial Training	Initial training is provided to all CHWs within the first six months that is based on defined expectations for CHWs. Some of the training is conducted in the community or with community participation. Training is consistent. Health facility is involved and gives guidelines for community care.
	Supervision	Regular supervision visits are performed every one to three months that includes reviewing of reports and monitoring of data collected. Data are used for problem solving and coaching. Supervisors visit community. Do home visits, provide skills coaching to CHWs. Supervisors are trained in supervision and have supervision tools.
	Documentation, Information Management	CHWs document their visits consistently. Group monitoring visits to facilities are attended by CHWs who bring monitoring forms. Supervisors monitor quality of documents and assist when necessary.

2.6. SUMMARY

This chapter presented the literature review for the study. The literature review was conducted by consulting relevant sources on the study's construct. The literature review provided an analysis of different country categories for CHWs. It is evident that CHWs selection is from their own communities and preferably by their own community members. In most programmes, scrutinising of CHWs is done based on their age limits, sex, marital status and occupational status. Training is the most crucial element in the implementation of the CHWP. Supervision has proven to be paramount in effectively improving the impact of CHWs interventions. The researcher pointed out best practices of each of the countries studied. Chapter 3 discusses the research design and methodological approach.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGICAL APPROACH

3.1. INTRODUCTION

The previous chapter covered the literature review and studies that are related to this study. The purpose of Chapter 3 is to describe the research that includes: the research design, population, sample and sampling. This is central to the development of strategies for the facilitation of services rendered by CHWs in Namibia. Measures that were included to ensure validity, reliability and trustworthiness are also discussed in this chapter.

3.1.1. **Objectives of the study**

The research design and methodology of the study was conducted in five phases, being:

Phase 1: Situational analysis with four sub-objectives (Please see point 3.2)

Phase 2: Conceptual framework

During the conceptualisation phase, the researcher used the six elements of practice-oriented theory of Dickoff et al. (as cited in Chinn & Kramer, 2015).

Phase 3: Strategies development

During the development of strategies, the researcher followed the theory generation research methods, as explained by Chinn and Kramer, (2015).

Phases 4 Determining implementability of developed strategies

Phase 5: Preliminary evaluation of strategies

3.2. PHASE 1: SITUATIONAL ANALYSIS

Situational analysis consists of four sub-objectives being to:

- Determine the level of facilitation of services rendered through CHWs by registered nurses.
- Explore the views of PHC supervisors on facilitation of services rendered through CHWs by registered nurses.
- Explore and describe the perception of CHWs on facilitation of their services.
- Explore and describe the views of registered nurses on their roles towards facilitation of services rendered by CHWs.

3.2.1. **Research Design**

Creswell (2014) refers to a research design as a comprehensive plan for obtaining answers to research questions. Burns and Grove (2015), on the other hand, refer to a research design as a defined structure with which a study is implemented. Furthermore, Creswell (2014) refers to a research design as a form of inquiry within qualitative, quantitative and mixed methods approach that provides a guide for actions in research studies.

Sydenstricker-Neto (2017) refers to a research design as a strategy that is applied to integrate different components of a research study in a cohesive and coherent manner.

A research design is described by Lawal, (2013) as a structured framework that guides and leads the reader through how a research study is to be conducted. A research method, on the other hand, refers to the approach that is appropriate to realise the objectives of the study.

Lawal (2013) differentiates between the research design, which undergoes changes to reach the objectives, and the research methodology as instruments and procedures used for the implementation of the research design.

In this study, the researcher used the convergent parallel mixed methods design. During this design, quantitative and qualitative data were collected and analysed during the same timeframe (Moseholm Fetters, 2017). The mixed methods design combines qualitative and quantitative components in a single research study and overcomes limitations of a single method research (Guetterman, 2017; De Vos et al., 2011). Data triangulation and methodological triangulation was ensured by using different

methods of data collection, that is, questionnaires, in-depth interviews, FGDs and published research materials (Biddix, 2018; Botma et al., 2015; Brink et al., 2012).

Creswell and Plano-Clark (2011) note that using both types of research design in one study helps to make up for in-built weaknesses of each type if they were to be used individually. The mixed methods approach heightens the understanding of research questions. In this study, the research design included five phases.

These phases are:
Phase 1: Situational Analysis. This determined the level of facilitation of services rendered through CHWs by registered nurses. It also explored the views of PHC supervisors on facilitation of services rendered through CHWs by registered nurses and explored and described the views of registered nurses (supervisors) on their roles in the facilitation of services rendered by CHWs.

Phase 2: The development of a conceptual framework as the basis for the development of strategies for registered nurses to facilitate services rendered by CHWs.

Phase 3: Development of strategies for registered nurses based on SOPG.

Phase 4: Determining implementability of strategies developed for registered nurses to facilitate services rendered by CHWs.

Phase 5: Preliminary evaluation of strategies developed for registered nurses to facilitate services rendered by CHWs.

3.2.2. **Sub-objective 1 [Phase 1]**

Determine the level of facilitation of services rendered through CHWs by registered nurses

A quantitative survey design was used to determine the level of facilitation of services rendered to CHWs by registered nurses (Creswell & Creswell, 2013; Brink et al., 2012). The quantitative design is appropriate for this research because it is used to gain information about the facilitation of services rendered by CHWs.

3.2.2.1. Quantitative Research Design

This design is a formal, objective, systematic process to obtain quantifiable information on variables of a study (Burns & Grove, 2011). The design is also used to describe variables and to examine relationships among variables. The quantitative research design is assumed to yield more objective and reliable findings (Mathews & Ross, 2014). By using the quantitative research design, the researcher aimed at gaining information on the phenomenon under study: determining the level of facilitation of services rendered through CHWs by registered nurses. Trochim (2011) and Martyn (2013) describe quantitative research as an excellent way of finalising results and proving or disproving hypotheses. This is because of its confirmatory and deductive nature.

The researcher looked critically at the objectives of this study and the nature of the problem to reach a conclusion that it is appropriate to use the quantitative design together with the qualitative design (Mixed methods) to obtain the goal of sub-objective one (1) and beyond because it provides a complete picture of matters that are being addressed (Weinreich, 2012). Furthermore, Trochim (2011) states quantitative studies can be classified as exploratory in nature.

The study was non-experimental, as it was conducted in the natural setting without manipulating variables (Burns & Grove, 2015). The researcher presented findings in numerical form and used statistical tools analyse the collected data (De Vos et al., 2011).

Study population of sub-objective 1

The total number of CHWs in Namibia is 1 718. However, in the three regions under study, that is, Hardap, Kavango East and Khomas, the population is 173 CHWs.

Sample size

With the quantitative approach for sub-objective 1, the sample size of 143 CHWs was applied to select the sample from the entire sub-population of 173 CHWs. All the elements thus have an equal chance to be included and involved. Three regions out of 14 were selected as follows Khomas with a sample size of n=82 CHWs, Kavango East with a sample size of n=55 CHWs and Hardap, with a sample size of n=36 CHWs. To determine the sample size with a population size of 173, expected with the margin error of 5%, and a confidence level of 95%, a sample size of 143 was calculated.

Data collection instrument

A quantitative survey design was used to determine the level of facilitation (mentoring, evaluation and training) of services rendered through CHWs by registered nurses.

The content of the close-ended questionnaire was based on SOPG with eight sections being:

Section A. Demographic and general information
Section B. Maternal, newborn, child health and nutrition
Section C. Disease prevention and control
Section D. Social welfare and disability care
Section E. Planning
Section F. Information management
Section G. Referral and coordination of services
Section H. Referral and coordination

Data collection for sub-objective 1

The researcher conducted data collection with the help of a research assistant. Data collection was only initiated after permission was obtained from MoHSS. The purpose of the study was explained to respondents. The research assistant was also trained to explain the completion of the close-ended questionnaire and to clarify uncertainties. The researcher and research assistant collected completed questionnaires. Respondents were reassured in writing that their participation in the study was voluntary and that they had the right to withdraw from the study should they wish to do so. Respondents were assured of confidentiality and anonymity and they were also requested not to write their names on any part of the questionnaire. This was done to protect respondents from being identified by non-involved individuals as well as to observe the principle of anonymity.

Data analysis for sub-objective 1

Analysis is defined as the process of ordering and structuring research data with the purpose of revealing patterns in the data while data are referred to as the raw information (Scheepers et al., 2013). The data analysing process involves gathering information, modelling and transforming research data. After completion of data collection, each completed checklist was manually checked to ensure the quality of data collected. A statistician assisted the researcher to code the items on the checklist to facilitate entering the data for analysis using a software programme. Data from

checklists were entered into an electronic database and analysed using the Statistical Package for Social Science (SPSS) version 25. Valuable information was highlighted, conclusions made, and the decision-making process supported (Polit & Beck, 2012; Peterson, 2014). The results were presented in the form of frequency tables, graphs and pie charts.

Table 3.1 indicates the clinics where CHWs are deployed in the three regions and the number of CHWs who participated in this study.

Table 3.1: Gender and clinics where CHWs are deployed per region

		Gender		
Region	Clinic	Male	Female	Other
Hardap	Aranos Health Centre	1	1	1
	Gochas Clinic	1	3	0
	Mariental PHC	3	8	0
	Rehoboth Clinic	0	1	0
	Rehoboth Health Centre	3	4	0
	Stampriet Clinic	1	1	0
Kavango East	Andara PHC	1	0	0
	Bagani PHC	0	3	0
	Baramasoni PHC	0	3	0
	Biro PHC	0	2	0
	Divundu PHC	0	3	0
	Kandjara PHC	1	0	0
	Kangongo PHC	0	5	0
	Kayengona PHC	1	1	0
	Mabushe PHC	1	1	0
	Mashare PHC	1	4	0
	Mbambi PHC	0	1	0
	Mutjiku PHC	0	1	0
	Ncaute PHC	0	1	0
	Ncuncuni PHC	0	1	0
	Ndama PHC	0	1	0
	Omega PHC	0	2	0
	Sambyu Health Centre	0	1	0
	Shadikongoro PHC	1	0	0
	Shamaturu PHC	1	2	0
	Sharukwe PHC	0	1	0
	Shinyunge PHC	0	2	0
	Takwasa PHC	1	2	0
Khomas	Hakahana PHC	2	18	0
	Maxuilili PHC	6	3	0
	Okuryangava PHC	2	9	0
	Otjomuise PHC	1	9	0
	Wanaheda PHC	4	12	0

Sub-objectives 2, 3 & 4

A qualitative research design was used to collect data for sub-objectives two, three and four: Explore the views of PHC supervisors on facilitation of services rendered through CHWs by registered nurses; explore and describe the perception of CHWs on facilitation of their services; explore and describe the views of registered nurses on their roles towards facilitation of services rendered by CHWs.

3.2.2.2. Qualitative research design

According to Mathews and Ross (2014) qualitative research is primarily concerned with stories and accounts of events, including subjective understanding, feelings, opinions and principles. Creswell (2014) describes qualitative research design as a means of exploring and understanding the meaning individuals or groups ascribe to a social or human problem. Qualitative research also refers to the collection and interpretation of narrative and visual data to enable the researcher to gain insight into the phenomenon of interest (Polit & Beck, 2012).

Qualitative design focuses on people; therefore, it was adopted to discover and convey the views on the facilitation of services rendered by CHWs. A qualitative design also enabled the researcher to explore the richness and complexity inherent to the phenomenon being studied. It provided a dialectic and inductive basis of knowledge inclusive of observation and communication (Silverman, 2013). A qualitative design is useful when complex research questions should be answered. It provides easier ways to plan and carry out the research study. Meaningful results can be generated from a small sample group, as it is not dependent on the sample size. In qualitative research, the researcher remains flexible, self-critical and analytical while existing literature serves as a comparative model. Creswell (2014) mentions that the researcher should build a comprehensive picture of specific views of participants.

Qualitative research has guided health professionals to make enhanced use of research evidence and to make informative decisions. The researcher developed an exploratory, descriptive, contextual design. FGDs, descriptive field notes and in-depth interviews with probing questions were used to assist with gathering more information on the subject at hand. Interviewing also delved beneath the surface to obtain true meaning that individuals assign to events (Creswell, 2014).

3.2.2.3. Exploratory design

An exploratory design is used to provide a basic familiarity with a topic with the purpose of understanding it. Exploratory research attempts to lay groundwork that leads to future studies or determine whether what is being observed might be explained by existing theory (Tjale & De Villiers, 2014). Exploratory research is defined by Polit and Beck (2012) as a study that explores the dimensions of a phenomenon. An exploratory research design does not aim to provide conclusive evidence but assist the researcher to have a clearer understanding of the problem at hand (Henning, Van Rensburg & Smit, 2012).

The purpose of an exploratory research design is described by Sim and Wright (2015) as a study that clarifies a topic that has not been defined or described in detail and could be understood poorly at all levels. This study explored and described the experience of CHWs' perception on the facilitation of their services as well as the views of PHC supervisors and registered nurses on their role in facilitating services rendered by CHWs.

3.2.2.4. Contextual design

According to Holloway and Wheeler, (2013), context refers to the environment and conditions in which the study takes place. It also refers to the culture of the respondents and the location of study. Pequegnat, Strover and Boyce (2011) refer to context as a particular setting, environment, people, phenomenon in which the study is being conducted. In addition, a contextual study explains people's experiences in relation to their culture and economic background or the world, which determine people's experiences and their responses to others, and challenges (Burns & Grove, 2015). In this study, the respondents are interviewed in their natural settings at health facilities and communities. CHWs, PHC supervisors and registered nurses were approached by the researcher in a setting where they could be relaxed and comfortable (George, 2011).

3.2.2.5. Descriptive design

Descriptive designs are used to identify problems with present practices, justify current practices, make judgements or identify what other researchers in similar situations have done. These designs are also used to assist with gaining information about particular characteristics within a particular field of study or when little is known about a phenomenon (Polit & Beck, 2012; Strydom & Delport,

2011). A descriptive research design allows the researcher to gain information about the study problem. In this study, the researcher used the descriptive research design to describe how registered nurses and PHC supervisors view their roles as facilitators of CHWs services.

3.2.2.6. Theory Generation Design

Chinn and Jacobs (2015) describe theory generation as the most fundamental and important process in developing and refining theory. Walker and Avant (2010) argue that the process of developing a theory is complex and involves identification of concepts, statements, theories, linkages and definitions concurrently. Kerlinger (as cited in Nieswiadomy & Bailey, 2017**)** describes theory as a set of interrelated concepts, definitions and propositions that present systematic views of phenomena by specifying relations among variables. Relationships statements should be constructed. Dickoff et al. (as cited in Chinn and Kramer, 2015) emphasise the importance of generating a theory that will achieve its practice and purpose. Nieswiadomy and Bailey (2017), also agrees upon this view. In this study, the theory generating design was used because it carries features that would be needed in the development of strategies to facilitate services rendered by CHWs at health facilities and communities.

3.2.3. **Sub-objective 2 [Phase 1]**

Explore the views of PHC supervisors on facilitation of services rendered through CHWs by registered nurses.

Study population

Sub-objective 2 comprised of qualitative in-depth interviews. Purposive sampling was done and a census study (100%) was performed to explore the views of the regional PHC supervisors on CHWs facilitation by registered nurses (Burns & Grove, 2015).

Sample size

Purposive sampling was done for sub-objective 2 and all three PHC supervisors were interviewed.

Data collection instrument

Content of the interview guide included: how often supervision was being performed, whether PHC supervisors are familiar with the SOPG, what are the views of PHC supervisors on the facilitation of CHWs' services.

Data collection for sub-objective 2

An interview guide was used to explore the views of three PHC supervisors on facilitation of services rendered through CHWs by registered nurses in Hardap, Kavango East and Khomas regions. For the in-depth interviews, the researcher arranged a suitable venue within the reach of the interviewees.
Audio-recording and descriptive field notes were used with consent from respondents (Brink et al., 2012). Individual open-ended in-depth interviews were performed until data saturation was reached. The main open-ended question posed to the PHC supervisor was: "How often do you supervise registered nurses assigned to facilitate services rendered by CHWs?" Probing questions included: Are you familiar with the SOPG? Can you explain further? Please give examples and what do you mean by that? These in-depth interviews were done during April and May 2019.

Data analysis for sub-objective 2

Firstly, transcription of audio recordings and descriptive field notes was prepared. Grouping the descriptions of the respondents into clusters of phenomena formed themes and sub-themes that will contribute to developing the strategies (Cassim & Van Schalkwyk, 2017). Thereafter, Techs' steps of data analysis were used to analyse data. Data were presented in narrative form during reporting.

Secondly, qualitative data analysis was conducted with the aid of ATLAS. ti 9 version. The prepared transcripts were loaded into ATLAS ti 9 interface according to the groups of respondents (PHC supervisors). After the loading, the process of analysis commenced where the software was used to create codes, linking codes to quotations and linking codes to codes. Following the coding process, codes were grouped into categories and eventually themes, and an analysis report was generated. The analysis report was used as the template for writing the findings of the study. The researcher wanted to know how often mentoring is performed, whether supportive supervisory visits are performed and how often feedback is given and whether these are recorded (Bhata, 2018; Brink et al., 2012).

3.2.4. **Sub objective 3 [Phase 1]**

Explore and describe the perception of CHWs on facilitation of their services.

Study population

For sub-objective 3, from the sampled size of 143 CHWs, 64 were involved in FGDs. In the Hardap region, two FGDS consisting of two times eight (16) CHWs were included. In the Kavango East region, two FGDs consisting of eight CHWs each (16) were used, while in the Khomas region, four FGDs consisting of eight each (32) CHWs was conducted.

Data collection instrument

A focus group interview guide with open-ended questions such as "What is your experience with facilitation of services you render to the community?" was used during eight FGDs.

Data collection for sub-objective 3

Eight FGDs were conducted as follows: In the Hardap region, two FGDS consisting of two times eight (16) CHWs were included. In the Kavango East region, two FGDs consisting of eight CHWs each (16) were used, while in the Khomas region, four FGDs consisting of eight each (32) CHWs was conducted. Respondents were probed with follow-up questions based on their responses until data saturation (De Vos et al., 2011; Brink et al., 2012). The respondents were informed about the use of audio-recording and field notes to obtain consent. FGDs were held in the board rooms of the clinics where CHWs are attached. This lasted for approximately three hours and was completed within one month at each of the selected regions.

Data analysis for sub-objective 3

Firstly, transcription of audio recordings and methodological and analytic field notes was prepared. Grouping the descriptions of the respondents into clusters of phenomena formed themes and sub-themes that will contribute to developing the strategies (Cassim & Van Schalkwyk, 2017). Thereafter, Techs' steps of data analysis were used to analyse data. Data were presented in narrative form during reporting.

Secondly, qualitative data analysis was conducted with the aid of ATLAS ti 9 version. The prepared transcripts were loaded into ATLAS ti 9 interface according to the groups of respondents (PHC supervisors). After the loading, the process of analysis commenced where the software was used to create codes, linking codes to quotations and linking codes to codes. Following the coding process, codes were grouped into categories and eventually themes, and an analysis report was generated. The analysis report was used as the template for writing the findings of the study.

3.2.5. **Sub objective 4 [Phase 1]**

Explore and describe the views of registered nurses (supervisors) on their roles towards the facilitation of services rendered by community health workers.

Study population

A qualitative research design was used. From the 24 registered nurses deployed at different clinics in the three (3) regions of interest, who are supervising the CHWs, individual in-depth interviews were conducted with ten (10) registered nurses on duty at the time of data collection. Four (4) registered nurses were interviewed in the Khomas region while three (3) were interviewed in Hardap and three (3) in Kavango East. The individual in-depth interviews lasted for approximately one hour each and continued until data saturation was reached (Burns & Grove, 2015).

Sample size

Purposive sampling was conducted and ten (10) registered nurses were interviewed.

Data collection instrument

For sub-objective 4, the researcher conducted in-depth interviews with each of the registered nurses (supervisors of CHWs) on duty at the time of data collection. The individual in-depth interviews continued for approximately one hour until data saturation was achieved (Burns & Grove, 2015). For the in-depth interviews, the researcher arranged a suitable venue within easy reach of the interviewees. Audio-recording together with descriptive and analytic field notes were used with the consent of the respondents (Brink et al., 2012). This exercise was done within two months.

Data collection for sub-objective 4

A question guide was used to explore and describe the views of registered nurses (facilitators) on their roles in the facilitation of services rendered by CHWs in Hardap, Kavango East and Khomas regions. The researcher arranged a suitable venue within the reach of the interviewees for the in-depth interviews. Audio-recording and descriptive field notes were used with consent from the respondents (Brink et al., 2012). The main open-ended question posed to registered nurses was: "What is your view on facilitating services rendered by CHWs?" Other questions for clarification were: How well equipped is the facility to provide skills training to CHWs". Probing questions that

were used were: what do you know about the SOPG? Can you explain further? Please give examples and what do you mean by that? The researcher conducted in-depth interviews with each of the registered nurses (supervisors of CHWs) on duty at the time of data collection for sub-objective 4. The individual in-depth interviews continued for approximately one hour until data saturation was reached (Burns & Grove, 2015).

Data analysis for sub-objective 4

Initially, transcription of audio recordings and methodological and analytic field notes was prepared. Grouping the descriptions of the respondents into clusters of phenomena formed themes and sub-themes that contributed to the developed of the strategies (Cassim & Van Schalkwyk, 2017).
Thereafter, Tesch's steps of data analysis were used to analyse data. Data were presented in narrative form during reporting.

Qualitative data analysis was conducted with the aid of ATLAS ti 9 version. The prepared transcripts were loaded into ATLAS ti 9 interface according to the groups of respondents (registered nurses). After the loading, the analysis process commenced where the software was used to create codes, linking codes to quotations and linking codes to codes. Following the coding process, codes were grouped into categories and eventually themes, and an analysis report was generated. The analysis report was used as the template for writing the findings of the study.

3.2.6. **Data analysis**

Techs' eight steps of data analysis were applied during the data analysis process. Table 3.2 illustrates how it was applied.

Table 3.2 : Tesch's Steps of data analysis and its application to this study

Tesch's steps of data analysis	**Application to this study**
1. Reading to make sense of the whole. All transcripts were carefully read, and notes were made by the researcher as ideas came to mind. This step necessitated careful and repeated reading of the transcripts to create a framework within which individual pieces of data could be understood and to identify significant words and phrases.	The researcher repeatedly read the respondents' descriptions of their experiences and also listened to the audio recordings on several occasions to familiarise herself with the details of the interviews and FGDs. These were broken up into parts. From the field notes of the interviews and FGDs transcripts, the researcher could disregard predetermined answers and see what the respondents had to say. This enabled the researcher to gain a sense of the respondents' meaning.
2. Identification of main topics. Choosing most interesting interviews and FGDs. Going through it and finding underlying meanings.	Focus was geared towards words and sentences that were relevant for the community health programme. Data were analysed by comparing them with other data and classifying them.
3. Clustering and labelling similar topics into columns. Clustering ranged from major topics, unique topics to additional topics.	The process was repeated with each transcript to explore the data base. The topics with similar meanings were rearranged and clustered together in the columns as themes and sub-themes.
4. Assigning each topic with a code next to the appropriate segment of the text and see if new categories and codes emerge.	After arranging columns, the researcher went back to the data by abbreviating the topics as codes and writing the codes next to the appropriate segments
	of the text. New categories and codes that could emerge were taken into consideration while emphasis was on trustworthiness and credibility. Similar items were given the same codes to generate descriptions.
5. Seeking ways of reducing the total list of categories by grouping topics that relate to each other, finding the most descriptive wording for the topics and turn them into categories.	The researcher used the coding process to generate descriptions. Topics became categories or themes and sub-categories or sub-themes. Relationships between topics were plotted with the purpose of grouping similar topics according to a particular theme. Therefore, coding generated several themes that appeared as major findings of this study. This was used as headings in the findings

	section.
6. Identifying names for categories/themes with the aim of sorting and organising the coded data into meaningful phenomena. Making a final decision on the abbreviation of each category and alphabetise these codes.	To arrive at the final set of categories and codes, the researcher referred to the data many times to confirm and validate the emerging patterns. Subsequently, a final column with themes and sub-themes was created.
7. Grouping the data that belong to the same category in one place and perform a preliminary analysis. Data reduction is a form of analysis that sharpens sorts, focuses, discards and organises data in such a way that final conclusions can be made and verified.	Data reduction is a form of analysis that sharpens sorts, focuses, discards and organises data in such a way that final conclusions can be made and verified. The act of giving the same codes to the descriptions was in essence a way to reduce the data.
8. Crystallising categories or themes into concepts. Recoding data where necessary.	The researcher grouped the descriptions of respondents' experiences, feelings and ideas into clusters of phenomena to form themes and sub-themes to formulate meaningful concepts within the framework and objectives of the study. These themes were used to develop the strategies.

Source: Datt and Chetty (2016); Mabuda (2013)

Validity, reliability and pilot testing of the instruments used for phase 1

3.2.6.1. Validity

Validity and reliability are essential to establish in a newly developed research instrument. In this study, content and construct validity as well as pilot study were considered to validate the data collection instrument.

Content validity

Content validity may be defined both as the adequacy of the content area being measured and the representativeness of the content of an instrument (LoBiondo-Wood, Haber, Cameron & Singh, 2017).

In this study, the researcher was guided by the content of the National Strategy for Community Based Health Extension Programme in Namibia, as defined by MoHSS (MoHSS, 2014). The questionnaire was analysed and compared to related literature to identify items that may be relevant for consideration. The questionnaire was also tested for reliability.

Furthermore, content validity refers to the degree to which an instrument covers the scope and range of information that is to be covered (LoBiondo-Wood et al., 2017). Content validity may be defined as the representativeness of the content of an instrument. Validity also refers to the truthfulness of the research results. Validity establishes whether the results that are obtained meet all the requirements of the scientific research method (Shuttleworth, 2017).

Construct validity

Construct validity refers to the extent to which a test measures a theoretical construct, attribute, or trait measure (LoBiondo-Wood et al., 2017). A pilot test was thus conducted to validate the data collection instrument. The researcher also requested the views of study supervisors as well as the statistician. The statistician assisted with data analysis to establish whether the questionnaire was a valid tool to determine the level of facilitation of services rendered through CHWs by registered nurses.

3.2.6.2. Reliability

Reliability is the consistency of the research measurement, or the degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects. In short, it is the replicability/repeatability of a researcher's measurement (Pandey & Pandey, 2016). According to Shuttleworth (2017), reliability enables other researchers to perform the same experiment under the same conditions while generating the same results. The main idea of reliability requires research results to be inherently repeatable. In this study, the quality of research and the research instrument for both questionnaire and in-depth interviews are determined by its validity and reliability.

3.2.6.3. Pilot Study

According to Burns and Grove (2015), a pilot study is a small version of a proposed study and is done to examine the reliability and validity of the research instrument. A pilot study forms an

integral part of any research study because it ensures the researcher that all necessary precautions have been taken to avoid deficiencies that might arise during the study (De Vos et al., 2011; Cassim & Van Schalkwyk, 2017). A pilot study was done in the Otjozondjupa region with 10 CHWs in May 2019 and given to a statistician to ensure that the instrument was testing what it was meant to test. During the compilation of the close-ended questionnaire, the researcher was guided by the content of the National Strategy for Community-Based Health Extension Programme in Namibia, as defined by MoHSS (2014) and the SOPG of MoHSS (2014). CHWs were asked to sign an informed consent form. The questionnaire was explained and handed out by the research assistant and completed by each of the ten (10) CHWs.

The pilot study was also done to exclude the need to use long questionnaires because data collection tools that are time consuming tend to cause respondent fatigue or scare off the respondents before they attempt responding to the questionnaire. A reliability test was performed according to Cronbach's coefficient alpha. This test is done to see if multiple-question Likert scale surveys are reliable. These will tell the researcher if the test designed is accurately measuring the variables of interest. In general, a score of more than 0.7 is usually acceptable. The test performed for this study questionnaire was rated between 0.7 and 0.9, which is acceptable.

3.2.7. **Communication skills used during data collection**

According to De Vos et al. (2011), communication skills are of utmost importance during the data collection process. It enables respondents to express themselves freely and enriches data collected. Some communication skills used are discussed below:

Language

All communication was done in simple understandable English. This was done to ensure that all participants understood the proceedings of the study. The questionnaire of the quantitative part, the FGDs and in-depth interview guides of the qualitative part were compiled in simple English and all respondents were comfortable to express themselves.

Observations

These skills were used to observe the impressions of the respondents during the entire data collection process.

Patience

This was exercised, especially during FGDs where respondents needed time to rethink their responses.

It was also applied when respondents went off track during FGDs.

Flexibility

Flexibility was applied when respondents did not complete the questionnaire on time. This was accomplished to give a chance to those who needed time to finish rather than rushing them through. Some FGDs could not start at the time planned due to some respondents coming late. The researcher applied flexibility by waiting until everybody was ready.

Listening

This skill was applied to give all respondents an equal chance to express themselves freely during FGDs and interviews.

Responding and paraphrasing

After listening to respondents' expressions, the researcher repeated what was understood back to them. Paraphrasing was applied when translating information expressed in precise words without adding any other ideas to the respondent's message.

Clarification and focusing

These skills were used to enable the researcher to ascertain what was heard was correct. Focusing assisted the researcher to direct respondents towards the question asked and the topic of discussion.

3.3. REASONING STRATEGIES

Burns and Grove (2015) use logic reasoning to break the whole into parts that can be carefully examined as can the relationships among the parts. Feynman (2019) concurs that this type of reasoning is a system that deals with the form of relationships among propositions. Jackson (2018)

argues that a valid argument is reasoning that is comprehensive on foundation of logic or fact. Furthermore, the author states that logic reasoning is the process that uses arguments, statements, premises and axioms to define whether a statement is true or false with the purpose of establishing whether the reasoning is true or false. The reasoning strategies used during the six phases of this study were deductive reasoning, inductive reasoning, inference, bracketing, synthesis and analysis (Jackson, 2018).

3.3.1. **Deductive reasoning**

Deduction begins with a broad truth or major premise and is followed by the minor premise, which is a more specific statement. Researchers decide whether a deductive statement is true by assessing the strength of the link between the premises and the conclusion (Feynman, 2019). De Vos et al. (2011) states that deductive reasoning moves from the pattern that might be logically expected to an observation that test whether the expected pattern is actually occurring. A researcher begins by conceptualising a theory about a topic of interest and narrows that down to more specific hypotheses that can be tested. This type of reasoning is mostly used with quantitative research. In this study, it was utilised with phase one, sub-objective one to assess the level of facilitation of services rendered by CHWs.

3.3.2. **Inductive reasoning**

Inductive reasoning was used in this study and involves drawing conclusions from facts, using logic (Feynman, 2019). The key distinction between deductive and inductive reasoning is that inductive reasoning accepts that a conclusion is uncertain and may change in the future. Furthermore, Feynman (2019) states that a conclusion is either strong or weak and not right or wrong. The biggest difference between deductive and inductive reasoning starts with a statement or hypothesis and then test to see if it is true through observations and moves backward towards generalisation and theories (Miessler, 2018). This type of reasoning is also referred to as ‘bottom-up’ reasoning. Inductive reasoning was applied during fieldwork to collect data through the questionnaire and FGDs. The level of facilitation of services rendered by CHWs was explored and described. During phase two it was used to develop themes and sub-themes and to develop the conceptual framework.

3.3.3. **Inference**

Inference is the process of drawing a conclusion from supporting evidence. Inference was drawn by the researcher when interpreting data collected from FGDs, interviews and questionnaires. The inference which was drawn about the study population assisted the researcher to make conclusions. It allowed for a smooth process to develop strategies for facilitation of services rendered by CHWs (Chinn & Kramer, 2011).

3.3.4. **Bracketing**

Bracketing is a method used in qualitative research to alleviate the negative effects of presumptions that may influence the research process (Tufford & Newman, 2012). Personal biases need to be identified and eliminated. This will ensure that judgement is not made about what is observed or heard. In this study, the researcher remained neutral and did not allow personal beliefs and views to influence the research study. With the close-ended questionnaire, a research assistant was used to hand out and collect the questionnaires. With the FGDs, only pre-set questions were asked and probing was done to ask relevant questions related to the topic. In addition, bracketing was applied when clarification was needed about the phenomenon of discussion.

3.3.5. **Analysis**

Concept analysis is a process by which a complex whole is broken up into parts so that the interrelated constructs that are relevant to the understanding of the main concept are isolated (Walker & Avant, 2010). In this study, analysis was used as an ongoing process that involved continual reflection about data, asking analytic questions and writing memos throughout the study. The strategy of analysis was used to analyse data for identification and clarification of concepts.

3.3.6. **Synthesis**

Synthesis takes place after analysis and is needed to combine or synthesise the concepts that have been identified. With this the whole can be formed. Walker and Avant (2010) describe this as sifting out of important factors and relationships while Mouton and Marais (2008) refer to it as interpretation. For this study, synthesis was used as an alternative to analysis and assisted the researcher with drawing up conclusions and recommendations.

3.4. DATA COLLECTION METHODOLOGY AND PROCEDURES

The concept of data collection is defined by Creswell (2017) as a procedure of collecting, measuring and analysing accurate insight for research using validated techniques. The process of data collection is the primary and most important step for a researcher. Creswell (2017) also sees data collection as a precise, systematic gathering of information relevant to the research purpose. Quantitative data was collected through close-ended questionnaires while qualitative data was collected through FGDs, in-depth interviews and desk reviews. Each of these instruments is discussed below.

3.4.1. **Focus group discussions**

FGD is a method of a group interview in which eight to 10 respondents are directed by an interviewer (Wong, 2012). Discussions are usually planned with an interview guide to ensure that all points of interest are covered. FGDs are considered a means of exploring unknown terrain, and are of outstanding value as tools for explaining respondents' experiences and attitudes. It provides an understanding of the subject matter (Moretti et al., 2011). Fiske and Kendall (as cited in Merton, 2010) describe FGDs as relatively quick, inexpensive and excellent to obtain background information. In this study, the researcher used a FGDs interview guide to conduct eight FGDs over a period of four weeks in Kavango East, Khomas and Hardap regions. The group consisted of eight CHWs and focused on the facilitation of services they rendered. All FGDs were conducted at regional boardrooms or staff rooms at the different clinics. The researcher conducted FGDs personally. Activities involved the following in sequence:

1. Introduction of the researcher
2. Briefing on the process of FGDs.
3. Signing of consent forms to give permission to participate and audio recording.
4. Encouragement to CHWs to express themselves freely without fear.
5. Numbering of respondents (CHWs) so as not to use names in any way.
6. Establishing ground rules for smooth interaction among the respondents

With the aid of a FGD guide, the researcher posed a main question and probing questions. According to Creswell (2014) the central question is a broad question in qualitative research. This aims at exploring the central phenomenon in a study. In this case, assessing the facilitation of services rendered through CHWs to clients by registered nurses. The main open-ended question posed was:

"What do you understand by facilitation of your services by registered nurses?" Probing questions that used were:

- What do you think about the way facilitation is conducted? Can you give examples?
- What do you mean by that?
- What do you think can be done to improve the situation?

Table 3.3 illustrates the FGDs.

Table 3.3: Respondents for focus group discussions

Districts/clinics	**Participants**	**Number of respondents/ interviewees**
Rundu district	Community Health Workers	8
Andara district	Community Health Workers	8
Wanaheda clinic	Community Health Workers	8
Maxuilili clinic	Community Health Workers	8
Hakahana clinic	Community Health Workers	8
Okuryangava clinic	Community Health Workers	8
Mariental district	Community Health Workers	8
Rehoboth district	Community Health Workers	8
Total respondents		**64**

3.4.2. **In-depth interviews**

An in-depth interview generates understanding of human experiences without influence from the researcher (Guest, Namey & Mitchell, 2013). The researcher paved the way to understand a phenomenon and document meanings of responses. In-depth interviews were conducted in an environment that provided good interaction for open discussions (Marthul, 2020). Permission was obtained from all respondents to voice record the interviews. They were also assured that the recordings would only be used for research purposes. The researcher took methodological and analytic field notes during the in-depth interviews (Morris, 2015). Ethical aspects taken into consideration during the in-depth interviews included the following:

- Anonymity of interviewees in relation to the information shared.
- Consent from interviewees to participate in the interview process.
- Acknowledgement of the contributions of interviewees to prevent exploitation.

The researcher conducted 10 in-depth interviews with registered nurses at the different clinics in Kavango East, Khomas and Hardap regions respectively. Three PHC supervisors were interviewed in the three regions. The main open-ended question posed to registered nurses during the in-depth interview was: **"What is your view on facilitating services rendered by CHWs?"**

Other questions for clarification were: **"What do you know about SOPG? How well equipped is the facility to provide skills training to CHWs".**

Probing questions that were used were:

1. What do you know about the SOPG?
2. Can you explain further?
3. Please give examples
4. What do you mean by that?

The main open-ended question posed to the PHC supervisor was: "How often do you supervise registered nurses assigned to facilitate services rendered by CHWs?" Probing questions used were:

1. Are you familiar with the SOPG?
2. Can you explain further?
3. Please give examples
4. What do you mean by that?

Table 3.4 shows individual respondents for in-depth interviews.

Table 3.4: Respondents for in-depth interviews

Districts and clinics	**Respondents**	**No. of respondents /interviewees**
Kavango East region	PHC supervisor	1
Rundu clinic	Registered nurse	1
Andara district	Registered nurse	1
Khomas region	PHC supervisor	1
Wanaheda clinic	Registered nurse	1
Maxuilili clinic	Registered nurse	1
Hakahana clinic	Registered nurse	1
Okuryangava clinic	Registered nurse	1
Otjomuise Clinic	Registered nurse	1
Mariental district Mariental district	PHC supervisor Registered nurse	1 1
Rehoboth district	Registered nurse	1
Aranos district	Registered nurse	1
Total Respondents		**10 Registered Nurses** **3 PHC Supervisors**

3.4.3. **Methodological and descriptive field notes**

According to Thomas (2015), field notes are created by the researcher during the act of conducting a field study to remember and record the behaviours, activities, events, and other features of an observation. Field notes are used to document needed contextual information that can be read by the researcher as evidence to produce meaning and understanding of the phenomenon being studied (Phillippi & Lauderdale, 2017). Field notes consist of two parts: descriptive information where attempts are made to accurately document factual data and secondly reflective information where thoughts, ideas, questions, and concerns are recorded. Characteristics of field notes are described by Phillippi and Lauderdale (2017) as being accurate, organised, descriptive, and focusing on the research problem, and as recording insights and thoughts. In this study, the researcher took field notes during the data collection process. The field notes helped the researcher to recall and recover information about aspects observed during discussions and also to describe the underlying themes

and dynamics. Field notes were also used by the researcher to incorporate observed information with the voice-recorder data to meet the requirement of trustworthiness.

3.4.4. **Voice recorder**

The researcher used a voice-recorder to record the FGDs and in-depth interviews. This data collection instrument supplemented the descriptive field notes with qualitative data collection. According to Henning, Stone and Kelly (2012), the purpose of using voice/audio recording is to prevent loss of information, which can be caused by distraction during discussions. Written consent was signed by respondents before the voice recorder was used to record interactions between the researcher and the respondents. Recorded discussions were used for exact transcriptions. The audio recorder instrument collected verbatim information as related directly by the respondents. Credibility was ensured through the use of the audio recorder, which provided a good record of factual data with referential adequacy (Babbie, 2021).

3.5. MERGING AND INTEGRATION OF FINDINGS

Merging of findings is described by Lorenzini (2017) as the integration or reporting quantitative statistical results followed by qualitative quotes or themes that support or refute the quantitative results. Creswell et al., (2018) support this view by stating that merging of data can be achieved by transforming datasets such as the occurrence of themes in qualitative data compared with the quantitative dataset. The convergent parallel mixed methods design flowchart of Bian (2012) was used to illustrate how the process of merging and integration was performed. **(Please see figure 3.1 below)** Integration or merging leads to minimisation of data weaknesses and maximisation of the strengths of quantitative and qualitative data (Guetterman, 2017; Schoonenboom & Johnson, 2017).

Flowchart for a convergent mixed methods design

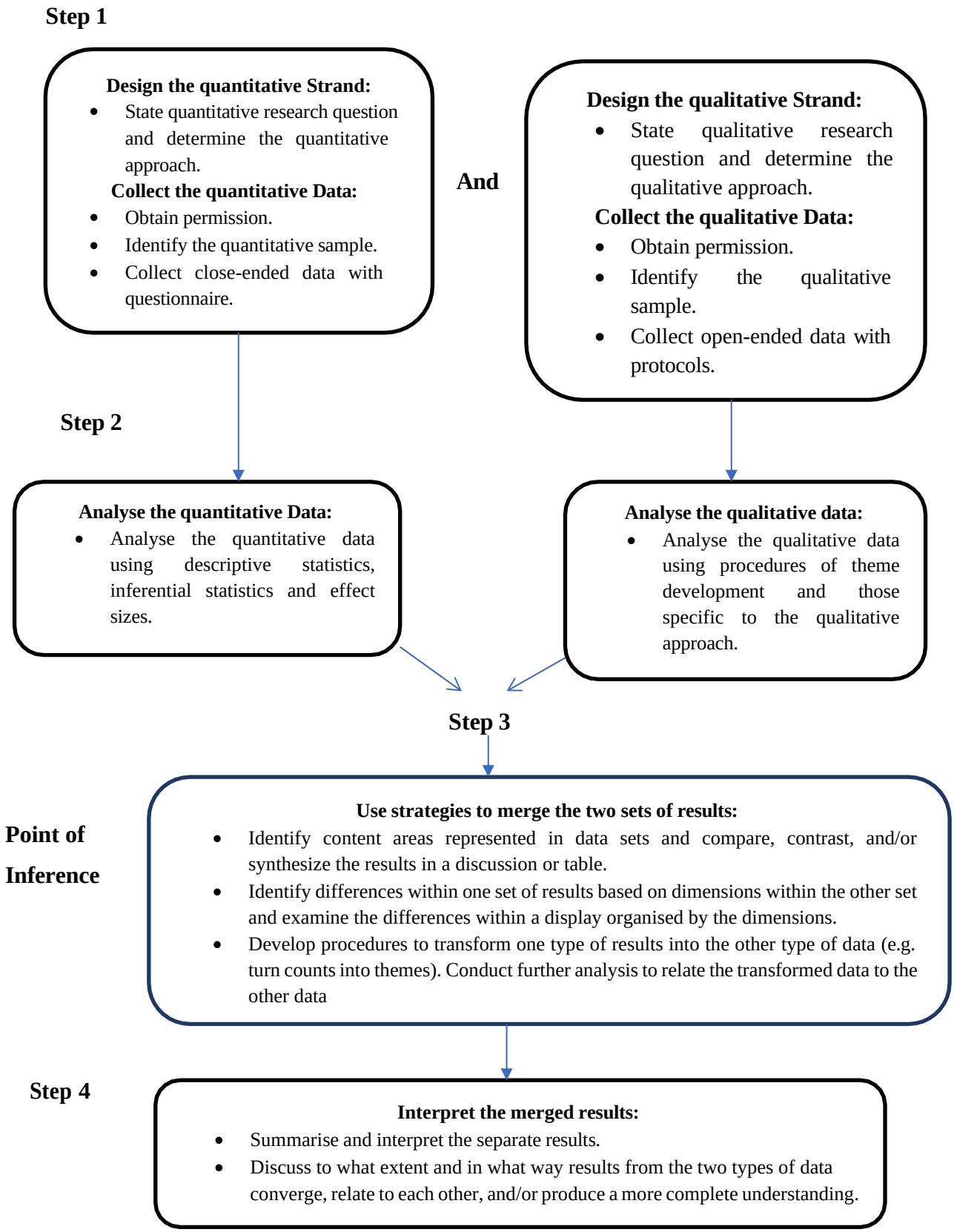


Figure 3.1: Flowchart of the basic procedure in implementing a convergent mixed methods design

Source: Bian (2012, 19)

3.6. PHASE 2: CONCEPTUAL FRAMEWORK DEVELOPMENT

Phase 2 followed with the development of a conceptual framework as the basis for the strategies for registered nurses to facilitate services rendered by CHWs. Findings obtained from data analysis of sub-objectives 1, 2, 3 and 4 were used in the development of the conceptual framework (Dickoff et al., as cited in Chinn & Kramer, 2011). The concepts of agent, recipient, context, dynamics, procedure and terminus were applied as follows:

Agent:

The 'agent' in this study referred to the researcher who facilitated the implementation of the strategies to facilitate services rendered by CHWs at health facilities of MoHSS by registered nurses. The 'agent' is seen as the main person responsible for the development of strategies (Dickoff et al., as cited in Chinn & Kramer, 2011).

Recipients:

The recipients of this study are registered nurses who participated in the discussions and training on strategies to facilitate CHWs services at health facilities where CHWs are deployed (Dickoff et al., as cited in Chinn & Kramer, 2011).

Contexts:

The contexts are the health facilities and communities where CHWs are deployed. All registered nurses facilitating CHWs services at the MoHSS facilities and communities are targeted to receive training on facilitation strategies (Dickoff et al., as cited in Chinn & Kramer, 2011).

Dynamics:

The dynamics in this study are the challenges that registered nurses experience in facilitating services rendered by CHWs. To improve the facilitation of CHWs services, the registered nurses need support knowledge and skills to implement SOPG of MoHSS. The outcomes of this study was the successful testing of implementability of the facilitation process (Dickoff et al., as cited in Chinn & Kramer, 2011).

Procedure:

Procedure is the process which is employed to address specific problems. They are also to guide the actions to implement programmes. SOPG are the procedures to be employed to address challenges or to guide implementation towards set goals (Dickoff et al., as cited in Chinn & Kramer, 2011).

Terminus:

The terminus is the endpoint of the developed strategies for registered nurses to facilitate services rendered by CHWs. This refers to competent registered nurses and CHWs who execute their responsibilities with quality health care (Dickoff et al., as cited in Chinn & Kramer, 2011).

Analysis of concepts is the first phase of theory generation. This process involves identification, classification and definition of concepts (Chinn & Kramer, 2008). Analysis of concepts will ultimately lead to the development of strategies for the facilitation of services rendered by CHWs.

This study employs a mixed methods design with sub-objective one being a quantitative method of data collection. Herein a questionnaire was used to collect data that determined the level of facilitation of services rendered by CHWs. A qualitative research design was employed with a interview guide to explore the views of PHC supervisors and registered nurses on facilitation of services rendered through CHWs (Grant & Osanloo 2014).

Analysis and identification of concepts was done by determining, exploring and describing aspects regarding the facilitation of services rendered by CHWs. Strategies developed were based on the theory generation by Chinn and Kramer (2008).

Chapter 5 provides a detailed description of the conceptual framework development.

3.7. PHASE 3: DEVELOPMENT OF STRATEGIES TO FACILITATE SERVICES RENDERED BY CHWs

This phase entailed the development of strategies to facilitate the services rendered by CHWs. Strategies were developed according to the main themes that had been extracted from the questionnaire in sub-objective 1, and the themes derived from the 13 in-depth interviews and eight focus group discussions of sub-objectives 2, 3 and 4.

A conceptual framework is defined by Dickoff et al. (as cited in Chinn & Kramer, 2011, as an organised approach of setting ideas and theories that assist investigators to identify research problems precisely. The development of strategies to facilitate services rendered by CHWs was guided by the conceptual framework.

Chapter 6 provides a detailed description of information on strategy development.

3.8. PHASE 4: DETERMINING IMPLEMENTABILITY OF DEVELOPED STRATEGIES TO FACILITATE SERVICES RENDERED BY CHWs

It is vital to determine implementability of the developed strategies to identify any weaknesses or topics to be improved on.

The researcher conducted a two-day workshop during which developed strategies to facilitate services rendered by CHWs were discussed with facilitators of the CHWs in Khomas region. During the workshop six criteria suggested by Chin and Kramer (2011) were deliberated on.

3.9. PHASE 5: PRELIMINARY EVALUATION OF DEVELOPED STRATEGIES TO FACILITATE SERVICES RENDERED BY CHWs

Evaluation was performed to authenticate whether the developed strategies brought about needed outcomes that met the study objectives. This was carried out in accordance with the criteria for evaluation for theory generation, as suggested by Chin and Kramer (2011):

- How clear are the strategies? Are the relationships between the attributes, experiences and consequences of the concepts easily understood?
- How simple are the strategies? Is the structure of the strategies and its components easily understood?
- How general are the strategies? What is the scope and purpose of the strategies?
- How accessible are the strategies? Refers to evidence of practical accessibility of the strategies.
- How important are the strategies? The importance of the strategies relates to their purpose, which is the facilitation of services rendered through CHWs by registered nurses.

The preliminary evaluation of developed strategies is explained in Chapter 7.

3.10. ETHICAL ASPECTS

Ethics refers to research that involves the collection of data from people and about people. Ethics require protection of respondents from the researcher (Creswell & Creswell, 2018). It refers to principles of morality, especially those that deal with rights and wrongs of any action (Pandley & Pandley, 2016). This study remained true to ethical principles by ensuring safety and security to all respondents.

Ethical issues should be anticipated prior to studies, during collection of data, during reporting and sharing information. The following ethical guiding principles were considered during the study.

3.10.1. **Permission to conduct research study**

The researcher respected the protection of human beings by ensuring confidentiality as required by the University of Namibia's ethical principles in data collection, maintenance and dissemination of information (please refer to appendices 1 and 7) (Pandley & Pandley, 2016).

Permission to conduct the study was obtained from:

- University of Namibia (Unam)'s Ethics Review Committee for clearance
- Post-Graduate Studies Committee of Unam
- Research and Ethical Committee of MoHSS

It was important that all respondents involved in the study should be made aware of their ethical right throughout the research process to enable them to exercise these rights (Pandley & Pandley, 2016). The study was undertaken under the following ethical guiding principles:

3.10.2. **Informed consent/principle of impartiality**

The critical and distinctive features of the principle of impartiality are avoiding exploitation and abuse of respondents. A researcher understands and applies this principle in qualitative research studies. Respondent's vulnerability and their contributions to a research study need to be always recognised. Informed consent is when prospective respondents are given a full description of the study that might influence their willingness to participate, and they still volunteer to participate. To ensure that respondents' rights were respected and acknowledged, a written consent was used (Johnson & Christenson, 2012). Aspects included in the consent were the purpose, objectives, benefits and details

of the researcher that would be needed should respondents' need clarity on questions (Burns & Grove, 2015; Guetterman, 2018).

3.10.3. **Self-determination**

Respondents have the right to withdraw from the study at any time and should not feel coercive pressure to participate (Johnson & Christenson, 2012). Respondents were informed that they have the right to self-determination, which is based on the principle that people are capable of controlling their own lives and that they have the right to choose their own fate (Burns & Grove, 2015; Guetterman, 2018).

3.10.4. **The principle of respect (privacy, anonymity and confidentiality)**

Burns and Grove (2015) maintain that privacy is the right of an individual to determine which and when private information may be made public. By keeping respondents' names anonymous, the right to confidentiality was observed. The right to privacy, confidentiality and anonymity were maintained throughout the study (Johnson & Christenson, 2012).

3.10.5. **The principle of justice**

Justice refers to the fair distribution of limited benefits and burdens of society. Justice concerns how individuals are treated in the larger context (Macklin, 2014). The respondents (registered nurses and CHWs) need fair treatment that is based on the ethical principle of justice. While conducting the research, it is expected that the researcher will treat the respondents fairly and respect the agreement established between them and the researcher (Macklin, 2014). The researcher ensured justice by accepting responses without judging the content, providing a safe environment that created an open atmosphere to communicate experiences. According to this principle, respondents have the right to fair selection and treatment.

Protection from exploitation also encompasses consent that needs to be obtained. Personal consent from respondents should be sought. The researcher ensured that all respondents possessed the legal capacity to give consent (Macklin, 2014).

3.10.6. **Protection from harm/principle of beneficence**

According to Johnson and Christenson (2012), education research does not run the risk of physical harm but ethical issues that are related to emotional harm were addressed. Beneficence means doing good to other people and to prevent harm. Researchers are obliged to protect the respondents' identities and make efforts to secure the well-being of all research respondents.

Table 3.5: Application of ethical issues

Stages when research ethical issues can happen	Type of ethical issues	Management of ethical issues
Prior to conducting the research study	Identify a research problem that will benefit respondents.	Conduct needs assessment and confirm the existence of the problem with credible sources, such as UNICEF and WHO reports. Submit research proposal to the Ethical Research Committee of the School of Post-Graduate studies of UNAM Request written approval from MoHSS Informed consent written to seek approval from respondents
Beginning the study	Disclose purpose of the study. Do not force respondents to participate in study Be sensitive to the needs of vulnerable populations.	Inform respondents the purpose and benefits of the study. Tell respondents that participation is voluntary, they have the right to refuse or withdraw anytime if they wish.
During data collection	Treat all respondents with dignity and respect Treat respondents equally Respect the privacy and anonymity of respondents.	Fair selection based on study criteria Inform respondents about confidentiality of information provided The researcher should not collect additional information other than that covered in the questionnaire and interviews. Protect respondents' identities with codes.
Data reporting and dissemination	Do not falsify evidence, data, findings and conclusions. Plagiarism to be avoided. Share data with others. Keep raw data and other materials such as details of procedures and instruments in a safe place.	Report honestly. APA referencing system used All stakeholders should receive copies of reports. Data and materials to be stored for five years

3.11. TRUSTWORTHINESS MEASURES

According to Brink et al. (2012), trustworthiness is ensured by using multiple strategies that would bring about authenticity and credibility. Trustworthiness allows the researcher to have confidence in the collected data. In this study, Guba's model of criteria as outlined in (Brink et al., 2012), that is, credibility, dependability, conformability and transferability were used.

3.11.1. **Credibility and dependability**

Credibility refers to the fact that the research should be performed in such a way that the findings demonstrate the "truth". Confidence in the truth can be achieved through prolonged engagement for the researcher to gain in-depth understanding of the perceptions and experiences of respondents (registered nurses and CHWs) (Brink et al., 2012). Triangulation was ensured by asking different questions in FGDs and unstructured in-depth interviews by capturing descriptive field notes and voice recordings. The concept of dependability refers to the consistency of research findings. It brings up the stability of data over time. Brink et al. (2012) mention that all techniques applied to ensure credibility also directly impact dependability. The researcher ensured dependability by thick descriptions of the research methodology used. Credibility was achieved through face-to-face contact with respondents**.** The aim of credibility is to demonstrate that the research was conducted in a manner that ensures that the respondents were precisely identified and described (De Vos et al., 2011). Table 3.2 recapitulates the application of credibility in this study.

Table 3.6: Application of credibility principles

Principle	**Researcher's provision**
Field notes	Consistent field notes were taken during FGDs and in-depth interviews and included respondent behaviour and expressions.
Peer debriefing	Ongoing consultations were held with colleagues and supervisors.
Triangulation	Was achieved through using field notes, audio recordings, FGDs, in-depth interviews and questionnaires. This was done to enrich the process of data collection.
Face-to-face contact with respondents.	A great amount of time was spent with respondents when FGDs and in-depth interviews were conducted.
Exclusion of misinterpretation	Instant transcription of FGDs and interviews after data collection was done.
Honesty	To ensure honesty of respondents, voluntary participation was explained. Only those who were willing to participate and give honest and true answers were involved.

3.11.2. **Applicability and transferability**

Transferability describes the extent to which the findings can be applied to another context or to other respondents. The researcher's purpose was not to generalise the findings but rather to define observations within the specific context. However, strategies can be transferable to other regions that wish to apply them. Data collection and provision of sufficient detailed descriptions of data within the given context were ensured (Brink et al., 2012; De Vos et al., 2011). Applicability was ensured and is explained in Table 3.3

Table 3.7: Applicability principles

Principle	**Researcher's provision**
Triangulation of data collection methodology	The researcher used different methods of data collection such as questionnaires, focussed group discussions and in-depth interviews.
Sample	A comprehensive description of the respondents and sampling was given with the research methodology.

3.11.3. **Conformability**

With conformability, the data collected must be a true reflection of the respondent's voice and be free from biases and perspectives of the researcher (De Vos et al., 2011). Conformability gives assurance that the findings, conclusions and recommendations reached by the researcher are supported by data and that there is internal agreement between the researcher's interpretations and the actual evidence (Brink et al., 2012). Conformability was achieved by objectivity with data through triangulating FGDs, interviews, field notes, audio recording and observation. Table 3.4 recapitulates the application of conformability in this study.

Table 3.8: Conformability principles

Principle	**Researcher's Provision**
External Audit	Voice recordings, field notes, coded data, themes and summaries was send to an expert for reviewing.
Triangulation	The data collection process was enriched by using different data collection methods such as field notes, interviews, questionnaires, audio recordings and FGDs.

3.12. SUMMARY

In this chapter, the researcher presented the research design and methodology. The convergent, mixed methods design was discussed, which included the qualitative, exploratory, descriptive, and contextual nature. Theory generation as well as Tesch's steps of data analysis and its application were detailed. The researcher also described validity, reliability, pilot study and communication skills used.

The following reasoning designs were described, namely: induction, deduction, inference, bracketing, analysis and synthesis.

The questionnaire, FDGs, in-depth interviews as well as descriptive and analytic field notes and the use of voice recording were outlined. Merging and integration of findings, conceptual framework development and development of strategies were explained.

The chapter also described the ethical measures and trustworthiness of the study.

In the next chapter (Chapter 4), the results of the situation analysis, merging as well as the literature control of the study are described.

CHAPTER 4

DATA ANALYSIS, DISCUSSION AND LITERATURE CONTROL

4.1. INTRODUCTION

The previous chapter discussed the research design and methodology that was followed in implementation of this study. Chapter 4 presents the findings, analysis and merging of the quantitative and qualitative designs, as used in the mixed methods design.

Furthermore, Chapter 4 is discussed in three parts, namely:

Part 1: Quantitative findings and discussions

The objective of the quantitative findings is derived from the first sub-objective: to determine the level of facilitation of services rendered through CHWs by registered nurses with a close-ended questionnaire. The process of data analysis in this part included statistical analysis using SPSS software version 25. Tables, bar charts, pie charts and figures are used to present the data to facilitate interpretation.

Part 2: Qualitative findings and literature control

The researcher derived objectives of the qualitative findings from sub-objective two that is to explore the views of PHC supervisors on the facilitation of services rendered through CHWs by registered nurses. The researcher used in-depth interviews. Sub-objective three: that is to explore and describe the perspectives of CHWs on the facilitation of their services with FGDs, sub-objective four: explore and describe the views of registered nurses (facilitators) on their roles in the facilitation of services rendered by CHWs by in-depth interviews, and sub-objective five: review and describe facilitation of CHWs services. The results will be presented in a narrative format with respondents' direct quotations written in italics without any attempt by the researcher to correct the grammatical errors.

Part 3: Merging of results from qualitative and quantitative approaches

The researcher merged data by looking at content areas in data sets. Please see synthesisation and presentation in Figure 4.16: Flowchart of the basic procedure in implementing a convergent mixed methods design (Bian, 2012). Transformation of quantitative data results into qualitative results by turning counts into themes is done.

4.2. ANALYSIS OF QUANTITATIVE DATA AND DISCUSSIONS

4.2.1. Part 1: Presentation of quantitative findings and discussions

This study attempted to respond to the following objective: To examine the effectiveness and functionality of facilitation concerning mentoring, supervision, monitoring, evaluation and training by the registered nurses to the CHWs deployed by MoHSS in the Hardap, Kavango East and Khomas regions of Namibia. To respond to this objective, the researcher conducted a contextual descriptive mixed methods research design of which this discussion covers the quantitative part. Quantitative data collection involved close-ended questionnaires completed by a population n=138, CHWs from the Hardap (n=27), Kavango East (n=45) and Khomas (n=66) regions. The specific objective of the questionnaire was to determine the level of facilitation of services rendered to CHWs by registered nurses. Figure 4.1 shows statistics on the total percentage of CHWs who took part in the survey per region.

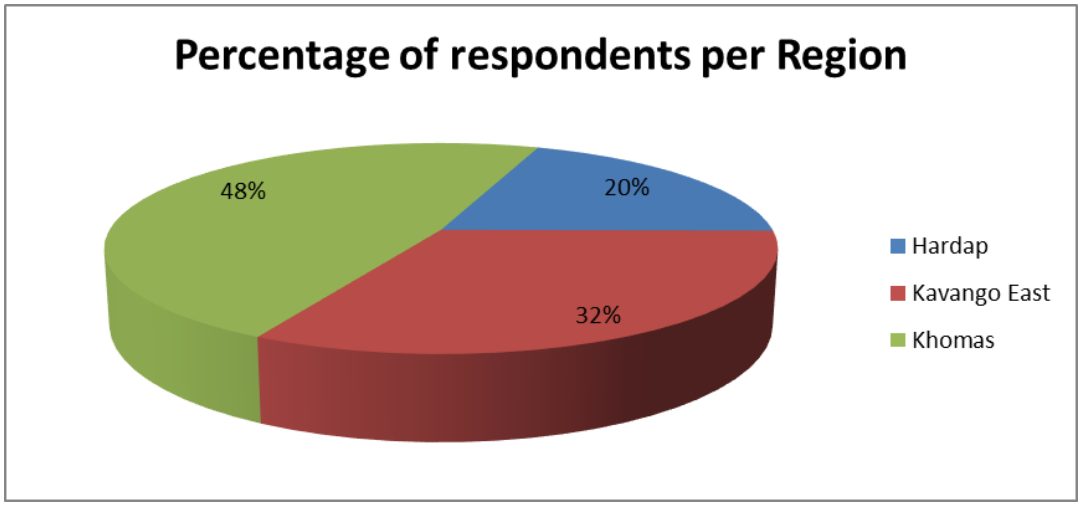


Figure 4.1: Percentage of respondents per region

Source: Research data

Questionnaires to collect data that determine the level of facilitation of services rendered to CHWs were handed personally to all respondents and collected immediately after completion. The sample for Hardap 22% (n=32) but only 20% (n=27) turned up on the day of data collection. For the Kavango East region the sample size calculated was 32% (n=45) and 48% (n=66) for the Khomas region. Furthermore, the findings were presented in tables, pie and bar charts.

Presentation of findings and discussion

The demographic and general information of CHWs (Section A), facilitation of maternal, newborn, child health and nutrition services (Section B), facilitation of disease prevention and control services (Section C**),** facilitation of hygiene and sanitation services (Section D), facilitation of **s**ocial welfare and disability (Section E) and facilitation of planning, information management, referral and coordination (Section F). Last, the conclusion for part 1 was presented.

4.2.1.1. Section A: Demographic and general information

Section A covered the demographic and general information of the CHWs, which focused on the age, gender, constituency, clinic, region, number of household visits per month, duration of employment, training, supplies and equipment, feedback and report/information sharing. Figure 4.2 indicates statistics on the age range of CHWs in completed years.

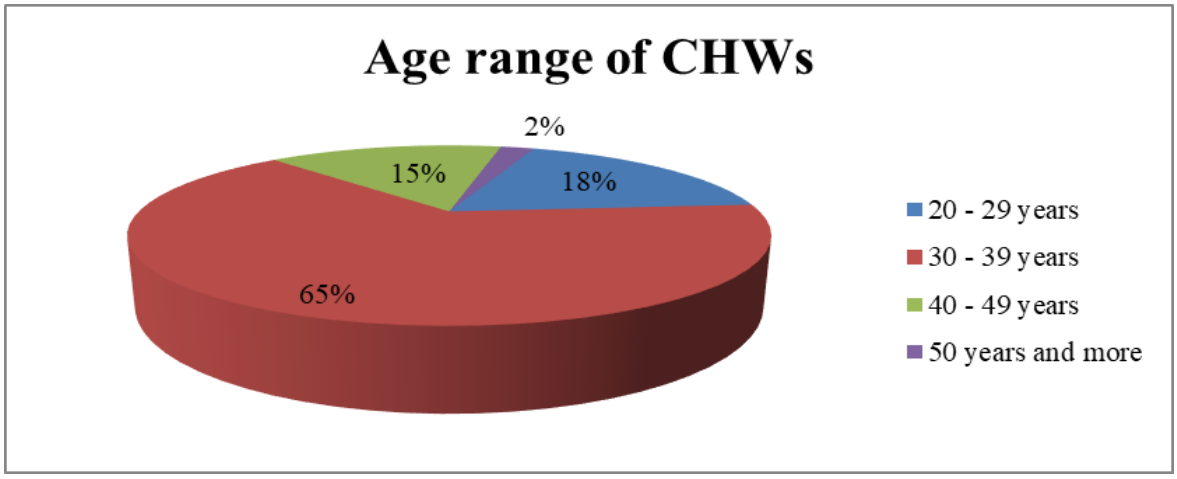
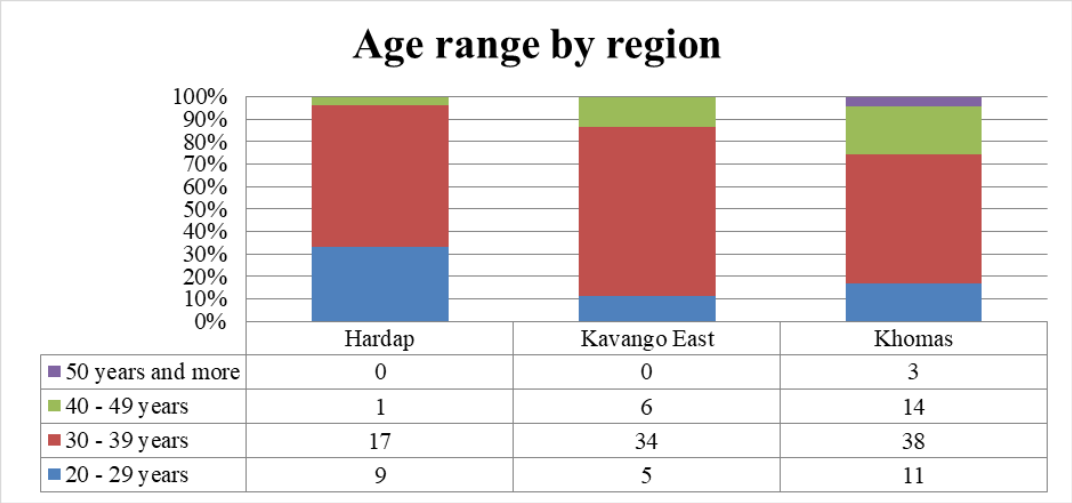


Figure 4.2: Age range of community health workers

Source: Research data

Item 1: Age range of respondents in completed years

Regarding the age, 18% (n=25) of the respondents were 20 to 29 years, with a majority 65% (n=89) aged 30 to 39 years, while 15% (n=21) were in the 40-49 age group and 2% (n=3) were over 50 years.



	Hardap	Kavango East	Khomas
50 years and more	0	0	3
40 - 49 years	1	6	14
30 - 39 years	17	34	38
20 - 29 years	9	5	11

Figure 4.3: Age groups by region

Source: Research data

Figure 4.3 indicates statistics on the age range of CHWs in completed years per region. In the Hardap region, most respondents (63% (n=17)) were within the 30-39 age group, 33% (n=9) was in the age group of 20-29, while 4% (n=1) was older than 40 years. The Kavango East region presented with 11% (n=5) in the 20-29 age group, 76% (n=34) in the 30-39 age group and 13% (n=6) in the age group above 40 years. The Khomas region had 17% (n=11) in the 20-29 age group, 55% (n=36) in the 30-39 age group, 20% (n=14) in the 40-49 age group and 8% (n=5) in the age group 50 years and more. Figure 4.4 indicates statistics on the gender distribution of CHWs.

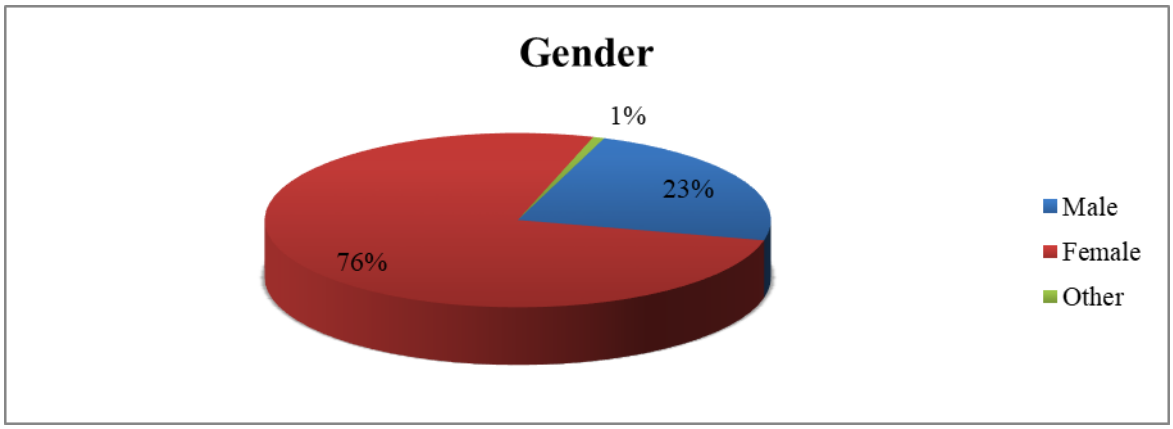
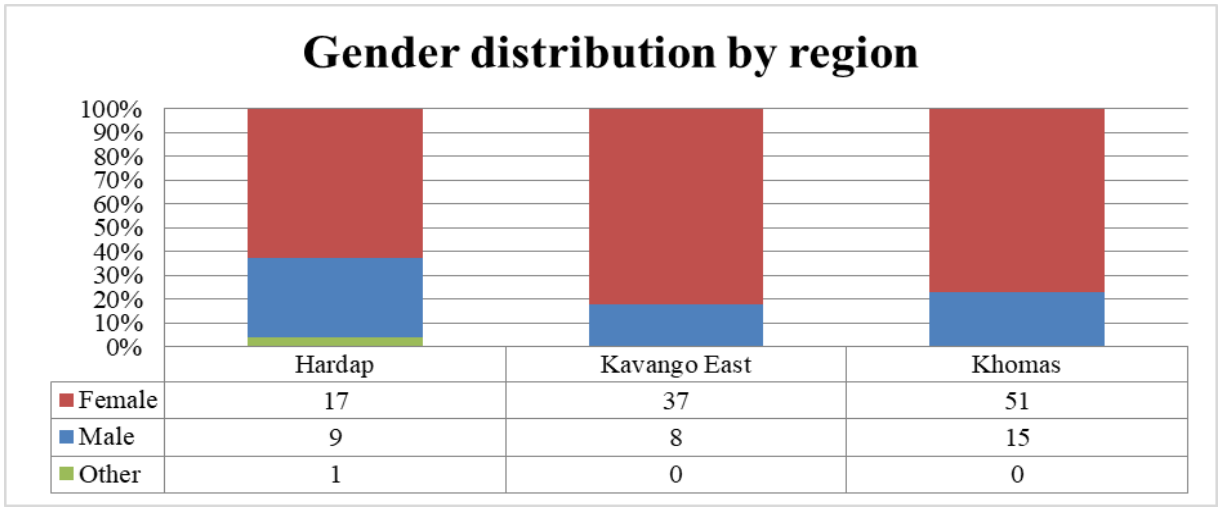


Figure 4.4: Gender distribution of CHWs

Source: Research data

Item 2: Respondent's gender per region

Overall, most respondents were females representing 76% (n=105), male respondents represented 23% (n=32), and one respondent indicated other, as the researcher made provision for LGBT. Figure 4.5 indicates gender distribution of CHWs by region.



	Hardap	Kavango East	Khomas
Female	17	37	51
Male	9	8	15
Other	1	0	0

Figure 4.5: Gender distribution of CHWs by region

Source: Research data

Most CHWs were female, with Hardap region having 33% (n=9) male and 63% (n=17) female, 3.7% (n=1) indicated "other". Kavango East 18% (n=8) male and 82% (n=37) female. In the Khomas region, male respondents were 32% (n=15), while female respondents were 77% percent (n=51). In all the regions under study, female respondents outnumbered male respondents. Figure 4.6: below shows the number of CHWs and their level of experience.

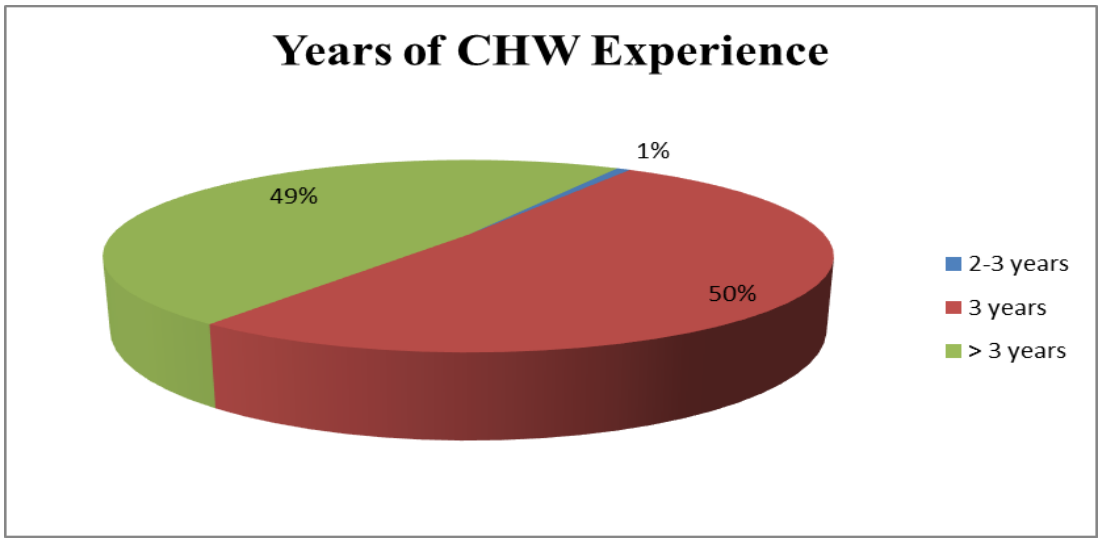


Figure 4.6: Number of CHWs and years of experience in the CHWP

Source: Research data

All respondents who took part in the study had two or more years of experience. Forty-nine percent (n=67) had more than three years of experience while 50% (n=71) had three years of experience. Figure 4.7 indicates years of employment as CHWs per region.

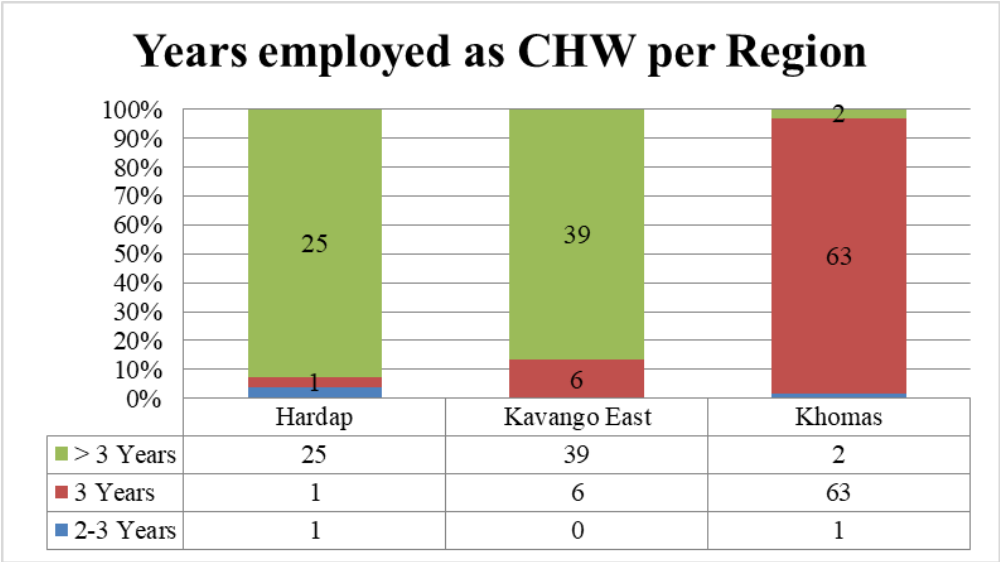


Figure 4.7: Employment as CHWs per region

Source: Research data

Item 3: Experience of CHWs per region

Only 4% (n=1) of the respondents in the Hardap region had less than three years of experience, while 96% (n=25) had three years and more experience as CHWs. In the Kavango East region, 13% (n=6) of the respondents had three years of experience, while 87% (n=39) had three and more years of

experience. The Khomas region had 95% (n=63) respondents with three and more years of experience and only 5% (n=3) with less than three years of experience.

Item 4: Household visits per month

About 3% (n=4) of CHWs indicated that they do not visit households every month, 12% (n=16) indicated that they visit once per month**,** 38% (n=52**)** indicated that they visit households twice per month, 12% (n=16) indicated household visits thrice per month and 34% (n=48) indicated visits more than three times per month while 1% (n=2) did not indicate any household visit. Figure 4.8 below indicates the frequency of household visits per month.

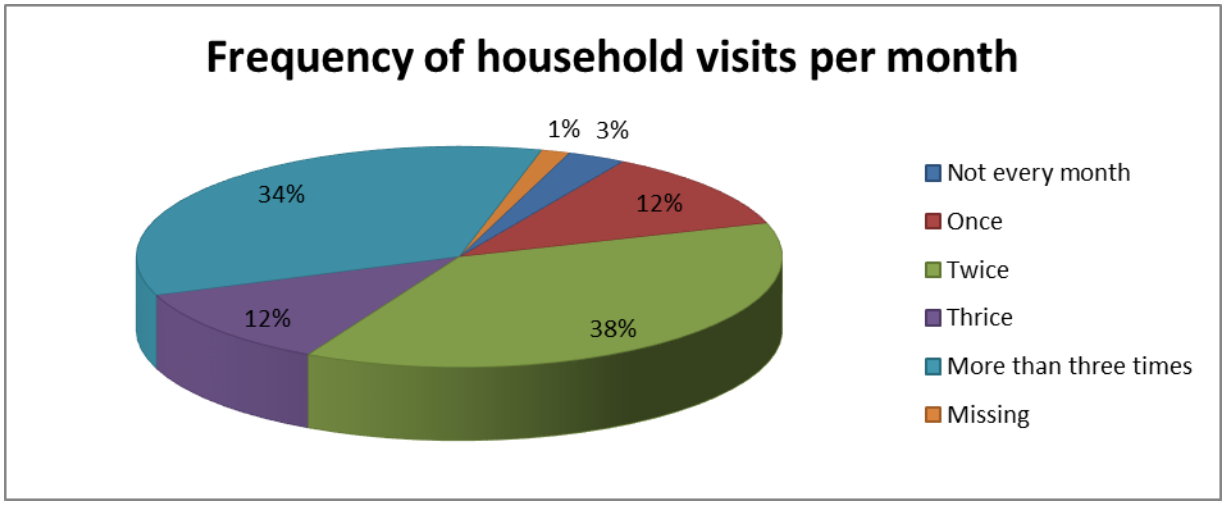


Figure 4.8: Frequency of household visits per month

Source: Research data

Item 5: Additional training received

In the Hardap region, 81% (n=22) respondents indicated that they received additional training after the initial training, while 19% (n=5) indicated that they did not receive any additional training whatsoever. Kavango East region had 82% (n=37) respondents indicating that they received additional training, while 18% (n=8) mentioned that they had not received additional training. In the Khomas region, 41% (n=27) indicated that they received additional training, while 59% (n=39) mentioned that they did not receive any additional training. Figure 4.9 indicates additional training that CHWs might have received after their initial training.

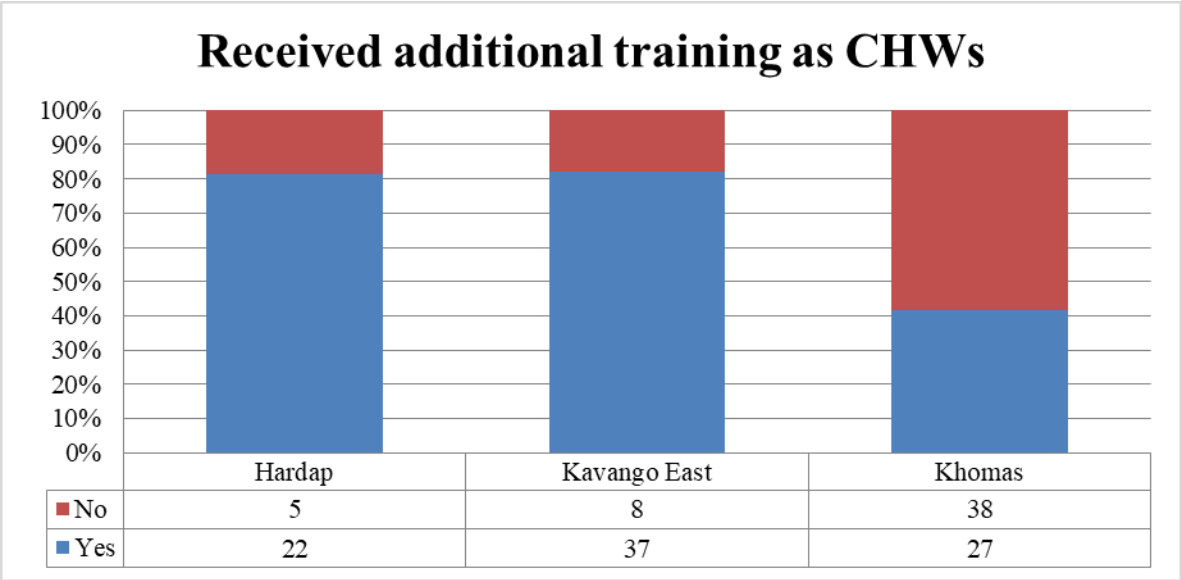


Figure 4.9: Additional training as CHWs

Source: Research data

Figure 4.10 below indicates availability of equipment and supplies per region.

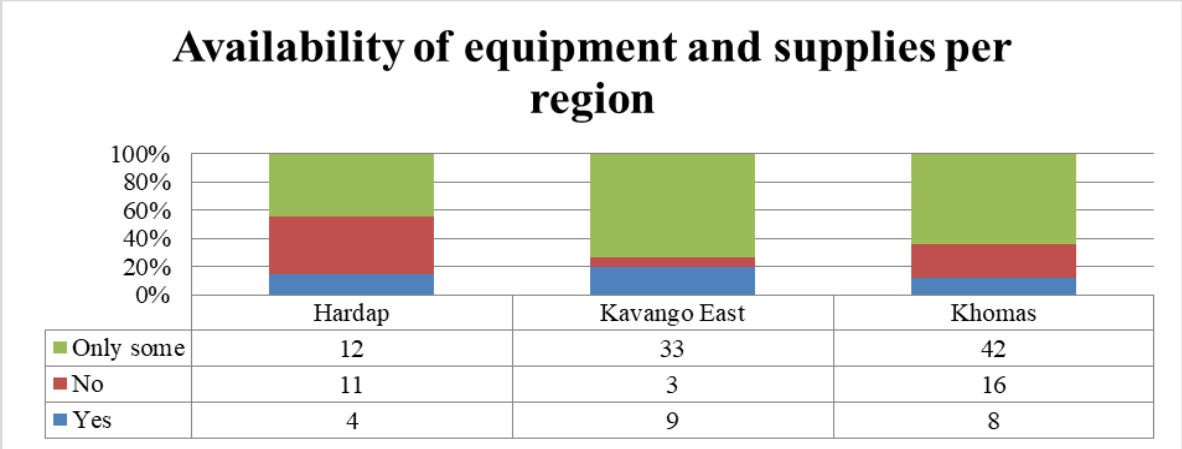


Figure 4.10: Availability of equipment and supplies per region

Source: Research data

Item 6: Availability of equipment and supplies

In the Hardap region, 15% (n=4) respondents mentioned that they had equipment and supplies to fulfil their duties while 41% (n=11) mentioned that they did not have equipment and supplies, 44% (n=12) of respondents indicated that they had some equipment and supplies. In the Kavango East region, 20% (n=9) respondents indicated that they had equipment and supplies to fulfil their duties while 7% (n=3) mentioned that they did not have equipment and supplies, 73% (n=33) respondents mentioned that they had some equipment and supplies. In the Khomas region 11% (n=8) of respondents mentioned that they had equipment and supplies to fulfil their duties while 25% (n=16) mentioned that they did

not have equipment and supplies 64% (n=42) respondents mentioned that they had some equipment and supplies. Figure 4.11 shows the percentage of CHWs who received written evaluation in the last 12 months.

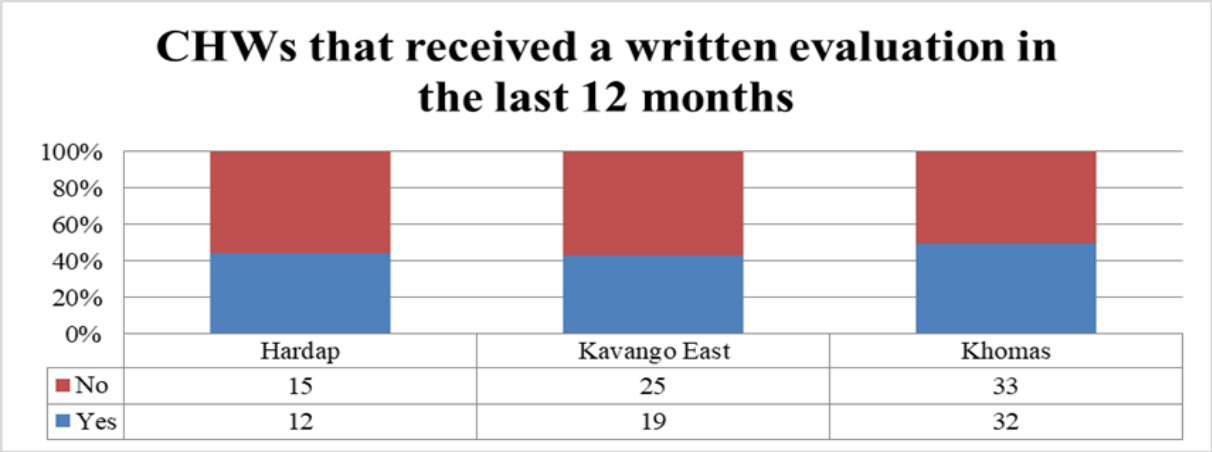


Figure 4.11: Availability of equipment and supplies per region

Source: Research data

Item 7: Written evaluation received during the last 12 months

The figure above shows that 44% (n=12) respondents from the Hardap region mentioned that they received written evaluation in the last 12 months, while 56% (n=15) indicated that they did not receive any evaluation. From the Kavango East region, 44% (n=20) respondents indicated that they received written evaluation and 56% (n=25) mentioned that they did not receive any written evaluation. In the Khomas region, 50% (n=33) respondents received written evaluation while 50% (n=33) did not have any written evaluation.

On the question of whether reports or information about CHP and its results are shared with CHWs and community leaders and the involved community, all respondents 100% (n=138) indicated that no meeting was conducted after the introductory meeting during initial training. Figure 4.12 indicates the overall supervision scores of CHWs for sections B to F.

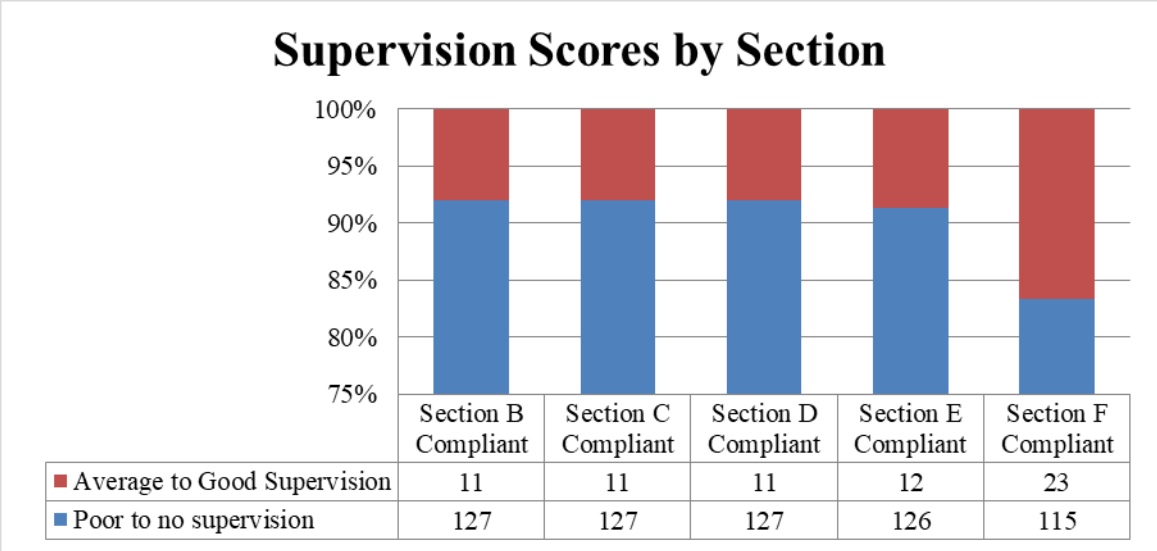


Figure 4.12: Supervision scores by section

Source: Research data

Item 8: Supervision scores per region

The summary of scores per section show that only 8% (n=11) sections B-D, 9% (n=12) section E and 17% (n=23) section F indicated positive outputs for average to good supervision, while 92% (n=127) sections B-D, 91% **(**n=126) section E and 83% (n=115) section F had negative outputs. Figure 4.12 indicates that all sections had more negative than positive scores. Discussions are per section.

4.2.1.2. Section B: Maternal, newborn, child health and nutrition

Table 4.1 indicates that maternal, newborn, child health and nutrition services in the Hardap region were mentioned by 93% (n=25) respondents as poorly supervised while only 7% (n=2) indicated that it was average to good. In the Kavango East region, 84% (n=38) respondents indicated poor supervision and 16% (n=7) mentioned average to good supervision, 95% (n=63) respondents mentioned poor supervision and 5% (n=3) mentioned average to good supervision in the Khomas region.

Table 4.1: Total score on Section B by CHWs per region

		Section B Compliant	
		Poor to no supervision	Average to Good Supervision
Region Name	Hardap	25	2
	Kavango East	38	7
	Khomas	63	3
Total		127	11

Source: Research data

Table 4.2: Scores of Section B by clinics

Maternal, New-born, Child Health and Nutrition.		Section B Compliant	
		Poor to no Supervision	Average to Good Supervision
Hardap	Aranos Health Centre	3	0
	Gochas	4	0
	Mariental PHC	10	0
	Rehoboth Clinic	1	0
	Rehoboth Health Centre	5	2
	Stampriet	2	0
	Total	25	2
Kavango East	Andara PHC	1	0
	Bagani PHC	1	2
	Baramasoni PHC	3	0
	Biro PHC	2	0
	Divundu PHC	2	1
	Kandjara PHC	1	0
	Kangongo PHC	5	0
	Kayengona PHC	2	0
	Mabushe PHC	1	1
	Mashare PHC	5	0
	Mbambi PHC	1	0
	Mutjiku PHC	0	1
	Ncaute PHC	1	0
	Ncuncuni PHC	1	0
	Ndama PHC	1	0
	Omega PHC	1	1
	Sambyu Health Centre	1	0
	Shadikongoro PHC	1	0
	Shamaturu PHC	3	0
	Sharukwe PHC	1	0
	Shinyunge PHC	1	1
	Takwasa PHC	3	0
	Total	38	7
Khomas	Hakahana PHC	18	2
	Maxuilili PHC	9	0
	Okuryangava PHC	10	1
	Otjomuise PHC	10	0
	Wanaheda PHC	16	0
	Total	63	3

Source: Research data

Item 9: Maternal, new-born, child health and nutrition services

Table 4.2 shows that according to 7% (n=2) respondents only the Rehoboth Health Centre was performing average to good supervision with maternal, newborn, child health and nutrition services. In the Kavango East region, 16% (n=7) at the following health facilities rated average to good supervision Bagani=2, Divundu=1, Mabushe=1, Omega=1, Shyunge=1 and Mutjiku=1. Respondents rated 84% of health facilities in Kavango East as poorly supervised. In the Khomas region, 3% (n=2) respondents rated average to good supervision at Hakahana Clinic and 2% (n=1) at Okuryangava. Ninety-five percent (n=63) respondents rated all other health facilities in the Khomas region as poorly supervised.

4.2.1.3. Section C: Disease prevention and control

Table 4.3 indicates that disease prevention and control services in the Hardap region were rated 96% (n=26) respondents as poorly supervised, while only 4% (n=1) were rated average to good supervision. In the Kavango East region, 87% (n=39) respondents mentioned poor supervision and 13% (n=6) mentioned average to good supervision. In the Khomas region, 94% (n=62) respondents mentioned poor supervision and 6% (n=4) mentioned average to good supervision.

Table 4.3: Total score on section C by CHWs per region

		Section C Compliant	
		Poor to no Supervision	Average to Good Supervision
Region Name	Hardap	26	1
	Kavango East	39	6
	Khomas	62	4
Total		127	11

Source: Research data

Table 4.4: Scores of Section C by clinic

			Section C Compliant	
			Poor to no Supervision	Average to Good Supervision
Region Name	**Hardap**	Aranos Health Centre	2	1
		Gochas	4	0
		Mariental PHC	10	0
		Rehoboth Clinic	1	0
		Rehoboth Health Centre	7	0
		Stampriet	2	0
	Kavango East	Andara PHC	1	0
		Bagani PHC	2	1
		Baramasoni PHC	3	0
		Biro PHC	2	0
		Divundu PHC	2	1
		Kandjara PHC	1	0
		Kangongo PHC	5	0
		Kayengona PHC	2	0
		Mabushe PHC	2	0
		Mashare PHC	5	0
		Mbambi PHC	1	0
		Mutjiku PHC	1	0
		Ncaute PHC	1	0
		Ncuncuni PHC	1	0
		Ndama PHC	1	0
		Omega PHC	0	2
		Sambyu Health Centre	1	0
		Shadikongoro PHC	1	0
		Shamaturu PHC	3	0
		Sharukwe PHC	0	1
		Shinyunge PHC	1	1
		Takwasa PHC	3	0
	Khomas	Hakahana PHC	16	4
		Maxuilili PHC	9	0
		Okuryangava PHC	11	0
		Otjomuise PHC	10	0
		Wanaheda PHC	16	0

Source: Research data

Item 10: Disease prevention and control services

Table 4.4 shows that according to 4% (n=1) of respondents, only the Aranos Health Centre was performing average to good supervision in disease prevention and control services. In the Kavango East region, 13% (n=6) respondents rated Bagani=1, Divundu=1, Omega=2, Sharukwe=1 and Shinyunge=1 as average to good supervision, while 87% (n=39) of respondents rated the other health facilities as poorly supervised. In the Khomas region, 6% (n=4) respondents indicated that average to good supervision was performed at Hakahana Clinic, 94% (n=62) respondents rated the other health facilities as poorly supervised.

4.2.1.4. Section D: Hygiene and Sanitation

Table 4.5 indicates that hygiene and sanitation services in the Hardap region was rated by 96% (n=26) respondents as poorly supervised while only 4% (n=1) indicated average to good. In the Kavango East region, 87% (n=39) respondents mentioned poor supervision and 13% (n=6) mentioned average to good supervision. In the Khomas region, 94% (n=62) respondents mentioned poor supervision and only 6% (n=4) respondents mentioned average to good supervision.

Table 4.5: Total score on section D by CHWs per region

		Section D Compliant	
		Poor to no supervision	Average to Good Supervision
Region Name	Hardap	26	1
	Kavango East	39	6
	Khomas	62	4
Total		127	11

Source: Research data

Item 11: Hygiene and sanitation services

Table 4.6 shows that, according to 4% (n=1) respondents only the Aranos Health Centre was performing average to good supervision with hygiene and sanitation services, 96% (n=26) respondents rated all other health facilities as poorly supervised. In the Kavango East region, 13% (n=6) respondents at the following health facilities rated average to good supervision: Bagani=1, Divundu=1, Omega=2, Mutjiku=1 and Shinyunge=1, while 87% (n=39) respondents rated health facilities as poorly supervised. In the Khomas region, 5% (n=3) respondents at Hakahana and 2% (n=1) respondents at

Okuryangava indicated that average to good supervision was performed, 94% (n=62) respondents rated health facilities as poorly supervised.

Table 4.6: Scores of section D by clinics

			Section D Compliant	
			Poor to no Supervision	Average to Good Supervision
Region Name	**Hardap**	Aranos Health Centre	2	1
		Gochas	4	0
		Mariental PHC	10	0
		Rehoboth Clinic	1	0
		Rehoboth Health Centre	7	0
		Stampriet	2	0
	Kavango East	Andara PHC	1	0
		Bagani PHC	2	1
		Baramasoni PHC	3	0
		Biro PHC	2	0
		Divundu PHC	2	1
		Kandjara PHC	1	0
		Kangongo PHC	5	0
		Kayengona PHC	2	0
		Mabushe PHC	2	0
		Mashare PHC	5	0
		Mbambi PHC	1	0
		Mutjiku PHC	0	1
		Ncaute PHC	1	0
		Ncuncuni PHC	1	0
		Ndama PHC	1	0
		Omega PHC	0	2
		Sambyu Health Centre	1	0
		Shadikongoro PHC	1	0
		Shamaturu PHC	3	0
		Sharukwe PHC	1	0
		Shinyunge PHC	1	1
		Takwasa PHC	3	0
	Khomas	Hakahana PHC	17	3
		Maxuilili PHC	9	0
		Okuryangava PHC	10	1
		Otjomuise PHC	10	0
		Wanaheda PHC	16	0

Source: Research data

4.2.1.5. Section E: Social welfare and disability

Table 4.7 indicates that social welfare and disability services in the Hardap region was mentioned by 100% (n=27) respondents as poorly supervised. In the Kavango East region, 80% (n=36) respondents mentioned poor supervision and 20% (n=9) respondents rated average to good supervision. In the Khomas region, 95% (n=63) respondents mentioned poor supervision and only 5% (n=3) mentioned average to good supervision.

Table 4.7: Total score on section E by CHWs per region

		Section E Compliant	
		Poor to no Supervision	Average to Good Supervision
Region Name	Hardap	27	0
	Kavango East	36	9
	Khomas	63	3
Total		126	12

Source: Research data

Item 12: Social welfare and disability services

Table 4.8 shows that according to the respondents no health facility in the Hardap region was performing average to good supervision with social welfare and disability services. In the Kavango East region 20% (n=6) respondents rated the following health facilities with average to good supervision Bagani=2, Divundu=1, Omega=2, Mutjiku=1 and Shinyunge=1, Mutjiku=1 and Sharukwe=1. Eighty-seven percent (n=39) respondents rated health facilities as poorly supervised. In the Khomas region 5% (n=3) respondents at Hakahana indicated that average to good supervision was performed, 95% (n=63) respondents rated health facilities as poorly supervised.

Table 4.8: Score of section E by clinics

			Section E Compliant	
			Poor to no Supervision	Average to Good Supervision
Region Name	**Hardap**	Aranos Health Centre	3	0
		Gochas	4	0
		Mariental PHC	10	0
		Rehoboth Clinic	1	0
		Rehoboth Health Centre	7	0
		Stampriet	2	0
	Kavango East	Andara PHC	1	0
		Bagani PHC	1	2
		Baramasoni PHC	3	0
		Biro PHC	2	0
		Divundu PHC	2	1
		Kandjara PHC	1	0
		Kangongo PHC	4	1
		Kayengona PHC	2	0
		Mabushe PHC	2	0
		Mashare PHC	5	0
		Mbambi PHC	1	0
		Mutjiku PHC	0	1
		Ncaute PHC	1	0
		Ncuncuni PHC	1	0
		Ndama PHC	1	0
		Omega PHC	0	2
		Sambyu Health Centre	1	0
		Shadikongoro PHC	1	0
		Shamaturu PHC	3	0
		Sharukwe PHC	0	1
		Shinyunge PHC	1	1
		Takwasa PHC	3	0
	Khomas	Hakahana PHC	17	3
		Maxuilili PHC	9	0
		Okuryangava PHC	11	0
		Otjomuise PHC	10	0
		Wanaheda PHC	16	0

Source: Research data

4.2.1.6. Section F: Planning, information management, referral and coordination

Table 4.9 indicates that planning, information management, referral and coordination services in the Hardap region were indicated by 81% (n=22) respondents as poorly supervised while 19% (n=5) indicated average to good supervision. In the Kavango East region, 73% (n=33) respondents indicated poor supervision and 27% (n=12) respondents indicated average to good supervision. In Khomas region, 92% (n=61) respondents indicated poor supervision and 8% (n=5) respondents indicated average to good supervision.

Table 4.9: Total score on section F by CHWs per region

		Section F Compliant	
		Poor to no Supervision	Average to Good Supervision
Region Name	Hardap	22	5
	Kavango East	33	12
	Khomas	61	5
Total		115	23

Source: Research data

Item 13: Planning, information management, referral and coordination services

Table 4.10 shows that in the Hardap region according to 11% (n=3) respondents at Aranos Health Centre and 11% (n=3) at Rehoboth Health Centre indicated average to good supervision with planning, information management, referral and coordination services. Seventy-eight percent (n=21) respondents indicated poor supervision. In the Kavango East region 27% (n=12) respondents at the following health facilities were rated as average to good supervision Bagani=1, Divundu=3, Omega=2, Mutjiku=1 and Shinyunge=1, Mashare=2, Kayengona=1 and Sharukwe=1. Seventy-three percent (n=33) respondents rated their supervision at health facilities as poor. In the Khomas region 8% (n=5) respondents at Hakahana indicated that average to good supervision was performed, 92% (n=61) respondents rated that they were poorly supervised at health facilities.

Table 4.10: Scores of section F by clinics

			Section F Compliant	
			Poor to no Supervision	Average to Good Supervision
Region Name	**Hardap**	Aranos Health Centre	0	3
		Gochas	4	0
		Mariental PHC	10	0
		Rehoboth Clinic	1	0
		Rehoboth Health Centre	4	3
		Stampriet	2	0
	Kavango East	Andara PHC	1	0
		Bagani PHC	2	1
		Baramasoni PHC	3	0
		Biro PHC	2	0
		Divundu PHC	0	3
		Kandjara PHC	1	0
		Kangongo PHC	5	0
		Kayengona PHC	1	1
		Mabushe PHC	2	0
		Mashare PHC	3	2
		Mbambi PHC	1	0
		Mutjiku PHC	0	1
		Ncaute PHC	1	0
		Ncuncuni PHC	1	0
		Ndama PHC	1	0
		Omega PHC	0	2
		Sambyu Health Centre	1	0
		Shadikongoro PHC	1	0
		Shamaturu PHC	3	0
		Sharukwe PHC	0	1
		Shinyunge PHC	1	1
		Takwasa PHC	3	0
	Khomas	Hakahana PHC	15	5
		Maxuilili PHC	9	0
		Okuryangava PHC	11	0
		Otjomuise PHC	10	0
		Wanaheda PHC	16	0

Source: Research data

4.2.1.7. Discussions of findings and analysis for quantitative design

During analysis of quantitative data (Section A-F) most respondents reported that they received inadequate facilitation. The purpose of Section A of the questionnaire was to gather information on biographic data of respondents. Most respondents were aged between 30 and 39 years. Fifteen respondents ranged between 40 and 49, while two were in the 50-59 age range. According to Kok et al. (2014), the 30-40 age group appeared to be the most productive to obtain optimum results, while younger and older CHWs showed sub-optimal results. In rural areas, this could indicate the distance of travelling household-to-household might have a negative effect on older CHWs (Crispin, Wamae & Ndirangu, 2012).

Regular household visits were inadequate as 38% of respondents reported only two visits per month while 38% of respondents reported more than three visits per month. All other respondents reported less than two visits. Household visit frequency affected the performance of CHWs, as more frequent visits would have assisted in building a relationship of trust between CHWs and community members (Javanparast, Baum & Labonte, 2011).

Analysis of follow-up and in-service training showed that one follow-up training session was undertaken on food and nutrition in the Kavango East region. In-service training was scored at 81% in Hardap and 41% in Khomas. Javanparast et al. (2011) links motivation and performance of CHWs as well as their knowledge and skills to regular training and follow-up sessions.

On the question of whether respondents received written evaluation and feedback, approximately 50% of respondents were positive. Teklehaimanot, Kitaw and Girma (2017) is of the opinion that CHWs who are regularly evaluated and given feedback on their activities have a greater influence and their performance and motivation is increased.

With the questions on supportive supervision with all sections (B-F), most respondents (more than 80%) scored negative answers. Meaning that supervision of activities performed by CHWs was inadequate in all three regions. A study by Lehmann and Saunders (2018) reveals that supervision had several indirect effects on motivation, retention and skills development. Inadequate supervision and facilitation of CHWs services may result in lack of legitimacy of CHWs in the eyes of the communities they serve (Atkinson et al., 2011). Moreover, Kok et al. (2014) is also of the opinion that good performance of CHWs is associated with intervention designs involving frequent supervision, continuous training, community involvement and strong coordination. Communication between

CHWs and health professionals is believed to increase the credibility of CHWs. Table 4.11 below displays a summary of results and main challenges identified with the quantitative findings and analysis.

Table 4.11: Summary of findings, conclusions and challenges of quantitative design

Objective	Finding	Conclusion	Challenge
Sub-objective 1: Determining the level of facilitation of services rendered through CHWs by registered nurses.	Poor facilitation in terms of: • Maternal, newborn, child health and nutrition (table 4.1) • Disease prevention and control (table 4.3) • Hygiene and sanitation (table 4.5) • Social welfare and disability (table 4.7) • Planning, information management, referral and coordination (table 4.9)	Poor facilitation (including mentoring, training, monitoring and evaluation)	Facilitation

4.2.2. **Part 2: Qualitative findings and literature control**

In this part of Chapter 4, the researcher discussed the data analysis of the findings regarding facilitation of services rendered by CHWs and the literature control. The purpose of qualitative data collection was three-fold:

- To explore the views of PHC supervisors on the facilitation of services rendered through CHWs by registered nurses.
- To explore and describe the perceptions of CHWs on the facilitation of their services.
- To explore and describe the views of registered nurses on their role in the facilitation of services rendered by CHWs.

The researcher used a qualitative, explorative, descriptive, contextual and theory-generative research design. The respondents were from the Hardap, Kavango East and Khomas regions while the pilot study respondents were from the Otjozondjupa region. The respondents were community health

workers, registered nurses (supervisors) at clinics and PHC supervisors at the regional offices. These were all purposively selected to participate.

Qualitative data consist of words and descriptions that require analysis and interpretation to create order and understanding. It does not express findings in numerical format as with quantitative research in part one (Bernard & Ryan, 2016).

Unstructured interviews and focus group discussions were the tools used to collect qualitative data. Reasons for using the qualitative research design was that it is a means to explore and understand the meaning individuals or groups ascribe to a social or human problem (Creswell, 2014; Polit & Beck, 2012).

According to Barbie (as cited in De Vos et al., 2011), qualitative data analysis is the process of non-numerical investigation and interpretation of opinions. This study followed Tesch's method of data analysis (Creswell, 2014; Datt & Chetty, 2016).

The researcher also used qualitative research to guide her to make enhanced use of research evidence and to make informative decisions. The qualitative research design also helped to reduce the amount of data and with that, keep in mind the core ideas of the respondents.

The researcher collected data, as discussed in Chapter 3, the empirical phase that eventually resulted in themes and sub-themes identification, and these are used in the development of strategies to facilitate services rendered by CHWs. The findings are presented in a narrative form, and the respondents' responses are quoted verbatim to support the findings.

4.2.2.1. Focus Group Discussions with CHWs

CHWs play an integral role in improving health care coverage and access in rural and peri-urban parts of Namibia. CHWs perform PHC-related functions in communities in the periphery of the health system. In studies done by Tseng et al. (2019), they are in accord with the fact that CHWs often work in underserved communities where health needs are immense and multifaceted. Adequate facilitation and integration into the health system are essential components to programme effectiveness. Frequent and supportive facilitation is required to supplement CHWs training (Tseng et al., 2019). Moreover, Kok et al. (2018) confer with similar results that frequent facilitation of CHWs activities would provide morale boosting and motivation.

Sixty-four CHWs were involved in the eight FGDs, 16 of them were from the Hardap region while 16 were from Kavango East region and 32 CHWs were from the Khomas region. All respondents signed informed consent prior to the data collection process.

The researcher used field notes and voice-recordings to record all FGDs for verbatim transcriptions. She also ensured that FGDs took place in boardrooms with minimum disturbance. Data collection continued until the researcher achieved data saturation. Probing questions asked clarified confusion. The main question asked during the FGD was, **"What is your perception on facilitation of the health services you render?"** Examples of probing questions were: "**What do you mean by that? Can you explain what you said just now?"**

The findings presented here address sub-objective three where the researcher wanted to understand what the CHWs' perception of facilitation of their services was. Probing questions like explaining what they meant by certain concepts were posed. The researcher identified one theme and four sub-themes from the FGDs data analysis. Clustering took place around the central concept (Bernard & Ryan, 2016). Figure 4.13 presents an overview of the theme and sub-themes that emerged from FGDs with CHWs.

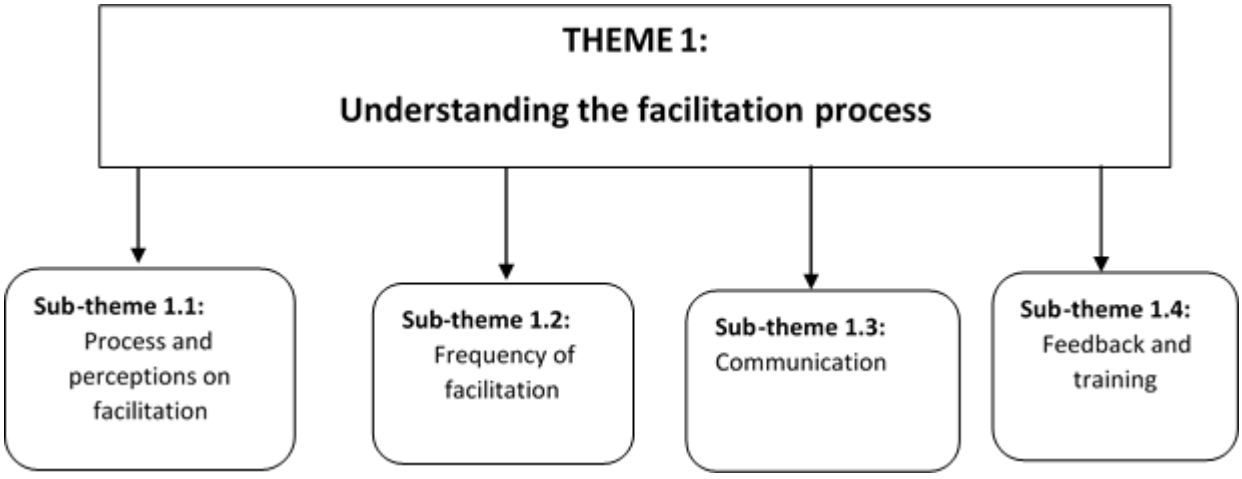


Figure 4.13: Overview of theme and sub-themes identified from FGDs with CHWs

Source: Research data

Theme 1: Understanding the facilitation process

Facilitation is defined by James (2020) as the ability to provide opportunities and resources to a group of people that enable them to succeed in their tasks. Facilitation skills are about letting the group contribute. A facilitator brings the team together and creates a common goal that everyone can utilise. The facilitator moves the activities towards the common goal and provides for the team to accomplish.

A facilitator's main objective is to lead the team without direct involvement by encouraging participation and creativity (James, 2020).

Sub-theme 1.1: Process and perceptions on facilitation

This sub-theme discusses the CHWs' understanding of the process of facilitation and what they think it should be. Respondents viewed facilitation in different but interrelated ways. First, some CHWs

considered facilitation as checking of their work on a regular basis by supervisors. Second, the respondents thought of facilitation as directing people on their work and assisting them to overcome the challenges they face. Third, the respondents believed the supervisor (facilitator) should be someone who understands the work of the CHWs. Fourth, the respondents considered facilitation as an important part of their work, making it easy for them to do their duties during which facilitators can correct them if they need correction. Below are some of the statements made by the CHWs in relation to the facilitation process:

---

*"What I understand by facilitation of our work is to check on what we are doing on a daily basis, how we do it", "**[FGD 5: P2].***

"**When the supervisor (facilitator) comes to our community to see or to empower us how on to give health education for our support, but this does not happen." **[FGD 5: P1].

Other respondents shared common experiences:

*"Someone else can go and supervise my work that understands my work and can supervise it" **[FGD 5: P6].***

*"I think we need more facilitators in the field, sometimes we need a supervisor or somebody just to accompany us also so that it can be easy" **[FGD 6: P5]**.*

*"To me, it's when the facilitator comes and see my work, the way they talk they cannot just tell you that here you did wrong" **[FGD 1: P5]***

*"Facilitation is a guiding element on how we have to do our work and to work on our challenges and to be present where we are actually doing our job" **[FGD 3: P8]**.*

The opinion of James (2020) is that facilitation as a process is helping to resolve conflicts, make progress and inspire success, but studies done by Assegaai and Schneider (2019) on the contrary, view facilitation of CHWs services as being lacking support systems and as poorly resourced.

Respondents in this study viewed facilitation as a process, which starts by the setting of targets that they must meet. The process involves coaching someone on how to perform the tasks whose set targets they are required to meet. It is about supporting the person through the challenges. Seemingly, facilitators do not discuss CHWs' performance with them but rather only check whether the job was performed and criticise (Zulliger, 2017; WHO, 2011). Respondents experienced facilitation in a negative way, as they felt the facilitators focused more on fault finding and identifying mistakes rather than finding ways of helping them to improve. The following statements evidence this:

> *"…And in the end give a report on what you did, and the facilitator say here you did well here you did wrong things"* ***[FGD 7: P6].***
>
> *"Then they said no you are not doing the correct way. You are just going to the wrong side and you are leaving the sick person. There you are wrong but they did not tell me what I should do now"* **[FGD 2: P3].**

Besides a few positive experiences, most respondents strongly perceived the facilitation as a negative experience. CHWs experienced the facilitation as a threatening encounter. The facilitators would use threats of dismissal, suspension and commandeering to control them. The sentiments below express the CHWs' views.

> *"…they would tell you that if you do not arrive by this hour they threatened to dismiss you which are making it difficult on my side."* ***[FGD 1: P4:].***
> *"When the facilitators come, they say things that are not good and otherwise, we'll suspend you because they claimed that they're the ones who can suspend me"* ***[FGD 1: P7]***

The CHWs indicated that demands placed on them by facilitators to cover up for their failure to go to the community were challenging. For example, the CHWs did not welcome the idea of clocking in and out at the clinic; they saw it as a waste of time. Furthermore, the respondents did not like untimely calls to the clinic for a meeting considering the distances from the clinics and transport challenges. In addition, some CHWs were not happy that facilitators ignore referrals from the community to clinics.

In support of the above, studies undertaken on effective supervision of HEWs in Ethiopia stated that it contributes to a more motivated cadre of health workers that creates a sense of legitimacy to both health worker and community members being served (WHO, 2011; Huyen, 2014). The sentiments below express the CHWs' views.

> *"Also, the other challenge we are getting is transport for us. We are working in the bush when they call us to come for a meeting we will meet at the clinic they can even tell you that or you can receive an SMS. It's seven o'clock that eight o'clock morning you're supposed to be at the clinic because if you are going to walk for 22 kilometres, it's very far"* ***[FGD 1: P3]***.

There are many challenges associated with community health programmes related to integration into health facilities, problems with continuous training and provision of supplies. Moreover, PHC clinic managers, who were supposed to facilitate services of CHWs, struggle to fulfil this role amid the high workload in facilities. It also contributes to strained relationships between CHWs and facility staff (Assegaai & Schneider, 2019). CHWs felt that the failure by facilitators to finalise their issue of uniform and some form of identification was compromising their work in the community. The lack of identification means that the community confuses them with other people like security guards. Sentiments below express the CHWs' views.

> *"And we discussed it with the focal nurse we agreed the previous time to get our uniform for ourselves then we bought it. Now we can be identified in the community that we are community health workers with a uniform, a blue shirt and some navy trousers"* **[FGD 7: P6].**

Some CHWs articulated that there was no fairness in their allocation at the clinics. The indication is that there are limited opportunities to practice in the field compared to the clinic, so they thought they were missing opportunities to develop their skills. CHWs who had less engagement with clinic staff were less able to acquire the necessary skills to care for their clients. This leads to reduced levels of trust of the CHWs by the community (Crigler, Gerken & Perry 2013; Tseng et al., 2019).

Sub-theme 1.2: Frequency of facilitation

Generally, respondents rated the frequency of facilitation as infrequent to non-existent. Some indicated that the facilitators only accompanied them directly in the field at the onset of the training course but did not make any supervisory visits afterwards.

CHWs expressed themselves below as:

> *"As I have now worked here for 3 years, to be honest I have been supervised once in the field and it was this year"* ***[FGD 5: P5:].***
>
> *"I think it's being facilitated very poorly; I was only facilitated twice I think in the beginning of the training so for the past 3 years there has been no facilitation from any facilitator"* ***[*****FGD 8: *P5*****].**

The inconsistent frequency of supervision led some respondents to describe the supervision as poor. CHWs perform primary health care-related functions in communities at the periphery of the health system and, therefore, need frequent and supportive supervision to supplement the initial training. There is evidence that facilitation of CHWs' services improves motivation and performance (Zulliger, 2017; Tseng et al., 2019). The respondents attributed the limited facilitation they received from the nurses to staff shortage at the clinics. They highlighted that the workload of the nurse supervisors at the clinic was high, therefore, they failed to get time to go into the field to monitor the work of CHWs. Some views are shared below:

> *"At the clinic there's always a shortage so they do not come, they don't have time to go out so that's one biggest challenge"* ***[FGD 8: P2].***
>
> *"I think maybe the facilitators are busy in their offices or busy with their work. I don't understand what is going on"* ***[FGD 1: P2].***
>
> *"The way they facilitate me sometimes is not so many times, but sometimes they don't do corrections. They don't correct you as an individual for them they just write their notes"* ***[FGD 3: P4].***

While some of the respondents experienced the facilitation as adequate, the majority felt it was not frequent enough and lacked corrective measures to help them. The researcher noted that most areas did not have functional village health committees to support CHWs' services. Appointing CHWs as senior supervisors of their colleagues on a three-month rotational basis could have been a good arrangement if their roles and responsibilities were clearly and systematically defined. The poor facilitation experienced frustrated the CHWs. With the inaccessibility of supervisors, the respondents faced challenges in the field that they felt there are solutions with the assistance of their supervisors.

For example, community members could trust the CHWs more if they saw the supervisors.

A study done in South Africa by Tseng et al. (2019) found evidence of a limited number of nurses available to supervise, mentor, monitor and coach CHWs. This has a negative effect on CHWs' health care delivery. WHO (2011), in its report on CHWs studies, highlights the importance of supportive supervision, mentoring and coaching.

Sub-theme1.3: Communication

Effective communication between facilitator and CHWs is vital for teaching and learning to take place. The facilitator should transmit knowledge and skills to CHWs during supervision sessions (Berger, 2013; WHO, 2011). The success of knowledge and skills transfer depends largely on the quality of communication skills among all involved. Respondents found communication between them and the facilitators to be challenging and described it as poor. The quotations below give a perception of communication between CHWs and facilitators.

> *"I can say that there is poor communication between the CHWs and the nurses in the facility that is why it is causing a lot of challenges"* **[FGD 4: P6].**
>
> *"I want a channel of communication to be proper. It cannot jump because without telling our reporting supervisor at the clinic just a person from the region and district will be in the field"* **[FGD 2: P3].**
>
> *"We try to call them but sometimes they don't even reply making us a bit bad because now we have to try and call different people and sometimes we don't have credit to call them because we don't get credit allowance"* **[FGD 6: P2].**
>
> *"That's why sometimes they lack some trust in us. Sometimes when they pick up and then they say they were in a meeting, it's understandable but then the client was frustrated". There are communication barriers"* **[FGD 6: P4].**

CHWs indicated that the nurses did not answer their calls or come back to them. The non-picking of calls attributed to the nurses either being busy in meetings or lacking trust in them. A study done by MoHSS in collaboration with UNICEF, MCSP and USAID, found that CHWs had no contact person (communication with facilitators) after hours, therefore, some emergencies could not be acted on appropriately (MoHSS, 2017).

CHWs thought supervisors delayed relaying information to them and want to be available as and when they want to. They related that a regular source that would give them administrative and new health-related information would help them to respond to community needs. In a resource-constrained health system, enhancing the role of CHWs is of utmost importance. Haq and Hafeez (2012) also mentioned that appropriate communication and continued support could help these health workers to perform optimally. Basic and continued communication is, therefore, crucial to improving efficacy and effectiveness (Haq & Hafeez, 2012). The respondents experienced facilitation at clinic, district and regional levels differently. Based on these experiences, the CHWs believed the facilitation was poorly coordinated, compromising the quality of their work. The CHWs are required to compile monthly reports of their work. The facilitator should comprehend these and give feedback as much as possible, pointing out both what the CHWs perform well and the areas that need improvement (WHO, 2011). The following quotations give the impression that CHWs do not always receive feedback as expected.

"The facilitation, we must receive, is about what we must do, the target that we have to meet in the community, how we will do it and how we are dealing with the challenges that we meet in the community. That is what we mostly deal with and our facilitator mostly must look at, how we are doing the things. Are we coping in the main challenge in the community among the people? **[FGD 5: P5].**

"But at least the ones that you are getting are from the region because most of the time they are the ones that used to come" **[FGD 6: P8].**

"...because to be honest we only receive supervision from the head of the PHC not from our sister in charge at the clinic" "These supervisors are from the district not from the facility. The facility is supposed to supervise us" **[FGD 6: P6].**

"If it's from a region, it will come to the district level from district level it can go to the clinic so that it can work like that because it can't jump because without telling our reporting supervisor in the clinic just a person from the region who comes direct to the field. Even though is a senior but there is a channel they can use to even supervise us" **[FGD 2: P3].**

Sometimes supervision came from the regional office, sometimes from the PHC office and sometimes from the clinic. CHWs felt the facilitation needed to be systematic following a channel from the clinic to the PHC office and then to the region. When officers above the clinic came for supervision, the CHWs considered it as "jumping" the channel of facilitation. The respondents suggested several measures as a way of overcoming the limited availability of supervisors. Appointing of additional

nursing staff and having a nurse whose sole responsibility is the supervision of CHWs are some of the measures reported. Similarly, UNICEF recommends that facilitators need to be available for continuous supportive supervision (MoHSS, 2017). CHWs expressed themselves as follows:

> *"That's why I'm saying if the ministry can appoint someone just to supervise us we will appreciate that" [**FGD 6: P3].***
>
> *"So in my opinion, I think the CHWP must have its own supervisor [**FGD 4: P6].***
>
> *"The community need to know them just in case some of the community members they don't trust us at least if they see a nurse or somebody from the clinic they will trust us more they'll be open to tell us their secret" [**FGD 4: P8].** "I am adding to what number three said it's true I agree even the community leaders they also want to see or supervisor but our supervisor has no time sometimes they ask also where is your supervisor" **[FGD 5: P6]**.*

Furthermore, some of the expressed challenges include demands by the community and community leaders to meet the supervisors, supervisors who do not know the responsibilities of the CHWs and non-cooperation by the community members. In addition, the community expected CHWs to provide services during the weekend because they do not understand why CHWs should work only during the week. The presence of supervisors could clarify such misunderstandings. Sentiments are shared below.

> *"We are faced with a few challenges in our area people want us to work after hours...even on weekends they call you, but we want to be paid for that..." **[FGD 4: P8]**.*
>
> *"Because sometimes you are just doing the things in the wrong way because there's no one nurse to supervise us in the community on what we are doing there." **[FGD 7: P6]**.*

CHWs felt that when they are without supervision it meant they did a number of wrong things because there was no one to advise them.

Sub-theme 1.4: Feedback and training

CHWs experienced lack of feedback on their work, which they verbalised, saying they needed it most. However, there was limited directed facilitation that would give them a chance to get immediate feedback. According to the CHWs, they do work on their own in the field and submit reports at the end of the month. However, after giving the reports, they do not get feedback on how they performed

their duties and compiled the reports. CHWs that are not receiving regular feedback, updates and training are not confident when rendering health services to communities. Low skills, inadequate supportive supervision from health professionals and absence of refresher training are a source of concern (Sommanustweechai et al., 2016; Mangham-Jefferies et al., 2014).

A similar study done by Thomson (2016) in South Africa, highlights three areas of training that might benefit CHWs. These areas are first aid that would help CHWs to assist the community during crisis, understanding community dynamics that will help CHWs to work with different cultures and difficult people and development of counselling skills and problem-solving skills to refer clients. Below expressions explain:

> *"Because if they do the PHC meeting or at the region, we cannot get any feedback whether we are doing well so that we can know how the process is going"* ***[FGD 3: P2]***.
>
> *"She is the one who wanted to give us feedback but after that we wanted to ask her something and then she said you cannot ask me. I am a facilitator here; I am the one who is leading this meeting not you. Then she says again some of you I'm going to chase you out of this work"* ***[FGD 7: P4]***.
>
> *"There's no feedback that is being given to us when you are trying to ask a question you are being shut down and it's not fair"* ***[FGD 6: P1]***.
>
> *"The most important is our sisters [facilitators] to go through our reports then we have to sit maybe end of the month so that she can now supervise telling us what we did right and here you did wrong and you need to improve". "Also as my colleagues said that at least once per month we need somebody to accompany us to give us feedback when you are giving health promotion or giving health education or just to rate us on something per month like somebody from the clinic"* ***[FGD 1: P6]***.
>
> *"The facilitators when they go they will not correct you immediately that this is the mistake we got but for them what they do is they write it down and then they will come to the office". "And you will not be told until after some months that's when they will correct you they will correct you in a meeting while all of you are sitting in that meeting. So that is how they facilitate me. I felt very embarrassed"* ***[FGD 2: P5]***.

Before preparing the reports, some respondents believed immediate feedback on the practical application of the work would be welcome. Expectations of respondents were that one facilitator is always available in the community to provide support. In Brazil, CHWs undergo training conducted in an interactive and problem-solving way monthly. Problems encountered during the month and

immediate feedback is given. CHWs keep abreast of health innovations and management matters (Zulliger, 2017; WHO, 2011).

Seemingly, feedback is given after some time and in an inappropriate manner by correcting them during meetings with many people. This caused embarrassment and lowered motivation, the CHWs expressed. CHWs experienced challenges related to their competence in executing their work and felt they needed training to improve their competencies. CHWs perceive training as a way of refreshing forgotten skills and expanding the scope of practice. Respondents highlighted skills like HIV testing, counselling, malaria testing among others as necessary. The respondents' need for training was motivated by several experiences. The motivation for some was not only lack of the skills but a comparison with CHWs from other regions. Others mentioned the needs of the patients, who require testing services, yet CHWs are not skilled enough to provide them. CHWs expressed the following:

> *"It's better for the government or the ministry to allocate us different areas for training so that we can at least improve on other areas"* ***[FGD 3: P2]***.
>
> *"The improvement that we need to do is we need more training since we have done our training we take time, we forgot the things that we were taught in the training"* ***[FGD 5: P2]***.
>
> *"I'm also supporting that HIV testing and counselling training". "We also need training on HIV and malaria; people in the community are asking us to do all that"* ***[FGD 7: P6]***. *"...sometimes we get bored because we are doing the same thing every day, they should expose us to the clinic so that we can do other things because we were trained in the HIV and the TB so please exposes us into those things"* ***[FGD 2: P3]***.

Respondents also express that they got bored of doing the same things repeatedly in the community, so they feel they need placement at clinics to get exposure.

Under-training of CHWs contribute to avoidable situations that simple interventions avert. These interventions include skill-based training with supportive supervision and group sessions (Redick, Dini & Long (2014).

Substantiation presented by the Sub-Saharan study shows that CHWs lack skills in identifying high-impact areas. The study identified some areas as severe diarrhoea, ARTs, malnutrition, reactions to immunisation and postnatal breast infections. Experiential training during supportive supervision can

address these challenges. Moreover, Redick et al. (2014) reveal that competencies of CHWs could have been improved by just one in-service training per year.

4.2.2.2. In-depth interviews with registered nurses

Experienced registered nurses are required to raise CHWs' skills and negotiate a place for CHWs in the Namibian health system. The registered nurse has the role to reduce CHWs' marginalisation and increase their motivation. Registered nurses should render a supportive supervisory role to supplement CHWs initial training (Tseng et al., 2019).

The researcher interviewed 10 registered nurses in a private office space with minimum disturbance. The purpose was to determine registered nurses' perceptions of their roles in the facilitation of services rendered by CHWs.

Three of the registered nurses were from the Hardap region, three were from Kavango East, while four registered nurses were from Khomas. All respondents signed a written informed consent prior to the data collection process.

Voice recordings and field notes of all in-depth interviews for verbatim transcription are in place. Data collection continued until the researcher achieved data saturation. The researcher asked probing questions where clarification was necessary. The main question asked during the in-depth interviews was, "**What is your view on facilitating services rendered by CHWs?"**

Another question asked for clarification was: "What do you know about SOPG?

Qualitative research refers to the collection and interpretation of narrative and visual data to enable the researcher to gain insight into the phenomenon of interest. Existing literature supports the discussion of findings to indicate whether these findings either agree or disagree with previous studies (Polit & Beck, 2012).

Furthermore, literature control enables the discovery of whether the themes and sub-themes documentation exist and enhances the reliability and credibility of results.

The researcher identified two themes and five sub-themes from the in-depth interviews with registered nurses and subsequent data analysis. Clustering around the central concept took place (Bernard & Ryan, 2016). Figure 4.14 presents an overview of the themes and sub-themes that emerged from interviews with registered nurses.

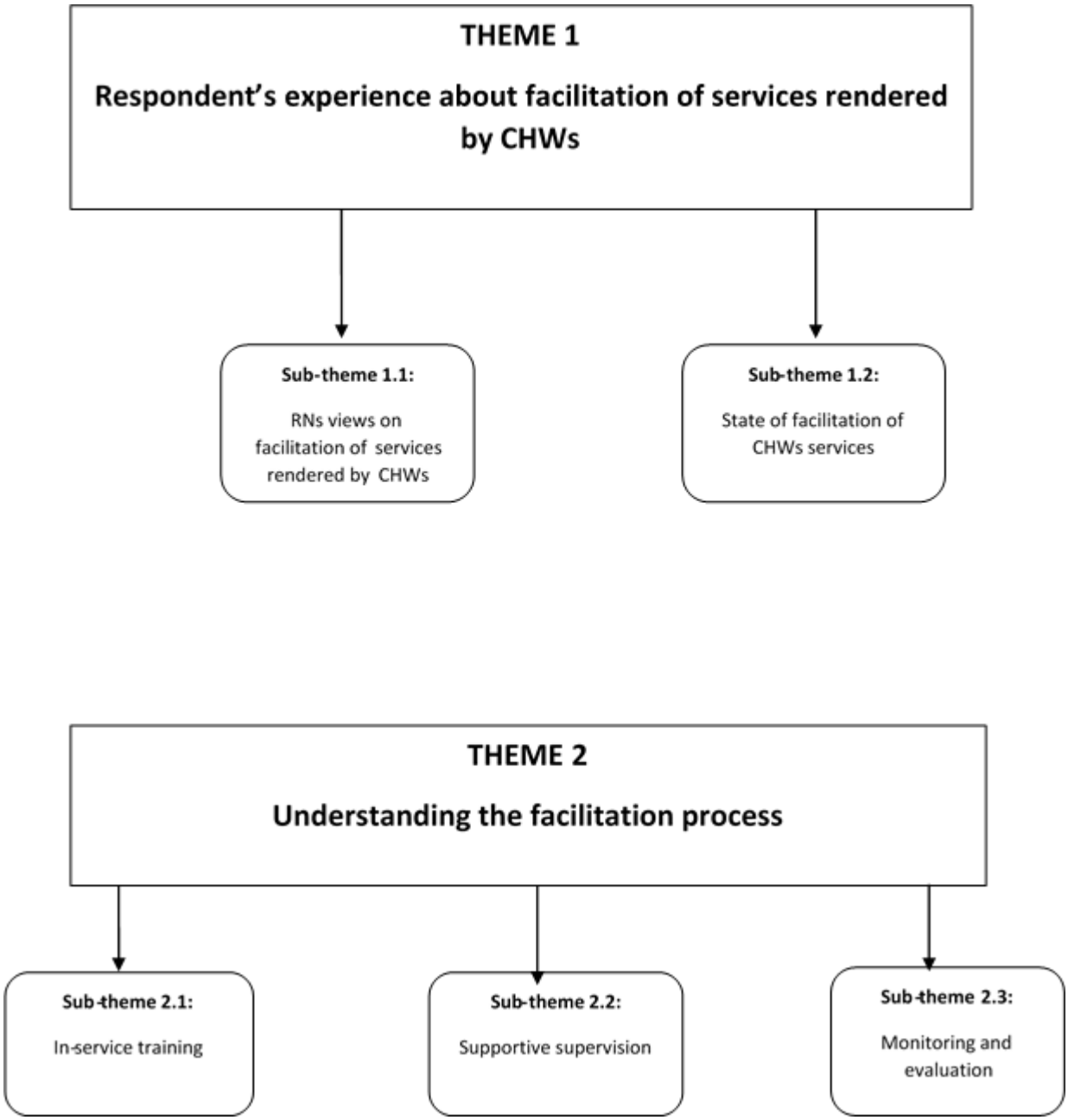


Figure 4.14: Overview of themes and sub-themes identified from in-depth interviews with registered nurses

Theme 1: Respondents' experience about facilitation of services rendered by CHWs

Sub-theme 1.1: Registered nurses' views on facilitation of services rendered by CHWs

The registered nurses viewed facilitation as coaching and guiding CHWs to perform their tasks. During this process, the registered nurses obtain information on the performance of the CHWs through monthly reports. Information gathered with the monthly reports is for assessment purposes to provide support to CHWs based on their capabilities. Facilitation is a two-way process in which the CHWs also provide information to the registered nurses regarding their capabilities and what needs to happen**.**

The following statements serve as evidence:

> *"Okay facilitation is like monitoring and observing what they are doing and where there is need to guide what they are doing then you can guide them" "Facilitation is to give the knowledge and you guide them how to do some specific tasks" "…you gather also information because when you are facilitating you are not teaching you are just directing them how to do things"* ***[RN 2]***.
>
> *"The way I am willing to do the work on voluntary basis, I go on the field, and I go for facilitation I don't claim I don't ask anything." "…I don't have the time to supervise them regularly"* ***[RN 1]***.

The registered nurses are of the view that the CHWs need support in the community due to the challenges they face. The support should come in the form of provision of information. Registered nurses believed that through supervision only, the CHWP could become a success. However, different studies (Tseng et al., 2019; Redick et al., 2014; James, 2020) found that adequate supportive supervision and integration into the health system are essential components to programme effectiveness. Through the process of ample facilitation, CHWs can better understand their role and are empowered to be creative and improve, leading to a successful CHWP.

Registered nurses expressed that for facilitation to be successful, it requires commitment from them as some even suggested working on a voluntary basis, at the same time, stating that they just do not have enough time with other facility commitments. Furthermore, some registered nurses expressed lack of knowledge about supervising CHWs, as they have never undergone any training or orientation on the SOPG. They mentioned that there was just a request to assist with facilitating CHWs' services on top of other responsibilities. CHWs work in remote and isolated areas of Namibia and have a need for facilitation systems that provide moral and other forms of support.

Studies done by Assegaai and Schneider (2019) have revealed that effective designs of CHWs programmes affect their performance. It also affects CHWs' sense of belonging, morale, productivity, retention, respect and credibility with other stakeholders. Well-planned facilitation strategies for CHWs have the potential to improve and strengthen the relationship and interactions with other health workers, resulting in improved trust and performance (Assegaai & Schneider, 2019).

Sub-theme 1.2: State of facilitation of CHWs services

Registered nurses expressed mixed views regarding the state of facilitation of the CHWs. Some viewed facilitation as progressing according to expectations, with a functional system in place. The system in place sees the CHWs reporting at the end of every month. On the contrary, there are sentiments among registered nurses that reporting monthly is a wait-and-see approach to facilitation. Some scholars (Huyen, 2014; Zulliger, 2017) argue that such an approach is ineffective because there is no direct observation of what the CHWs are doing in the field. The following statement explains the situation.

> *"In my view, I think the facilitation is not that effective because we only observe their reports not really follow them up in the field"* ***[RN 1]***.
>
> "*…we have tried that (facilitation) at least on a quarterly basis but this last financial year it was extremely difficult* ***[RN 3]***.
>
> *With these lot of challenges, we did not send someone to go out and physically supervise them, we have also realised that this is an aspect that needs to happen and the CHWs not just coming to the facility and report." "So far, it's not bad the way they are providing the service. It's just that sometimes like most of the times as a clinic manager you are in the clinic you are managing the clinic."* ***[RN 4]***.

Although facilitation through direct observation can be effective, it is a challenging task due to several factors. Therefore, some registered nurses believed the current level of facilitation although not seen as adequate, is good enough under the circumstances. There are transport challenges that limit the facilitators from going into the field regularly. Sometimes when transport is available, other financial needs are a challenge. The shortage of staff and overburden of responsibilities on nurse managers when they sometimes double up as clinic management and facilitators of CHWs is challenging. In addition, some registered nurses think that there is poor coordination of the facilitation that makes it less effective. Other researchers (Lehmann & Sanders, 2018; Assegaai & Schneider, 2019) reiterate the concerns by facilitators of having many challenges in studies done in South Africa.

A study done by Maher and Cometto (2016) in Ethiopia found that facilitation of CHWs needs a formalised structure that include the national level, regional level, district level, facility level and community level. There is need for the integration of these structures in a manner that allows collaborative efforts at all levels and the synchronisation of resources and logistics. Responsible authorities should open proper channels of communication and utilise them for the smooth facilitation

of the programme. The programme needs strong implementation efforts to complement the laid down plans. For example, facilitation should be an ongoing exercise and not a one-off.

Currently, the quotes from registered nurses suggest a broken structure that is lacking coordination, therefore, affecting the facilitation of the CHWP. The expression below confirms the challenges.

> *"On transport, financing and communication is where the region is failing us, then how can I do proper facilitation…All these people at the national level don't understand us here on the ground, even the district nurses…Yes under primary health care because I'm working at the clinic."* ***[RN 5].***

The programme also requires a functional structure that supports the organisational structure through logistical activities that drive the CHWP. Key logistical issues that require consideration include the channel of communication, referral systems, transport logistics, supplies and allocation of a full-time nurse supervisor (Medhanyie et al., 2012). Nurse facilitators are also not satisfied with the channels of communication at various levels. There is a feeling that CHWs do not follow the channel of communication in which they are supposed to report to the facilitator. If this is not done, the facilitators feel disempowered to deal with the matters of concern.

Besides the CHWs, facilitators are apprehensive about the community who take their complaints to the media instead of them, a move they see as a break in the channels of communication. At another level, the facilitators see those above them as bypassing them and engaging the CHWs directly, particularly in the cases where they conduct workshops. PHC officers sometimes organise training or meetings with CHWs without informing the registered nurses who are the immediate facilitators of the CHWs. Poor communication from upper structures creates a loophole that makes it difficult to monitor the CHWs' attendance to their duties.

The expression below confirms the challenges.

> *"The PHC Directorate when they are conducting workshops will go directly to the CHWs.*
>
> *They do not call me or notify me to know what is going on with CHWs."* ***[RN 6].***
>
> *"They should know that they could reach me anytime of the day…I am talking to them telephonically (mobile phone) if the community health worker does not understand they call me and then I can convince this person (The client), the patient who is refusing to come to the clinic or to the hospital."* ***[RN 6].***

In other cases, there is complete break of communication or when the CHWs need help within the community, but they cannot reach the facility or facilitators for assistance. However, some registered nurses highlighted that they open the channel of communication so that CHWs can communicate telephonically with them at any time if they need assistance.

On analysing the transcripts, the researcher found that exposure to SOPG varied. A marked difference exists between those who applied the SOPG in facilitation and those who have not heard about SOPG at all. Adequate knowledge of SOPG and its implementation in practice and facilitation of CHWs services is needed (MoHSS, 2014). Some registered nurses mentioned that they did not receive any training on the SOPG or orientation on facilitation of services rendered by CHWs but had exposure to the manuals and have had a chance to familiarise themselves and applied the SOPG in their role. On the other hand, some have not heard about SOPG and have no knowledge at all.

Lack of standardisation, despite the existence of the SOPG, negatively affects the facilitation process. The three different groups of registered nurses who supervise the CHWs revealed this weakness in standardisation. There is a marked difference in the facilitation among those exposed, those who familiarised themselves and those who have never heard of the SOPG. Facilitation can improve if standardisation involves planning and implementation as an ongoing process of regular monitoring and evaluation (MoHSS, 2014).
The expressions below share evidence of this challenge.

"I was trained, about the contents of their bags as items are depleted nothing to use…I am not really acquainted with the SOPG " ***[RN 7]***.

"It was also part of the initial document that we received as part of training of trainers in 2015, which guides the CHWP in our regions. So it gives us a lot of information especially on what is our function at district-level and at facility level..." ***[RN 8]***.

"I've heard about them…I was not trained on it. The copy is there I went through it, but I'm not really trained. I would say 80% acquainted. Because it was, a self-reading just like self-familiarisation." ***[RN 9]***.

"I was not exposed to any SOPG or so because where I'm coming from there are no CHWs." ***[RN 1]***.
"I cannot recall having the SOPG in my office." ***[RN 6]***.

Assegaai and Schneider (2019) find training of facilitators lacking, and are of the opinion that facilitators and facility managers need training and orientation to be able to mentor and guide CHWs. Induction, skills development and technical support in the form of in-service training can achieve capacity building.

Theme 2: Understanding the facilitation process

Sub-theme 2.1: In-service training

Training is the key part of the facilitation of CHWs (Kok et al., 2018). The nurse facilitators should identify the training needs of the CHWs jointly so that the training provided is in line with skills required for competent practice. Some facilitators demonstrated that they discuss training needs with CHWs. This happens either during performance agreements or during monthly reporting and during supervision visits, if any. Several training needs, ranging from refreshing pre-existing skills to new skills, altogether are achievable. Registered nurses mentioned that training on malaria testing, HIV tests and management of non-communicable disease took place in some areas. However, this information is in direct contrast to what CHWs mentioned. Kok et al. (2018) found identification of training needs, planning training specific to regional and CHWs needs are still neglected and remains a major concern. Below are some of the expressions of the registered nurses.

"They'll mention that they need to be trained on some of the things they come across in the community for which they need on the job training." ***[RN 10]***.

"We do assess them and sometimes some of them were trained to test malaria some of them were not so we help them to train the others too on how to test malaria" ***[RN 5]***.

"Luckily in the Hardap region, since the community health workers had needs we have managed to train them on HIV counselling and testing, and they were trained on non-communicable diseases with the help of non-governmental organisations." Yes, in the beginning they did indicate they have various training needs like rapid HIV testing and counselling and some of them were trained on these aspects especially the ones in the Urban settings" ***[RN 3]***.

Registered nurses expressed that the process of facilitation can improve if planning and implementation are an ongoing process with regular monitoring and evaluation (MoHSS, 2014).

Sub-theme 2.2: Supportive supervision

In a study done in four Sub-Saharan African countries, Kok et al. (2018) found that supportive supervision, when combined, individual and peer supervision can improve CHWs motivation and performance. They found that supportive supervision involves processes of directing and supporting CHWs to be able to perform their duties effectively. The authors also maintain that the process of supportive supervision, the problem-solving focus, the sense of joint responsibilities and teamwork, cross-learning and skills sharing are valuable (Kok et al., 2018).

Some of the registered nurses expressed that they value providing supportive supervision to the CHWs to help them with their needs. They mentioned that they follow the CHWs up after initial training giving them advice and correcting their work, particularly regarding the use of tools in a hands-on approach. While they express this, no guarantee is given that it happens in practice. Lehmann and Saunders (2018) finds it irregular, fault-finding and de-motivating.

Registered nurses are required to intervene to solve the problems that are beyond the CHWs' capacity. They must also bolster the messages given by community health workers to the community to encourage community compliance. During supportive supervision, the registered nurses should give constructive feedback where they acknowledge and praise CHWs and highlight their weaknesses, which they immediately help to overcome (Kok et al., 2016). The process should also allow facilitators to identify the skills gap of CHWs and take measures to correct them through providing the required training, like training on the test for malaria. From the data analysis, it is clear whether no CHWs are involved in decision-making processes that go beyond their regular tasks. Data analysis also revealed that there was no focus on coaching, mentoring and written feedback about CHWs performance (Bailey et al., 2013). Some expressions follow:

> *"It's for me to have a programme for supportive supervision because I don't have a supervisory schedule, it's just one on one or maybe when there is a need then I can go to see them in the community."* ***[RN 3]***.
>
> *"When they are in the field we teach them to use screening tools, you use the screening tools and the flip charts before you do a referral."* ***[RN 4]***.
>
> *"So l need to strengthen that so that there can be meetings in each catchment area quarterly or monthly meetings."* ***[RN 5]***.
>
> *"At meetings we just discuss general health related issues pertaining to the clients, the community and the clinic. So we talk about the health matters like we emphasise on hygiene those main basic things that you need to give"* ***[RN 1]***.

The collaboration is difficult because of lack of integration of the services. Some clinics treat CHWs as if they do not belong to the health care delivery system. Supplies like Panadol that they are supposed to get from the clinic are not always easily availed to them. According to the SOPG, regional and district teams are to support efforts in the supply chain management. They should ensure availability of CHWs kit supplies (MoHSS, 2014). An expression follows:

> *"Facilitators at clinics will relate to CHWs that they are having Panadol but it's not for CHWs because I do not order Panadol for CHWP. This Panadol I order for my clinic all those challenges."* ***[RN 8]***.

Besides making CHWs part of the team, integration or a collaborative approach can overcome several challenges. One possible area of integration that can solve transport problems is that between the PHC team and the nurse facilitators at the clinics. Instead of having to source their own transport, PHC visits can be synchronised with nurse's supervisory visits.

Sub-theme 2.3: Monitoring and evaluation

Facilitation involves a process of monitoring the work of the CHWs to check if they are operating according to the SOPG and their plan. Monitoring allows registered nurses to identify areas in which the CHWs need guidance in their work (MoHSS, 2014).

The purpose of CHWP evaluation should be to assess programme achievements and constraints as well as reviewing the existing conceptual framework, management structure and supervision mechanisms. Evaluation will also identify areas of improvement (MoHSS, 2017). As a way of monitoring the CHWs, they report at the clinic every morning to sign attendance registers. In some instances, some facilitators delegate the CHWs to tasks at the clinic, but this does not happen in all clinics. When it happens, the nurses can directly monitor and guide the CHWs at the facility. However, it is not always possible to go into the field to monitor the CHWs (MoHSS, 2014). The following expressions explain:

"*We delegate two CHWs to assist us at the clinic and then the rest they go to the location where they are delegated to work.*" ***[RN 1]***.

"But the challenge I never reach them one by one to see them how do they do because ideally I wish I could go if I go for supervision I want to see how they're doing it." ." ***[RN 2]***.

"I need the number for the headman because even if I do not reach there I can call and ask if the CHWs is there in the field. They will tell you yes she's around I can just communicate with the headman…" ***[RN 4]***.

"I can't really say how many times in a week, but she does go on a follow-up. But for me, I just call." ***[RN 7]***.

"For example in the community where we are working I can compare with our statistics that there was a new-born in the community who was born at home then I compared because this child was born at home and came to the facility for immunisation."." ***[RN 7]***.

*"And if someone from that community who comes to the facility, we also find out from the people in the community. Did you see the CHWs this month and the people in the community they also tell us because they know them they can share some information whether the CHWs was in the field or not?"****[RN 9]***.

"They have statistics that they combine all of them together all the 22. So after every 3 months they come together and we evaluate their work together and I sent that way to my supervisor who is in charge at the regional level." ***[RN 8]***.

With the supervisors failing to reach CHWs individually, they resort to calling them or significant members of the community as a way of providing support or monitoring their presence in the field. The system that requires CHWs to report at the clinic in the morning and sign attendance registers is inadequate because there is a possibility one can sign the register and not actually go into the field. Therefore, there is a need for a mechanism to monitor their presence in the community (Assegaai & Schneider, 2019). In addition, in the absence of direct supervision, the monthly reports can be a way of monitoring and evaluating the work done by the CHWs. While this is not easy, the nurse facilitators take time to discuss these reports with their subordinates. There is a need to corroborate the reports provided by the CHWs to check for their authenticity and correctness. The facilitators apply various measures ranging from comparison of clinic statistics with those provided by CHWs. By assessing what the CHWs claimed to have achieved and what could possibly be done, the nurses could judge if

the report generated is a true reflection of the actual work done. Members of the community serve as informants in the process of authentication of the end of the month reports.

The facilitation of the CHWP requires planning. Performance agreements serve as part of the planning in which targets are set, outlining indicators as well as the training needs. Although there are signs that face-to-face monitoring and evaluation does not really take place as required, registered nurses maintain that they review performance agreements yearly at this time they are used to evaluate how the CHWs performed in relation to their targets and reasons why they may have failed to meet the targets. It is during this review that training needs identification takes place and plans are adjusted to ensure that performance improves in the subsequent year. Registered nurses expressed their views as follows:

> *"We have the performance agreements since there are also some difficulties in guiding. We have grown up with the performance agreements and we have set with them, explained the different indicators, and defined the different indicators so that they will know clearly"* ***[RN 6]***.
>
> *"There is a section on professional development where they will indicate what they need to be able to meet the set indicators. So yes, we do that on a yearly basis so that when we do the reviews, which I normally do in groups because I find it difficult to do it individually."* ***[RN 5]***.

4.2.2.3. In-depth interviews with PHC supervisors

PHC supervisors are required to conduct biannual supportive supervision to all districts, health facilities and clinics of the specific region. They should provide timely feedback to the districts as well as make follow-up calls. This ensures that the implementation of recommendations is carried out as planned (MoHSS, 2014). Three in-depth interviews with primary health care supervisors at regional level took place. The researcher made sure the interviews were held in a private and quite space to ensure minimum disturbance. The purpose of the in-depth interviews was to explore the views of PHC supervisors on the facilitation of services rendered through CHWs by registered nurses. One PHC supervisor was from the Hardap region, one was from Kavango East region and one from the Khomas region. Prior to the data collection process, all respondents signed a written informed consent. Field notes and voice-recordings ensured recording of all in-depth interviews for verbatim transcription. Data collection continued until the researcher achieved data saturation. Probing questions, ensured

clarification needed. The main question asked during the in-depth interview was, **"What is your view on facilitation of services rendered through CHWs by registered nurses?"**

Other questions for clarification were: "Are you familiar with the Standard Operation Procedure Guideline (SOPG)?" Examples of follow up questions:

a) Can you explain further?
b) Please give examples
c) What do you mean by that?

The researcher identified one theme and three sub-themes from the in-depth interviews with PHC supervisors and subsequent data analysis. Clustering took place around the central concept (Bernard & Ryan, 2016). Figure 4.15 presents an overview of the themes and sub-themes that emerged.

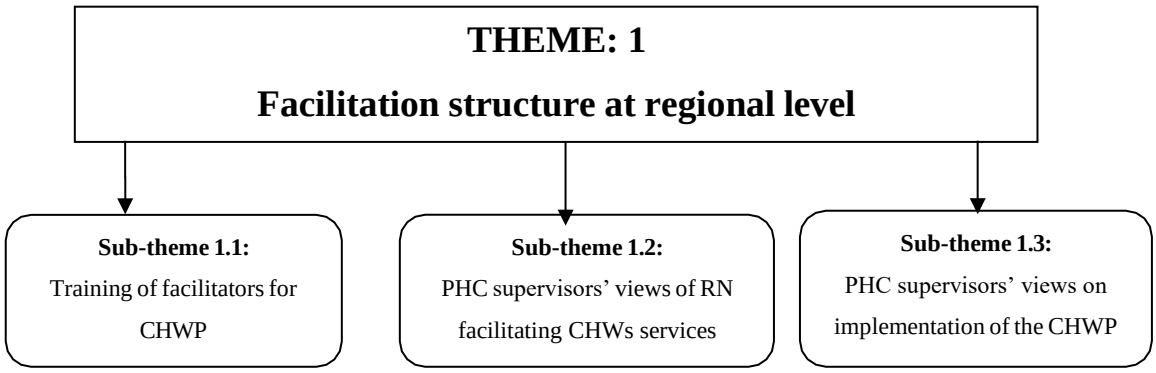


Figure 4.15: Overview of theme and sub-themes for in-depth interviews with PHC supervisors

Theme 1: Facilitation structure at regional level

SOPG of MoHSS outlines the role of each regional steering committee in the implementation of CHWP (MoHSS, 2014). The steering committee should develop work plans and budgets, as well as implement, monitor and evaluate CHWs activities. It has a responsibility of improving the supply chain management to ensure regular availability of equipment, drugs and supplies as well as capacity building of implementers of the CHWP.

PHC supervisors are part of the regional steering committee that is directly responsible for the implementation of the CHWP. They report quarterly to the committee on the progress and challenges of CHWP (MoHSS, 2014).

Sub-theme 1.1: Training of facilitators for CHWP

The PHC supervisors reported training as an important component of the CHWP for supervisors and CHWs. PHC supervisors highlighted training at the beginning of the programme, for example, the identification of nurse facilitators to be trained for those who missed initial training received in-service training. Some PHC supervisors considered the in-service training adequate, while others did not. Supervisors expressed themselves as follows:

> *"They were trained and others were given in-service training on standard operating procedure guidelines but not as formal training but those three got formal training in the beginning".* ***[PHC Supervisor 1]****.*
>
> *"There was training when an NGO was supporting implementing this program so there was about three trainings that they did but then the program stopped. The nurses that are supervising the CHWs were orientated what their roles are. They were taken through the SOPGs. So when we go through the clinics we just meet them one-by-one and we take them through, informally".* ***[PHC Supervisor 1]****.*
>
> *"Also there is a need for a regular training of the CHWs facilitators." "There is a need for their scope of practice to be expanded because of our referral system and challenges faced in the community."* ***[PHC Supervisor 3]****.*
>
> *"Unfortunately now with the high staff turnover so much has changed so I'm not quite sure now in the last two years I am not sure when was the last training what I'm sure of that most of our nurses right now they are not well oriented on CHWP."* ***[PHC Supervisor 2]****.*
>
> *"I was not trained in any aspect of community health workers I just get updated. I update myself only what should they do what should they report on and the things that they are doing its primary but I'm not a trainer."* ***[PHC Supervisor 3]****.*

Therefore, following initial training there was a need for follow-up training, for CHWs and their facilitators bec ause of changes in practice and staff turnover. Respondents attributed poor supervision practices from the regional management team to lack of training. Assegaai and Schneider (2019) state the compromising effect of lack of training on the quality of the entire facilitation structure. They are of the opinion that capacity building of implementers is the basis on which the success of the CHWs programme is measured.

Some clarifications mentioned are as follows:

> *"The registered nurses and enrolled nurses that are supervising the CHWs not all of them have received training but in most cases they don't do facilitation maybe due to time or due to the lack of knowledge they just countersign the report. "Definitely, if they are not aware of the CHWs what they are supposed to be doing. There is no way they can be confident in supervising the community health workers so the lack of training actually compromises their role in supervising the community health workers."* ***[PHC Supervisor 2]****.*

Sub-theme 1.2: PHC supervisors views of registered nurses facilitating CHWs services

This sub-theme describes what the PHC supervisors thought of the current facilitation system and the challenges experienced. According to the respondents, programme facilitation is in two main ways, direct and indirect. While the direct way is supposed to complement the indirect, the status is different.

Direct monitoring and mentoring involve physically going out into the field and meeting the CHWs to check if they are present and working accordingly. Also assessing their skills and suggest corrective actions. Indirect supervision is through supervisors ensuring that CHWs are reporting at the facility daily and are in the field and checking their reports each month-end (Assegaai & Schneider, 2019). PHC supervisors expressed themselves as stated below.

> *"But they {the CHWs} can do wonders if they are really monitored {by their facilitators}. At the moment we do monitor them at times we go out and see what they are doing."* ***[PHC Supervisor 1]****.*
>
> *"Sometimes they're not able to go in person to do supervision but we do communicate telephonically with the facilitators. We do communicate monthly and they submit some written reports, they are part of government employees and therefore under our own rules and regulations."****[PHC Supervisor 3]****.*
>
> *"But in most cases the supervisors don't do supportive supervision, maybe due to time or due to the lack of knowledge they just countersign the report. When they do supervise you find that some of the reports do not correlate because sometimes most of these guys are not in the field."* ***[PHC Supervisor 3]****.*

However, direct supervision is not always possible, so most of the time supervision is indirect through the telephone, and reports and indirect monitoring through reports only. Authenticity confirmation of CHWs reports by facilitators happens through registers. The checking of registers helps to evaluate if the CHWs are meeting their targets and identify problems such as absenteeism. However, the PHC supervisors mentioned that it is not working well since the CHWs can be absent from the field for a long time without detection.

There are forms and referral systems required by the National Strategy for Community Based Health Extension Programme in Namibia (2014) to help monitor the CHWs. However, there could be a problem with the monitoring if the facilitators lack supervision skills and sign off reports that are not correlating.

Sub-theme 1.3: PHC supervisors views on implementation of the CHWP

According to the PHC supervisors, facilitation of CHWs is riddled with challenges. The challenges are threefold, that is, system related, CHWs related, and facilitator related.

System-related challenges include supervisor's lack of control over some logistics. The participants (PHC supervisors) considered transport as a challenge compromising the direct facilitation of the CHWs. In the end, there is no direct supervision to verify reports, as stated below.

> *"We are really having challenges with transport because of the budget cuts we are experiencing it makes it difficult …so now you just have to rely on what your registered nurse is telling you when you go to that clinic, and the CHWs maybe you can get a chance to see them"* ***[PHC Supervisor 1]****.*
>
> *"…because of this at the moment our CHWs are not as many as we wish to have in the region. Like the PHC supervisor who is now the overall supervisor of the CHWs at District level. At the moment we do not have enough CHWs to attend to our community as we would want them to, so that is one of the things that we can do. They need to be trained on that so it's very difficult to supervise them from the district level it's supposed to be easier from a facility level provided there is enough staff in the facility level."* ***[PHC Supervisor 2]****.*
>
> *"Some things are policy-related which we cannot really make decisions at our level although we can propose some decisions are policy related which we cannot make decisions at our level."* ***[PHC Supervisor 3]****.*

PHC supervisors viewed the shortage of staff as a major challenge in the facilitation of CHWs. The shortages range from the CHWs to the registered nurses who are supposed to monitor, train, mentor, and supervise the CHWs. The PHC supervisors also mentioned that the centralised policies compromised their power to make decisions, as they could only suggest things but had no power to implement them. With CHWs-related challenges, PHC supervisors highlighted that the supervision of CHWs faces several community challenges. The community members lack the necessary education, making it difficult for the CHWs by refusing to become part of village committees, and demanding payment. Some also may have differences with CHWs or get too close making them unreliable in acting as sources of information for supervising CHWs.

PHC supervisors saw facilitator-related challenges as more than just supporting the work of CHWs. They also considered the community as eyes for the facilitators and report on how the CHWs are performing. Such acts, while beneficial, may be a weakness in the integration of the community. Once the community starts to control CHWs without any formally agreed structures to do so, they might end up compromising their working relationship. For the facilitation system to work well, the roles of the communities need to be clearly outlined. Nurse supervisors should avoid spying on CHWs using the community. Instead, both the CHWs and the community could openly give the facilitators feedback.

The situation where the human resources asked the nurse to get a written complaint from the community about CHWs demonstrates that the spying exercise is not effective (MoHSS, 2014).

4.3. CONCLUDING STATEMENTS TO QUALITATIVE RESEARCH FINDINGS AND ANALYSIS

During the analysis of FGD data, the researcher established that the majority of CHWs (respondents) have indicated in various ways that facilitation was insufficient. CHWs indicated that supportive supervision is not practised. Supportive supervision is an important element of the CHWs' facilitation process and is believed to improve motivation and performance (Kok et al., 2018). According to Kok et al. (2018), improved supervision processes, use of guidelines, increased frequency of supervision and training of supervisors in technical skills, feedback and monitoring can add to motivation and performance of CHWs.

Data analysis did not show any significant percentage of interaction between CHWs and facilitators in the regional facilities under study. During analysis, the researcher found that the frequency of

facilitation did not diverge by facility or facilitator type. Facilitators need to interact with CHWs at least quarterly but indications during the FGDs were that this does not happen.

According to Schwarz et al. (2019), the interaction between facilitators and CHWs is a mutual process, which both should observe to make regular interaction possible. Interaction observed during data collection was only when CHWs reported to sign the attendance register in the morning or when they were submitting the monthly reports. The variability in the frequency of facilitative interaction between CHWs and their facilitators is prominent in the light of national guidelines that promote consistent frequent facilitation system for CHWs (MoHSS, 2014).

Registered nurses expressed inadequate knowledge on SOPG and National Strategies for Community Based Health Extension Programmes. The knowledge they demonstrated was limited to what they could get out of "self-study". This could not guarantee provision of quality facilitation to CHWs. It is important that health professionals understand national policy documents and receive training in these to integrate the management, supervision, mentoring, monitoring and feedback into everyday practice (Assegaai & Schneider, 2019).

The focus on community-based health care and holistic practices demands greater needs to ensure that knowledge and skills of CHWs are updated regularly (Mlotshwa, Harris & Moshabele, 2015). The findings of the study were also consistent with those of Oliver et al. (2015), who found that the CHWs faced challenges with resources and in-service training. They mention that CHWs are working to serve the community and are there to integrate it with the official health system. Their work involves referral, monitoring, reporting and educational interaction.

CHWs feel abandoned since supervision or mentoring by the health professionals does not transpire (Malan, 2019). CHWs mentioned that lack of supervision affected their work negatively. Findings from registered nurses' interviews, where they expressed uncertainty on what their role really entails, concur with that of Assegaai and Schneider (2019) that there is no measuring system where PHC supervisors can measure the progress and performance of facility and district managers. Table 4.12 shows findings, conclusions and challenges of facilitation in the Hardap, Kavango east and Khomas regions.

Table 4.12: Summary of objectives, themes and sub-themes, findings and conclusions and challenges of qualitative design

Objective	Theme and Sub-themes	Findings and Conclusions	Challenge
Sub-objective 2: Explore the views of PHC supervisors on the facilitation of services rendered through CHWs by registered nurses.	**Theme 1:** Facilitation structure at regional level. • Sub-theme 1.1: Training of facilitators for CHWP • Sub-theme 1.2: PHC supervisors views of RN facilitating CHWs services • Sub-theme1.3: PHC supervisors views on implementation of CHWP	No measuring system where PHC supervisors can measure the progress and performance of facility and district management	Management
Sub-objective 3: Explore and describe the perception of CHWs on the facilitation of their services.	**Theme 1**: Understanding the facilitation process. • Sub-theme 1.1: Process and perceptions on facilitation • Sub-theme 1.2: Frequency of facilitation • Sub-theme 1.3: Communication • Sub-theme 1.4: Feedback and training	Poor facilitation Infrequent Facilitation Poor or absent communication Inadequate feedback and training	Facilitation Communication Training
Sub-objective 4: Explore and describe the views of registered nurses on their roles towards the facilitation of services rendered by CHWs.	**Theme 1:** Registered nurses experience about facilitation of services rendered by CHWs. • Sub-theme 1.1: RN"s views on facilitation of services • Sub-theme 1.2: State of facilitation of CHWs services. **Theme 2:** Understanding the facilitation process. • Sub-theme 2.1: In-service training • Sub-theme 2.2: Supportive supervision • Sub-theme 2.3: Monitoring and evaluation	Inadequate knowledge on SOPG and National Strategies for Community Based Health Extension Programmes.	In-service training

4.4. PART 3: MERGING

Approaches for integration of quantitative and qualitative data are challenging tasks (Moseholm & Fetters, 2017). This is because of its difficulty in comparing results from the two research methods. Nevertheless, data of the two research methods are still merged or brought together to enhance greater understanding of phenomena of research. In this study, the researcher analysed data collected separately. Findings during the analysis of one type of data (quantitative) led to look for related information in the other (qualitative) data (Moseholm & Fetters, 2017).

During merging, the researcher was cognisant that outcomes of the two strands of research, being quantitative and qualitative, could converge, complement, and conflict or diverge. While integrating the two strands, the researcher found that respondents' views on in-service training differed. One the other hand, with quantitative analysis, most of the respondents (81% (n=22), 82% (n=37) and 41% (n=27)) mentioned that they did not receive any in-service training during FGDs. The researcher used equivalently driven mixed methods research (Moseholm & Fetters, 2017). Furthermore, responses to the quantitative questionnaire and responses to the qualitative in-depth interviews and FGDs were found to be correlating. Figure 4.16 Gives an overview of how merging of quantitative and qualitative data was done.

Intent: To compare results from quantitative and qualitative databases

Step 1

Design the quantitative Strand:

How effective and functional is the facilitation of RN to CHWs in Hardap, Kavango East and Khomas regions of Namibia.

Collect the quantitative Data:

Obtain permission from MoHSS, Unam and respondents.

Non-experimental

Numerical data

Sample size of 143 CHWs.

Confidence level of 95%

- Close-ended questionnaire.

And

Design the qualitative Strand:

To explore and describe the experience of CHW's perceptions on facilitation of their services, to explore and describe the views of PHC supervisors and RN on their role towards facilitating services rendered by CHWs.

Exploratory, descriptive and contextual design.

Collect the qualitative Data:

Obtain permission from MoHSS, Unam and respondents.

FGDs with 64 CHWs, In-depth interviews with 3 PHC supervisors and 10 RN.

Open-ended in-depth interviews until data saturation.

Step 2

Analyse the quantitative Data:

SPSS version 25

Frequency tables, graphs, pie diagrams

Deductions

Summaries

(Please see Chapter 4, part one)

And

Analyse the qualitative data:

Dialectic and inductive basis for knowledge inclusion.

Comprehensive views of respondents.

Audio recordings, transcripts, field notes.

ATLAS ti and Tesch's steps of data analysis.

FGDs- Theme: Understanding the facilitation process

In-depth interviews with RN- Theme 1: respondent's experience about facilitation of services rendered by CHWs Theme 2: Understanding the facilitation process.

In-depth interviews with PHC supervisors- Theme: The facilitation structure at regional level.

Step 3

Point of inference

Use strategies to merge the two sets of results:

FGDs	REGISTERED NURSES	PHC SUPERVISORS
Insufficient supervision of maternal, new-born child health and nutrition services -Insufficient facilitation of disease prevention and control services -Insufficient facilitation of hygiene and sanitation services -Insufficient facilitation of social welfare and disability services -Insufficient facilitation of planning, information management and coordination services.	-Insufficient management support -Deficient understanding of facilitation process leading to; - Communication gabs, -Insufficient planning, training, Supportive supervision monitoring and evaluation	-Insufficient resources management - Insufficient training, monitoring, evaluation, supportive supervision of registered nurses -Limited district budget

Step 4

Interpret the merged results:

- Inadequate and infrequent facilitation of CHWs services
- Ineffective communication among implementers
- Lack of prior training of RN to implement SOPG
- Poor management of CHWP at regional level
- Insufficient feedback and in-service training for CHWs
- Insufficient supportive supervision for CHWs

Figure 4.16: Flowchart of the basic procedure in implementing a convergent mixed method design

Source**:** Bian (2012, 19)

4.5. SUMMARY

The findings from this study indicate that challenges in the management of the CHWP have a negative influence on the efficiency of disease prevention and health promotion services rendered by CHWs.

In this chapter, the researcher provides an account of the mixed methods research process. The researcher provided themes and sub-themes in various tables and figures. The study revealed that there is poor facilitation of CHWs services that include mentoring, in-service and follow-up training, supportive supervision, monitoring and evaluation. To address these challenges, ownership and positive attitudes need instillation in both CHWs and registered nurse to adopt and practice SOPG. CHWs also need support from PHC supervisors and health facility staff to become skilled agents of change.

The next chapter, Chapter 5, will cover the conceptual framework for the study and provide definitions of key concepts.

CHAPTER 5

CONCEPTUAL FRAMEWORK OF THE STUDY

5.1. INTRODUCTION

In the previous chapter, the researcher presented data analysis of the study results for phase one. The purpose of this chapter is to identify, define and conceptualise the main concepts as phase 2.

A conceptual framework is a "crucial process for generating a way of constructing ideas, while purposefully and analytically viewing the phenomena" (Chinn & Kramer, 2015).

Definitions of main concepts are important in the development of strategies for registered nurses to facilitate services rendered by CHWs. A conceptual framework is defined as an organised set of ideas and theories that assist investigators to identify research problems accurately. The researcher used the practice-oriented theory to develop the mentioned strategies Dickoff et al. (as cited in Chinn & Kramer, 2011).

5.2. DEVELOPMENT OF THE CONCEPTUAL FRAMEWORK

Conceptualisation involves incorporating research into the body of knowledge that is pertinent for the research problem that is being probed (Barbie, 2020). Conceptualisation enables the researcher to link findings of the study to the body of knowledge and to conceptualise findings in practice.

The researcher adopted the survey list as a reasoning map in the development of strategies for registered nurses to facilitate services rendered by CHWs. In this study, the conceptual framework is in relation to the themes that emerged from the analysis of data. The data are about the level of facilitation of services rendered by CHWs, the views of PHC supervisors on facilitation of services rendered through CHWs by registered nurses, perceptions of CHWs on facilitation of their services and the views of registered nurses on their roles in the facilitation of services rendered by CHWs.

5.3. CONCEPTUAL FRAMEWORK

In this study, the researcher utilised the six aspects of activity of the survey list of Dickoff et al. (as cited in Chinn & Kramer, 2011). These comprise the following six crucial questions:

- Who (the agent) performs the activity?
- Who is the recipient of the activity in this study?
- In what context is the activity taking place?
- What are the dynamics of the activity? What are the challenges?
- What are the guiding procedures or tools used for the activity?
- What is the outcome of the activity? What do we want to achieve?

The procedure employed in this study contained the necessary elements that reflected the strategies needed to facilitate services rendered by CHWs. Figure 5.1 illustrate these elements.

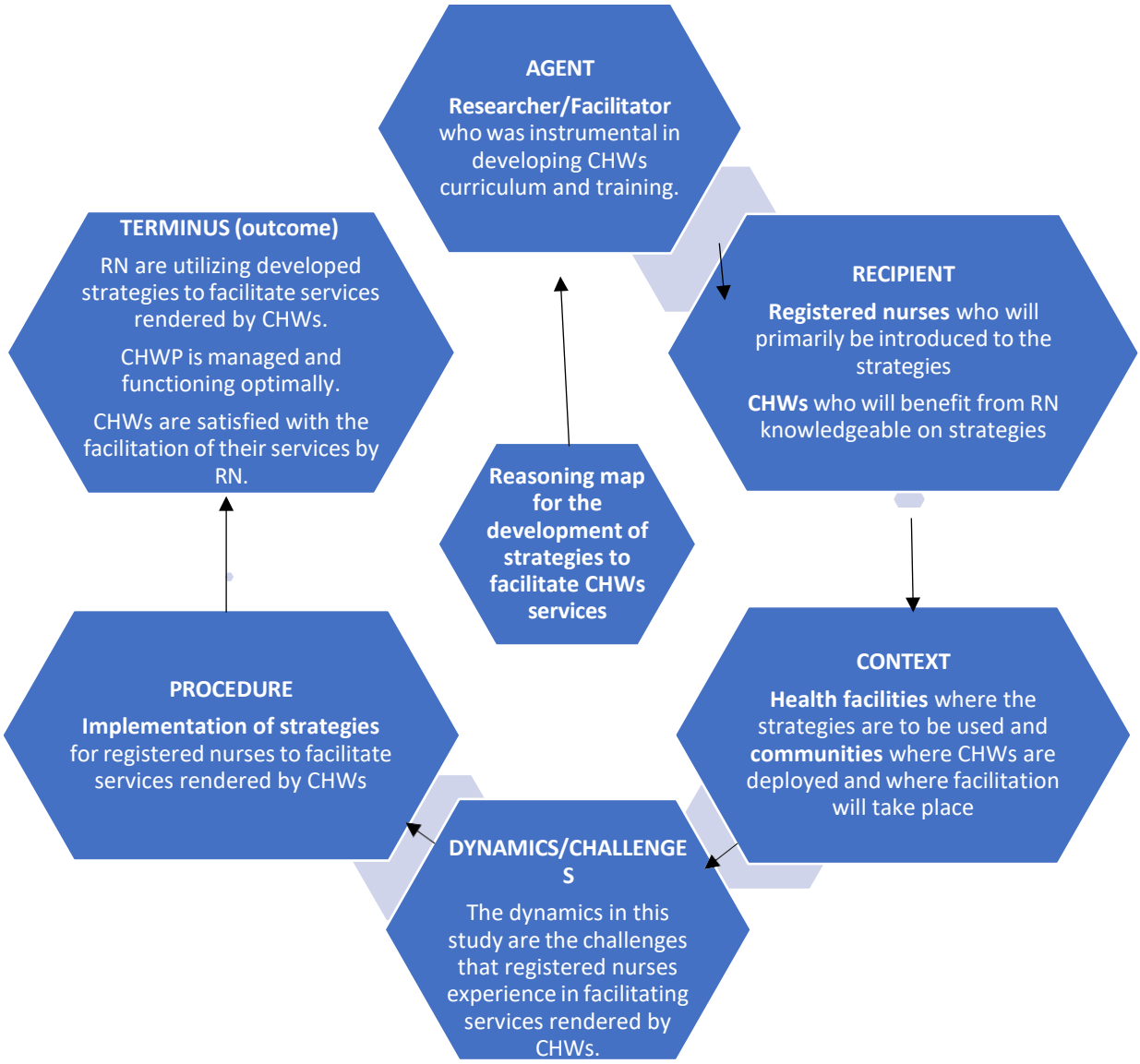


Figure 5.1: Reasoning map for development of strategies

Source: Author's own construction

5.3.1. **Agent: (The Researcher)**

An agent is an individual who performs the actual activities (Dickoff et al., as cited in Chinn & Kramer, 2011). This is emphasised by the view of Stanhope and Lancaster (2016) that the agent is a person who has varying kinds of influence or a person who acts as a precipitating cause of events. Furthermore, Thesaurus (2012) describes an agent as a person who acts or has the power to act.

In this study, the agent is a health professional who played a central role in developing the CHWs' Training Curriculum as well as Training Manuals for CHWs in Namibia. The researcher was also involved in the training of regional supervisors that would later take responsibility of their own regional

in-service training activities. The researcher is an educator with knowledge and skills that enable her to carry out research to develop strategies to facilitate services rendered by CHWs. The researcher is exceptionally acquainted with the expectations required of CHWs as well as those required of the registered nurses who are their facilitators. Registered nurses have the responsibility to be trainers and providers of quality health care to families and communities they are serving. The agent (the researcher) is a national educator of professional nurses and CHWs and has the necessary experience to develop strategies to facilitate CHWs services. The researcher is also registered with the Nursing Council of Namibia and that entitles her to practise at any given health facility in Namibia. This entitlement allows the agent to render in-service training to professional nurses on the developed strategies of facilitation with the endorsement of the Chief Executive Officer of the Ministry of Health and Social Services.

As described by Smit and Morgan (2015), the agent is someone who facilitates change. Thus, change is possible through in-service training to registered nurses on strategies to facilitate services rendered by CHWs. These anticipated changes will have a positive implication on the services rendered to families and communities where CHWs work in the Hardap, Kavango East and Khomas regions.

Specific skills and characteristics are required from an agent to facilitate learning and positive outcomes for registered nurses and CHWs. Below are some of the skills and characteristics needed for the agent to be successful.

Skills and characteristics needed for an agent

Communication skills

The agent should be an effective communicator to be able to express ideas and concepts. This is vital for learning and teaching (Berger, 2013). The agent must transmit knowledge and skills to health professionals. The success of knowledge and skills transfer depends, to an extent, on the quality of communication skills among all involved.

Respect

It is of utmost importance for the agent to show respect, acceptance, confidence and understanding to the recipient. The agent is a health professional who should treat all colleagues professionally (Beauchamp & Childress, 2014).

Competence

Competence is the capacity to demonstrate how to approach challenges, being a role model, and to inspire other people. A competent agent should have skills, values, knowledge, positive attitude and abilities to ensure the success of the developed strategies (Checkoway et al., 2013).

Knowledge

Knowledge refers to acquired facts through learning, observation and experience. The researcher should be able to clearly explain and show people what needs to be done and should be a role model. Recipients and stakeholders need to be empowered with adequate knowledge and skills involved in the process of strategy implementation.

Skills

Collaborative skills are essential to build a goal-focused relationship with recipients and other stakeholders. Other skills include planning, assigning of roles, managing resources, support, motivating, encouraging, and ensuring an enabling environment. To be able to facilitate effectively, one must be a good listener, and must have a good understanding of the goals and activities towards goal achievement (Meyer, 2019).

Attitude

A facilitator should have a friendly and honest disposition. The facilitator must be committed to helping participants to become independent learners. Facilitators need to be patient and perseverant to appreciate and understand the challenges the team faces. This helps to create a positive and purposeful atmosphere.

Motivation

Internal motivation encourages, guides and drives both the director and the force of specific behaviour (Huitt, 2017). The commitment and dedication of the facilitator/researcher encouraged the participants to accomplish the intended objective.

Creativity

The researcher should be creative in the development and implementation of the strategies developed for registered nurses**.** The researcher should also ensure that the ultimate objectives of the strategies find their way to the eventual beneficiaries who are the broad communities served by the CHWs (Galford & Maruca, 2011).

Concluding remarks about the agent

The researcher as agent developed strategies to facilitate services rendered by CHWs. The researcher will transmit the strategies to registered nurses/health professionals supervising CHWs for implementation. The aim of the strategies is to assist registered nurses to gain knowledge on the SOPG through which they would supervise CHWs to deliver effective and efficient services to the communities they are serving.

The agent development understanding with the registered nurses to ensure that sound interpersonal relationships existed and to ensure knowledge transfer. Knowledge transfer, on the other hand, empowered recipients to deliver quality care.

5.3.2. **The recipient: (registered nurses supervising the community health workers)**

The second aspect of the activity in practice-oriented theory is the recipient (Dickoff et al., as cited in Chinn & Kramer, 2011). The recipient refers to any person, who for their benefit and interaction with the agent receives action from the agent in order to realise a goal or a desired objective. They are the people who are on the receiving end of an activity. For this study, the recipients are the registered nurses supervising CHWs. Registered nurses/clinic supervisors as recipients are health professionals who play a pivotal role in the management of the CHP. Figure 5.2 below illustrates the characteristics of a recipient.

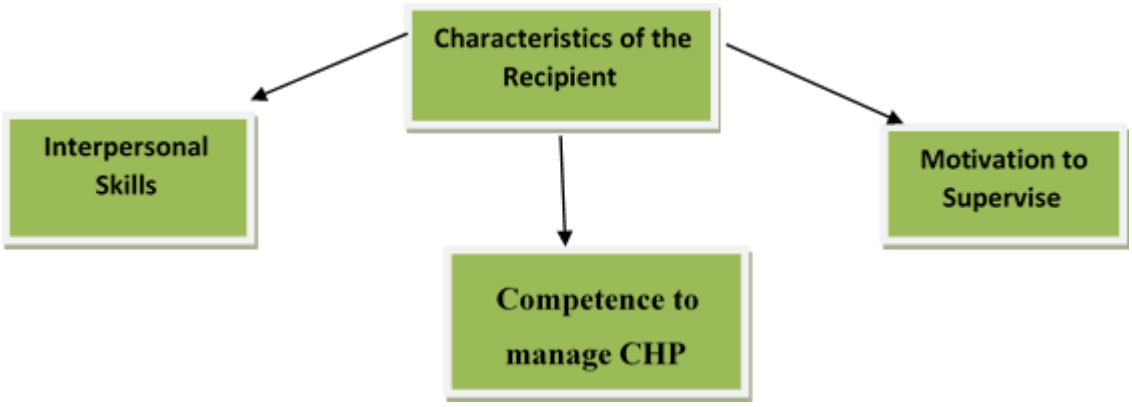


Figure 5.2: The Recipient: (Registered nurses supervising community health workers)

Source: Researcher's own construction

Interpersonal Skills

The management of a CHWP depends on a high quality and trusting relationship between the registered nurse and the CHWs. Trust is the most important part of building good relationships. Forming a good association from the first encounter can help in building a long-lasting trust that will become a fantastic experience for both registered nurses and CHWs (Strawther, 2015).

It is important that there is a constructive working relationship between registered nurses and CHWs to ensure quality community health services (Batalden & Davidoff (2007).

Motivation to supervise

Motivation is the process that initiates, guides and maintains goal-oriented behaviours. Motivation involves the biological, emotional, social and cognitive forces that activate behaviour. "The term motivation refers to factors that activate, direct and sustain goal-directed behaviour... Motives are the needs or wants that drive behaviour and explain what we do. Motives are only inferred to as existing based on the behaviour we observe" (Nevid, 2013).

Motivation is the component that defines the difference between desire and determination in the process of setting and attaining goals. The recipients should control their emotions with the purpose of motivating themselves to take appropriate action, to be committed, to follow-through, and to work towards the attainment of their goals. Motivation is a source of encouragement because it initiates, guides, and maintains goal-orientated behaviour (Galer, Vriessendorp & Ellis, 2006).

Registered nurses, who were the recipients of the strategies, needed to be open and receptive to the knowledge and skills they were receiving, since these skills would have enabled them to be successful in their supervisory role. Furthermore, the level of knowledge and skills of facilitators in teaching, assessment, counselling, appraisal, feedback, career advice and interpersonal relationship are key (Marshall & Fehringer 2013).

The researcher trusts that empowering registered nurses with relevant and adequate knowledge and skills would positively influence the management of the entire CHWP. By accepting correct attitude and practices, some of the challenges experienced by CHWs would consequently be addressed, which in return would ensure smooth support and guidance from communities.

Understanding of the concept of motivation can happen in terms of its similarities to, and difference from, the related concepts of desire and engagement. These are all terms that link to the energy source for action. A person feels a need to act (motivation), chooses how to act (volition/desire) and, because the act is voluntary, the person experiences the sense of involvement in what is being done (engagement) (Brea et al., 2012).

Competence of registered nurses to manage the Community Health Programme

Competence is the ability to perform a specific task in a manner that yields desirable outcomes (Kak, Burkhalter & Cooper, 2012). It is the ability to apply skills, knowledge and abilities to new situations as well as to familiar tasks for prescribed standards. In this study, the prescribed standards will be the SOPG for the CHP.

Competence encompasses knowledge, skills, abilities and traits of health professionals gained through pre-service education, in-service training and work experience.

Giving professionals in-service training that will fit the needs and demands of the CHWP is essential.

The competence of the supervisors of CHWs will ensure quality to the entire CHP.

Registered nurses in this study displayed insufficient knowledge of the SOPG for the CHP.

Concluding remarks about recipients

In this study, the registered nurses supervising CHWs were the recipients of the developed strategies to facilitate services rendered by CHWs. These health professionals must possess specific knowledge and skills to facilitate CHWs services that would bring positive health changes to the communities they serve.

Some registered nurses shared their experience of supervising CHWs with the researcher, which translated into the wish to acquire more knowledge on the SOPG. This, they related, would prepare them to perform their function with confidence and motivation.

5.3.3. **The context: (Health facilities for the implementation of strategies)**

Figure 5.3 displays the context of the activities

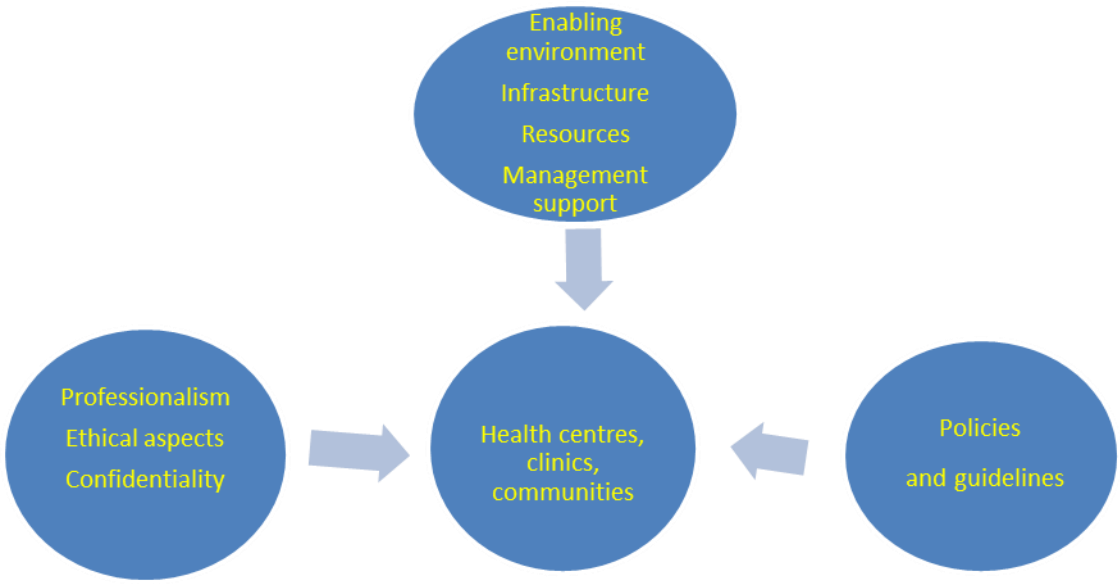


Figure 5.3: Context

Source: Researcher's own construction

Context is the circumstances, conditions, environment and situation within which activities take place (Dickoff et al. (as cited in Chinn & Kramer, 2011). In this study, the context refers to health centres, clinics and communities in Hardap, Kavango, East and Khomas regions where CHWS work. Context refers to the relationships between the environment, personal factors and events that influence the meaning of a task, activity or occupation for the performer. These tasks, activities and occupations are typically part of daily life. Brea et al. (2012) call them self-care, productivity and leisure activities.

The context is also described by Silverman (2013) as an environment where the data was collected about the experiences of registered nurses and where the developed strategies were implemented because the study was contextual in nature. The context of data collection in this study is in Chapter 3 with the discussion on the research methodology.

In qualitative research, a naturalistic approach seeks to understand phenomena in context-specific settings; meaning where the activity of interest takes place (Patton, 2014).

PHC within the MoHSS operates on four core pillars: health promotion, disease prevention, curative services and rehabilitation services. PHC has core elements that directly link to services rendered by CHWs.

Health centres and clinics are first entry points to health care and are designed to cover a demarcated catchment areas where CHWs are serving communities. Table 5.1 explains the functions of health facilities (context) within which the CHP operates.

Table 5.1 Health facilities (context) within which the CHWP operates

Facility	**Function**
Health Centres	• Provide comprehensive health care services • Offer needs-tailored specific services • Carry out a range of promotive, curative and rehabilitative services • Provide social welfare, education, environmental and occupational health services • Support and strengthen community health services • Integrate PHC programmes to optimise resources
Clinics	• Provide promotion, prevention and rehabilitation services • Offer primary and curative services • Support community-based health care activities • Provide outreach services • Refer clients to the next level

Policies, guidelines and procedures influence and determine major decisions and actions in a particular service area, such as the SOPG for the Community Health Programme. It is thus of utmost importance that these guidelines are implemented as directed for them to be successful.

Concluding remarks about context

There were active interactions between the researcher and the registered nurses (recipients) to ensure effective and successful implementation of the developed strategies. The recipients expanded knowledge on the SOPG. They had an opportunity to take initiative, to make decisions that would fit the situation at their health centres and through this, learn from reality.

For this study, the researcher (agent) directed learning through discussions on strategies that regions would use in different ways convenient for the specific regional situations and needs.

5.3.4. Dynamics: (Challenges registered nurses experience in facilitating services rendered by CHWs)

Energy sources of activities. The agents' and recipient's ability to develop strategies for registered nurses and their adoption to be able to facilitate services of CHWs. Dickoff et al. (as cited in Chinn & Kramer 2011) describe dynamics as the internal energy or power sources or motivating factors that enable an individual to become successful.

Dynamics explore physical, biological, psychological, or chemical power sources of agents and recipients. In this study, the registered nurses, who are facilitating CHWs activities, are the source of energy to discharge facilitating activities. Most registered nurses expressed insufficient resources, in-service training and knowledge to make the CHP a successful activity. Knowledge in any given situation is a tool for further development (Dickoff et al. (as cited in Chinn & Kramer 2011).

Knowledge is thus the appropriate collection of information in such a way that its purpose is useful. Integration to deduce further knowledge will take place. Individuals who understand information and facts embark on useful actions since they can synthesise new knowledge.

The registered nurses as health professionals and supervisors need the knowledge to provide quality care to the communities, they serve through CHWs. Once the health professionals and supervisors are empowered, they will be able to manage the Community Health Programme and the CHWs.

However, registered nurses and CHWs experience challenges during the implementation of procedures and policies. Figure 5.3 summarises these challenges.

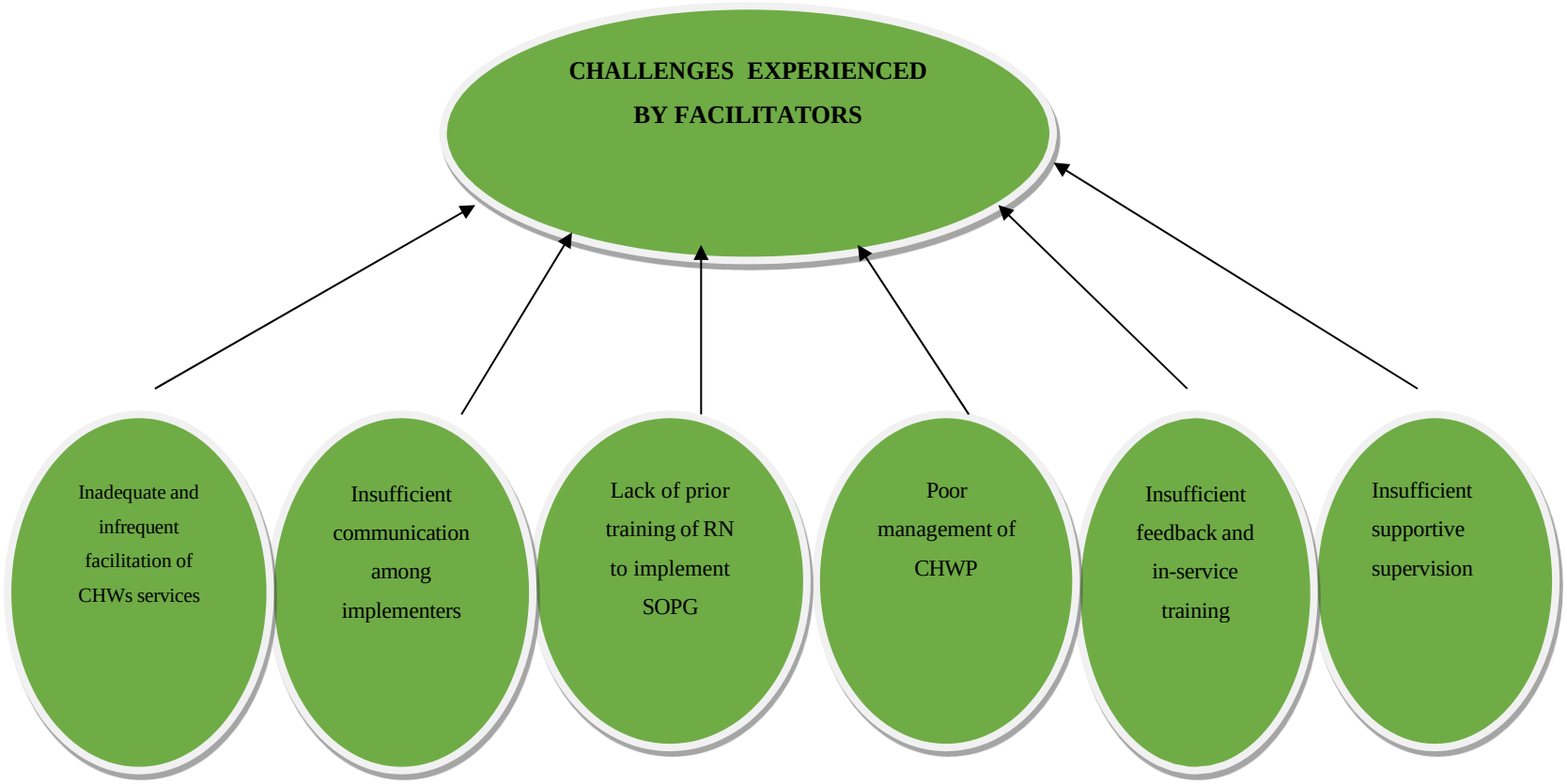


Figure 5.4: Challenges experienced by facilitators; Source: Author's own construction

Concluding remarks about dynamics

The agent, as well as the recipient and context, drive forces in the implementation of strategies. These actions are to build the capacity of users with skills, knowledge, attitude, and values to carry out their responsibilities effectively. The agent, as a catalyst of change, should facilitate the accomplishment of the set goals. The developed strategies assist with enhanced understanding of the management of CHP.

5.3.5. **Procedure (utilising SOPG for registered nurses to facilitate services rendered by CHWs)**

Procedure is a sequence of actions performed in a certain way or order; an established or accepted way of doing something (Merriam-Webster Dictionary, 2016). The procedure in this study refers to the "Strategies to facilitate services rendered through CHWs by registered nurses"**.**

The registered nurses (facilitators) need to initiate the facilitation process between themselves and the CHWs for them to work together to address the challenges they have recognised in facilitating services rendered by CHWs.

Registered nurses as facilitators should employ their teaching function and management skills and knowledge to facilitate the implementation of the procedure (strategies) to address challenges identified with the community health programme.

Facilitators that address challenges will develop CHWs to carry out their responsibilities to prevention, promotion and rehabilitation health care services.

Concluding remarks about procedure

Facilitators should employ their management skills and knowledge to facilitate CHWs effectively in the implementation of the procedure (strategies) to address dynamics in the community context. Once the procedure is clear, the result should be a conducive and supportive environment to promote effective management of the CHWP.

5.3.6. **Terminus (What is the product of the activity? What do we want to achieve?)**

Terminus refers to the last step, the finishing point (Dickoff et al., as cited in Chinn & Kramer 2011). The terminus is the desired outcome that an agent wishes to attain through the procedures. The agent's action confirms the achievement of the set objective (Dickoff et al., as cited in Chinn & Kramer 2011).

The terminus of this study was to develop strategies for registered nurses to facilitate services rendered by CHWs that would be supportive and facilitate a conducive environment for the implementation of the CHWP (Chinn & Kramer, 2011). Figure 5.4 depicts the terminus of this study.

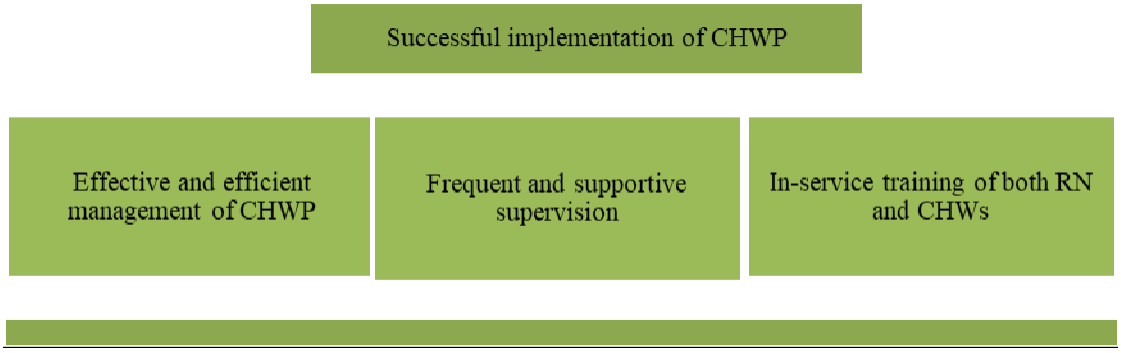


Figure 5.5: Terminus for successful Community Health Worker Programme

Source: Author's own construction

Concluding remarks about terminus

Future collaboration among regional offices, district offices, health facilities and communities should lead to the resolution of structural challenges and barriers experienced by facilitators and CHWs. These include continuous provision of human resources, materials and supplies necessary to render efficient and effective community health services. Supportive supervision and in-service training should ensure an efficient and effective CHWP.

5.4. SUMMARY

In this chapter, the researcher discussed the conceptual framework. The six elements of the practice-oriented theory of Dickoff et al. (as cited in Chinn & Kramer, 2011), namely, agent, recipients, contexts, procedures, dynamics and the terminus, were used to guide the discussion of the construct that is relevant to the development of strategies for registered nurses to facilitate

services rendered by CHWs. Concluding remarks were stated about each element during discussions.

The next chapter focuses on the development of strategies for registered nurses to facilitate services rendered by CHWs. SOPG and National Strategies of the CHWP of PHC are the basis.

CHAPTER 6

DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY CHWS

6.1. INTRODUCTION

The previous chapter described the conceptualisation of elements on which the development of strategies for registered nurses to facilitate services rendered by CHWs in Hardap, Kavango East and Khomas regions in Namibia are based.

This chapter describes phase 3, which aims at developing strategies that would ultimately strengthen the implementation of the Community Health Workers Programme in Namibia.

The analysis conducted on data collected from the questionnaire (quantitative), in-depth interviews with registered nurses and PHC supervisors and focus group discussions (qualitative) in phase 1 and the conceptual framework in phase 2 contributed to the development of mentioned strategies.

6.2. RATIONALE FOR DEVELOPMENT OF THE STRATEGIES

The researcher (agent) aimed, with this study, to develop strategies for registered nurses (first level recipients) to facilitate services rendered by CHWs in the Hardap, Kavango East and Khomas regions of Namibia. The researcher executed the process in five phases, namely situational analysis (phase 1). During this phase, the researcher used a convergent mixed method to collect data. The researcher identified four themes and 11 sub-themes with the quantitative design.

With the FGD theme and sub-themes, respondents expressed their concerns about the inadequacy of frequent and supportive supervision, inadequate or poor communication between them and different levels of supervisors as well as lack of feedback and in-service training. During in-depth interviews, the researcher identified two themes and five sub-themes within which registered nurses expressed their concerns as inadequate frequent and supportive supervision, lack of background because of not being trained as facilitators of CHWP and

lacking monitoring and evaluation skills. In-depth interviews with PHC supervisors revealed inadequate resources of CHWP at facility level and lack of training for newly deployed facilitators.

The findings of phase 1 led to conceptualisation in phase 2 where the practice-oriented theory of Dickoff et al. (as cited in Chinn & Kramer, 2015) was used as the basis for development of strategies.

6.3. THE GUIDING PRINCIPLES FOR DEVELOPMENT OF STRATEGIES

Strategies are directions set for an organisation and its components to achieve a desired state in the future. It is about integrating organisational activities and utilising and allocating scarce resources to meet objectives. Strategies motivate people to achieve the organisational vision (Prachi, 2015).

Strategy formulation and strategy implementation are the two major processes that are involved in strategy development according to Prachi (2015).

It involves situation analysis to diagnose the challenges, while implementation involves the actions to be undertaken to achieve the desired goals and objectives of the organisation or, in this case, the SOPG as well as National Strategy for Community-Based Health Extension Programme in Namibia (MoHSS, 2014).

These guidelines are the principles that guide the interaction and practices among the context, the agent and the recipients, outlining procedures that are acceptable by all parties.

Good strategy development involves analysis that describes the nature of the challenges at hand, guiding policies that define how the challenges are addressed, and the comprehensive actions or the critical success factors designed to implement the content of the guiding policy (Prachi, 2015).

The additional strategies direct implementers on how to address challenges related to SOPG implementation.

6.3.1. **Underlying policies and guidelines to the implementation of CHWP**

The National Strategy for Community-Based Health Extension Programme (MoHSS, 2014 b) is designed in line with achieving the objective of "Health for All Namibians". The government of Namibia has been shifting resources to focus on preventive services, social welfare services and basic care provided by clinics, mobile teams and community health workers. The implementation of CHWP is aimed at activating individuals, families and communities to play a role in improving their own health status and contribute towards the attainment of national health and health-related goals.

MoHSS developed key strategies for CHWP in 2014. These strategies cover and address promotive, preventive, rehabilitative and basic curative services, especially relating to maternal, neonatal and child health services and nutrition. The strategies also intend to strengthen and expand continuum of care, empower and involve local communities in planning, implementation and monitoring of CHWP as well as empowering CHWs to collect and analyse household data for planning, reporting and decision-making.

SOPG have been outlined based on PHC aims to deliver family-centred promotive, preventive, rehabilitative and basic curative services. It is designed for communities, especially those living in remote areas of the country, to access equitable health services. CHWs instil knowledge and skills to the community members to take actions for their own health (MoHSS, 2014 a).

The aim of the SOPG is to provide direction to implementers of CHWP and describes the roles and responsibilities of each structure at national, regional, district, health facility and community levels. Moreover, the guidelines also state that for the CHWP to produce the intended results, policy, human resources, financing, service delivery, logistics and supply and HIS should equally be involved. Different stakeholders' roles and responsibilities are outlined below.

The national level oversees, among others, supportive supervision packages, budgets for resource security and secure training and training material. It develops policies, guidelines, strategies and SOPG required for the effective implementation of the CHWP nationally. It leads and give guidance to regions to integrate the CHWP in other community-based programmes. It also gives guidance to regions on the selection, training, sensitisation and follow-up mechanisms of CHWs. Coordination as well as monitoring and evaluation are a crucial part of

the responsibilities at national level, as it is the point where successes and challenges will be recognised.

The national steering committee has the role and responsibility to oversee, among others, strategic guidance and technical inputs.

At regional level, it guides the establishment of a steering committee to plan, coordinate, monitor and evaluate the implementation of CHWP. The committee ensures that implementation is based on standards and principles outlined in the CHWP strategy. A regional budget that is aligned to the national budget is essential. It is at this level that forums for experience-sharing among districts are organised and support to CHWs ensured. The regional steering committee manages the supply chain and logistics at district, facility and community levels. The regional steering committee is made up of regional and district leaders/health program officials from MoHSS, different stakeholders from different line ministries, non-governmental and civil society organisations operating within the region, and private sector representatives.

The PHC supervisors at district level coordinate selection and selection criteria for CHWs. Conduct sensitisation meetings with health facility, community leaders and stakeholders and coordinate CHWs activities with outreach services. They are responsible for on-the-job training of CHWs at the outreach level. They assign supervisors for CHWs to receive frequent, supportive supervision and technical advice (MoHSS, 2014 a).

6.4. THE PROCESS OF STRATEGY DEVELOPMENT [METHODOLOGY]

With the developed strategies, the researcher aims to address challenges that hamper the successful implementation of the SOPG and National Strategy for Community-Based Health Extension Programme in Namibia (MoHSS, 2014 b).

Major challenges identified during data analysis that contributed to the development of strategies are: inadequate and infrequent facilitation of CHWs services, insufficient supportive supervision for CHWs, poor management of CHWP at facility and clinic levels, ineffective communication among implementers, lack of prior training of registered nurses to implement SOPG, insufficient feedback and in-service training for CHWs.

Inadequate and infrequent facilitation of CHWs services and poor management of CHWP facility and clinic levels are interrelated concepts, which are dealt with in strategy 4.

6.4.1. **Steps used to develop strategies**

In the development of the strategies for this study, the researcher employed the five interrelated tasks of strategy formulation by Thompson and Strickland (2010). The following figure demonstrates the five steps followed in developing the strategies.

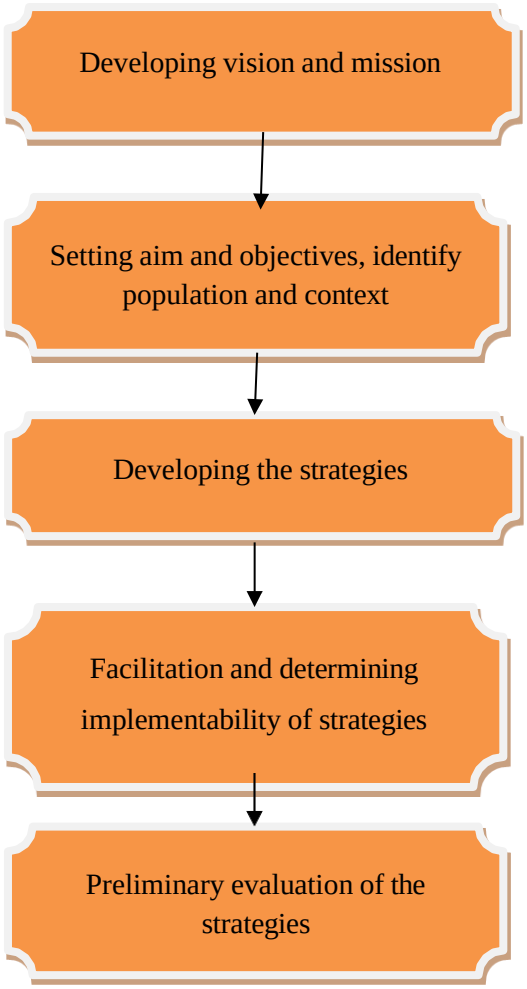


Figure 6.1: Steps to strategy development

Figure 6.2: Steps to strategy development

Adapted from Thompson & Strickland (2010)

6.4.1.1. Statement on the vision and mission

Vision

A vision identifies where an organisation, in this context MoHSS, intends to be in the futur**e.** This is to meet the needs of its stakeholders, which are the CHWs and communities. In this study, the researcher's vision is to ensure that the CHWP functions optimally and satisfactorily. The vision would also want to see a healthy and productive community that actively participates in promoting their own health.

An enabling work environment that is conducive to high levels of productivity and functionality can achieve the latter. Capacity and motivation to perform the tasks are essential determinants (Prachi, 2015).

Mission

Mission is the statement of the role by which an organisation intends to serve its stakeholders. In this study, the mission describes why CHWP is operating and thus gives a framework within which strategies to facilitate services provided by CHWs are formulated (Prachi, 2015). This will assist CHWP implementers to offer quality services to community members.

Aim and objectives

The aim of this study was to develop strategies for registered nurses to facilitate services rendered by CHWs in Hardap, Kavango East and Khomas regions. This was accomplished by conducting a two-day implementation session in the Khomas region based on the data collected during Phase 1 (situational analysis) of the study.

Objectives

The intention for strategies is to:

- Guide registered nurses to give adequate and frequent supportive supervision to CHWs.
- Enable all CHWP implementers to communicate effectively. Ensure timely feedback and in-service training for CHWs
- Provide training to facilitators to implement SOPG

Target population

All implementers of the CHWP, specifically registered nurses, enrolled nurses and CHWs are the recipients of this study. Facilitators of CHWs, who are the frontline workers, need knowledge and skills to improve their competencies to provide community health services as needed.

Beneficence

The researcher, as the agent, adhered to the principles of beneficence by honouring the safety of all respondents throughout the study. The responsibility of the researcher was to always follow ethical conduct.

Context of the strategies

Health centres provide promotive, preventative and rehabilitative services to communities. It also compiles annual plans, budgets and refers clients to the next level of health care for further required management of their health conditions.

Clinics provide frequent supportive supervisory services to CHWs. In this study, the researcher specifically refers to the Hardap, Kavango East and Khomas regions. Clinics identify training needs and conduct in-service training as needed by both health professionals and CHWs. In this study, the context was the community health care services where CHWs are attached and facilitated.

Facilitation and implementation of the strategies

The facilitator (agent) of the developed strategies is the researcher with assistance from the study supervisors. The researcher played an essential role in strategy development, discussions with experts and in determining of implementability in the Khomas region.

6.4.1.2. Developing the strategies

The strategies proposed below are not mutually exclusive to one another. One strategy can be used to mitigate one or more of the factors considered as challenges to implement the CHWP.

It is also important to note that in order to address a challenge, one or more strategies could be applied.

Strategy 1: Adequate, frequent and supportive supervision (facilitation) of CHWs services

Rationale

WHO (2016) describe supportive supervision as the process of assisting staff members to improve their performance without ceasing. This must be in a respectful and non-authoritarian manner with a focus on using supervisory visits as an opportunity to improve knowledge and skills of staff. This type of supervision is done by assisting staff to make things work, rather than checking to see the wrong in activities.

Among all strategies, the importance of moving towards more supportive supervision at the policy and management level cannot be stressed enough. PHC supervisors are tasked with the role and responsibility of assigning facilitators to CHWs through health facilities.

The main purpose of constructive feedback is to provide information that improves and creates better results. It benefits the receiver because it provides encouragement, support, corrective measures, and proper direction (Haq & Hafeez, 2012).

The researcher discusses specific activities to enhance adequate and frequent supportive supervision hereunder.

Facilitators (registered nurses) at health facility level have the role and responsibility to coordinate the delivery of health services in the catchment area with CHWs. Facilitators are responsible for on-the-job mentoring and coaching of immediate supervisors and CHWs. Facilitators can undertake supportive supervisory visits together with the immediate supervisor (enrolled nurse) at least twice per annum.

Operationalisation

Deployment of enrolled nurses who have at least five years of experience as immediate supervisors of CHWs to report to the main facilitator would ease the burden of registered nurses in charge of health facilities significantly. This approach intends to provide fulltime on-site

supervisors whose responsibility is to conduct on-the-job technical support, mentoring and coaching to the CHWs in the communities, as well as monthly meetings with CHWs at the health facilities where they are attached, receive referrals from CHWs and give appropriate feedback. The immediate supervisors may have a maximum of 20 CHWs under her supervision. This is the level where the immediate supervisor can identify supplies and logistics for CHWP and channel the requests.

It is the duty of the supervisor to compile and discuss CHWP reports with health facility management. They should train, mentor, monitor CHWs, and provide links with health system and the community. The immediate supervisor, however, should not have additional demands of facility duties (MoHSS, 2014 a). These immediate supervisors and lead CHWs should be able to perform frequent and supportive supervision visits every month. The visits will include reviewing reports and monitoring of data collection. Application of data for problem solving and coaching purposes is necessary.

Immediate supervisors will be able to visit communities and plan VHC meetings together with CHWs and community leaders, thus involving communities. Do home visits with CHWs and provide skills training. The immediate supervisor (enrolled nurses) will have time to plan appraisals at least once a year and include individual performance and evaluation of coverage or monitoring data. Communities may provide constructive feedback on CHWs attendance and performance.

Constructive and frequent feedback refers to the method of one person providing specific information to another person in order to help him/her to learn. This motivates the receiver to take action (Haq & Hafeez, 2012). Main and immediate supervisors can apply the following supervision strategies to their own convenience:

Standards for CHWs supervision

This is a supportive, facilitative supervision process of guiding, monitoring and coaching CHWs. Placing several CHWs at health facilities on a rotation basis can promote compliance with practice standards. The process allows facilitators and CHWs to work together and achieve goals and objectives together (WHO, 2011). The supervisor can sign for proficiencies in procedures like taking temperature, pulse, blood pressure, baby weighing, adult weighing, history taking, record keeping and report writing during this placement.

Innovative approaches by enrolled nurse supervisors to CHWs

This approach is time- and resource-efficient because it allows supervisors to cover a larger area with more CHWs at a low cost. The assigned enrolled nurse monitors the CHWs at facility level as well as at community level.

Peer supervision

The appointment of lead CHWs to supervise fellow CHWs allows frequency of support. These peer supervisors will ensure that other CHWs submit their monthly reports on time and that reports are complete and accurate. This approach is potentially advantageous as peer CHWs support, as they can solve problems together and learn new skills from each other. Peer supervision can be effective when it is based on mutual trust and respect and when supervision focuses on providing peer support of sharing/enhancing knowledge and skills.

Community supervision

The basis for community supervision is that the community can hold CHWs accountable if they have relevant information about the delivery of service and client rights.

The approach can only be successful when community members are involved in the activities of CHWs. Thus, awareness creation and behavioural change is necessary to enable communities to take actions that will enhance their health status. Increasing demand for CHWs services is achievable by developing tailored communication mechanisms to create behavioural change among people (Mangham-Jefferies et al., 2014). In this approach, the community plays a role in stating their expectations from CHWs and monitoring their activities through monthly or quarterly meetings. The approach might, however, be challenged by lack of resources, measuring impact and community-based training (Zulliger, 2017; WHO, 2011; Mangham-Jefferies et al., 2014).

Periodic self-assessment

With this approach, the CHWs may identify their own strengths and weaknesses in different areas by means of checklists or knowledge tests and discuss this with the supervisor on a

monthly or quarterly basis. There is, however, the risk of CHWs inaccurately and dishonestly filling in their self-assessment forms.

Strategy 2: Effective communication among implementers and communities

Rationale

Appropriate knowledge and interpersonal communication expertise, in addition to basic clinical skills, supplies and supervision, is a key to the work of CHWs. The CHWs can empower the community to identify its health needs and can assist in planning a strategy to achieve the desired results.

To accomplish this successfully, CHWs should be culturally sensitive, with an ability to build strong community rapport. It is important for the CHWP implementers to ensure that the activities and roles of CHWs are conveyed in such a way that communities understand it accurately. Community encouragement, motivation, feedback and support are very crucial factors in productive health care provision.

Operationalisation

CHWs are the first level of health care workers and encounter a wide range of individual challenges such as alcoholism and substance abuse, partner and child abuse or neglect, disease incidents and many others. It is thus of utmost importance that this cadre receive in-service training sessions, on practising empathy and respect during client communication as these concepts build good interpersonal relationships between them and community members. Communication skills training need to include:

Language

All communication with community members should be done in a language that they understand best. Mother tongue conversations are crucial. In community involvement, clients should be comfortable to express themselves. The CHWs need training in skills that would enable them to communicate with clients and colleagues as well.

Patience

CHWs need skills in practising patience whenever dealing with community members as they need time to rethink responses to questions asked by CHWs. This might also be true when attending to the elderly and children. An understanding of the ageing process with challenges in hearing, speech and articulation of the elderly will be an advantage during communication. Moreover, children do not always understand how to relate/narrate events. This will need empowerment of CHWs to be able to communicate to this vulnerable age group.

Flexibility

For CHWs to render needed health services, they must have some general idea on what they want to achieve. CHWs must be able to adopt tasks to deliver accessible services to people with one or other restriction. The CHWs can accomplish flexibility by giving chance to those who need time to express themselves rather than rushing them through. By being, flexible, CHWs can achieve good working relationships with community members.

Listening skills

CHWs have the responsibility of providing preventative services to their clients through the provision of health information. They are also responsible for listening attentively to the clients' views, opinions, suggestions, and contributions towards their own health. It is only through listening properly and attentively that CHWs can assist and refer clients according to their needs. Communication among supervisors and CHWs will be stronger when attempting to understand each other's opinions, views and needs. Positive communication of supervisors towards CHWs will boost their confidence and motivation to thrive.

Channels of communication

It is important that all employees know the channels of communication within the health structures and levels. These include the PHC supervisor, health facility supervisors (facilitators), immediate supervisors (enrolled nurses) as well as the CHWs and communities. There is a need for a channel of communication through which communities may air their views and complaints about CHWs' performance. This is also helpful to communicate essential health messages and needed community versus CHWs actions. CHWs need to understand the

importance of going through the community gatekeepers (village headmen, chiefs and councillors) when communicating information, which may require major changes within the community members' lives. Community members usually accept information better when communicated through their leaders.

PHC supervisors have a role to play in communication channel development for the CHWP. It is their responsibility to organise forums for experience-sharing among districts and health facilities. The communication from different health service levels should strengthen reporting systems and build communication capacity of health facilities and CHWs (MoHSS, 2014 a).

Refresher training sessions that include role-plays on common difficult scenarios is a way to improve communication skills of CHWs. Appropriate information and skills to deal with people who have strong negative feelings. The provision of IEC material that CHWs can carry to households and use when talking about specific challenges will be of particular importance and assistance in CHWs versus community communication.

Strategy 3: Training of registered nurses (Facilitators) and immediate supervisors to implement CHWP (Recipients at first and second level)

Rationale

The ultimate role of the facilitator of CHWs is to plan, manage, and guide the CHWP to meet desired objectives effectively with clear thinking, active participation, and support from all involved. The major tasks of the facilitator are to ensure CHWP functionality, i.e., the ability of the programme to meet its intended purpose (Hailu & Abajobir, 2014*).* Insufficient training and preparation of facilitators and immediate supervisors of CHWs may be an obstacle, as found during data analysis of the qualitative design. Health professionals assigned to facilitate and supervise CHWs need prior training in client/patient diagnosis, community nursing science with attendance in early childhood development, Tuberculosis, Prevention from Mother to Child Transmission, Integrated Management of Neonatal and Childhood Illnesses and immunisation programmes. Immediate supervisors need to undergo training on monitoring, supervision and communication as well as on all the content covered in CHWs' initial training. It is of utmost importance that all facilitators are well acquainted with the National Strategies for the Community Health Worker Programme and SOPG (MoHSS, 2014 a).

Operationalisation

With the regular rotation and attrition of supervisors, frequent in-service training of new supervisors needs to be a regular practice. The training could also benefit best performing CHWs who have sufficient equipment and supplies, according to their responsibilities and competencies monthly. Furthermore, hands-on training and experience sharing among supervisors, lead CHWs and other colleagues are helpful tools for in-service training.

During in-service training sessions, the supervisor must ensure that CHWs are able to perform activities that reduce maternal, newborn, and under-five mortalities. An interactive and problem-solving approach is necessary when conducting in-service training on a biannual basis. Problems encountered during the supervision activities can be discussed, and supervisors kept abreast of health innovations and management matters (Avortri & Nabukalu, 2018; WHO, 2011). Facilitators as well as supervisors of CHWs are expected to be conversant with the following elements of the CHWP:

Maternal, newborn, child health and nutrition

Information on family planning, danger signs of pregnancy, delivery and post-natal care. Promotion of health and prevention of the spread of malaria, early malaria testing and treatment seeking behaviour in the community. Assessment of children under five with pneumonia infection, and referral of children with severe sickness to the health facility. Providing information on PMTCT and adherence counselling, promotion of breastfeeding and complementary feeding practices, nutrition assessment, counselling and support of children and mothers and HIV.

Disease prevention and control

The facilitator and immediate supervisor (enrolled nurse) need to ensure that CHWs are proficient while giving families education. Education will include identification of signs and symptoms of malaria infection, danger signs of malaria, how to trace PMTCT interrupters or defaulters, screening vulnerable individuals for TB and PMTCT, home-based HIV counselling, and report patients with notifiable diseases or communicable diseases within the catchment area.

Hygiene and sanitation

The facilitator and supervisor must ensure that CHWs show proficiency about health education on safe excreta, liquid and solid disposal, safe water handling, effective hand washing practices and safe food handling. Adequate knowledge is required to enable CHWs and their supervisors to explain the link between poor sanitation and hygiene and communicable diseases such as diarrhoea, respiratory infections, intestinal worms and others, in order to discourage open defecation and ensure the proper disposal of human waste.

Social welfare services

CHWs play a vital and unique role in linking needy individuals and families to social welfare systems. Social welfare systems are programmes created to assist and care for specific needs of the people. CHWs are tasked to provide information to the community on different programmes they can refer eligible people. Eligible people may include the elderly, blind, physically impaired and needy families with children.

First and foremost, facilitators should link up social workers and CHWs. This will build a relationship that eases teamwork and referrals. It is important for the facilitator and supervisor to ensure that CHWs can identify and refer people with social problems and disabilities, educate families and communities on the dangers of alcoholism and substance abuse, child welfare, educate families and communities on women and child abuse.

Planning, information management, referral and coordination

With the wide scope of health problems covered, an efficient information system is essential. Household data collected needs to flow from the CHWs to their immediate supervisors (enrolled nurses). The latter will then pass it on to the main facilitator at the health facility before it is sent to the district, regional and ultimately to the national level for compilation and analysis. Reports are compiled monthly, quarterly and annual (Zulliger, 2017; WHO, 2011). The supervisor should show the CHWs how to plan and manage their daily activities, discuss achievements and monthly reports, and show how to refer identified challenges to relevant institutions. Table 6.1 outlines supervisory activities that immediate supervisors can use (Tseng et al., 2019).

Effective usage of the community's data at the community level is essential for planning and evaluating the progress of health status. The CHW through the leadership of the community leader and guidance from the supervisor can convince the community to change behaviour and improve the health status with the help of the community's health data.

Table 6.1: Outline of supervision activities for immediate supervisor

ACTIVITY	RATIONALE
Supervise home visits	Provide opportunity to strengthen CHWs' knowledge and skills Demonstrates a strong backup for CHWs in the community
Formal and on-the-job training	Impart knowledge and skills
Regular debriefing and feedback	Track performance, build teamwork spirit
Examine daily logs and registers	Ensure accurate documentation and reporting
Direct CHWs to tasks like tracing of defaulters	Ensure that health professionals see the benefits of having CHWs as members of the health delivery team
Invite health professionals at facilities to work with and train CHWs	Improve working relations between health professionals and CHWs This also allows CHWs to benefit from health professionals' expertise
Assist CHWs with data collating and reporting	Ensure CHWs' activities are accurately reported Health managers will also see benefits of the CHWP
Administration and logistics	Resolve administrative issues Ensure a conducive working environment for CHWs

Strategy 4: Effective management of CHWP at facility and clinic levels (Context)

Rationale

This strategy refers to planning, monitoring, evaluation and partnership in the implementation of the CHWP. CHWs' productivity is determined, to a large extent, by conditions under which they work. Provision of an enabling environment for CHWs is essential for achieving high levels of productivity. Some essential elements that facilitators must ensure in their management duties to CHWs are provision of supplies and equipment, respect from the community and health system, workload minimisation and supportive supervision. Establishing a balance in the mentioned four elements that constitute CHWs' work environment will assist

them to make great strides in improving effectiveness and quality of service (Jaskiewicz & Tulenko, 2012).

Logistic support to CHWs is one of the most important factors in the provision of preventive, promotive and rehabilitative services. The researcher realised during FGDs that CHWs at times work without the required resources, including equipment (thermometers, blood pressure machines), stationary, uniforms, identification badges or funds for communication. This lack of resources compromised CHWs' work and caused resentment.

Provision of space for meetings, storage of files and paperwork for CHWs while at the health facility can also be a hampering block.

Operationalisation

The main facilitator needs to develop immediate supervisors' competence, helping them to improve their own skills related to effective supervision, communication and psychological support that direct CHWs to additional resources. Facilitators should conduct spot checks whenever deemed necessary. Communication between facilitator and supervisor should take place on a quarterly basis, where needs are identified and addressed.

Furthermore, facilitators (registered nurses) have the task to manage supply chain and logistics. The facilitator must be able to ensure resources (kits) that CHWs would use to provide effective and efficient services to communities. Management of human recourses like annual leave, maternity leave, compassionate leave, double employment, and absenteeism for CHWs are of utmost importance and a key responsibility. Table 6.2 depicts strategies that facilitators and supervisors can employ for effective CHWP management.

Table 6.2: Strategies for effective management of CHWP

ACTIVIIES	RATIONALE
Strengthen attachment of CHWs to PHC clinics	This ensures physical and operational integration into the health system
Team up senior and junior supervisors	Build relations, guide CHWs to navigate through the community and health system. Know-how is passed down to junior supervisors
Setting guidelines on how much time supervisors must spend in assisting CHWs and administrative duties	This helps to acknowledge that the engagement of supervisors is a two-way collaboration process. The process can be of benefit to all implementers
Strengthen human resource management practices	Supervisors will build trust, improve dialogue in the workplace, problem solving, and supportive supervision and culturally appropriate communication.

Strategy 5: Sufficient feedback and in-service training for CHWs (Lower-level recipient)

Rationale

Feedback refers to the method the supervisor uses to give specific information about the provision of services to the CHWs to help them to learn. It also motivates the CHWs to take needed action. The main purpose of feedback is to provide information that will improve and create better results. It benefits the receiver because it provides encouragement, support, corrective measures, and proper direction.

The researcher found that regular feedback and in-service training for CHWs are lacking in all regions under study. Supervisors need to give feedback on the performance of CHWs to enable them to learn through their mistakes or successes.

MoHSS has also identified roles and responsibilities for CHWs to educate families and community members on improving household health practices. It is expected from CHWs to conduct home visits for family support. Furthermore, continuing or refresher training is as important as initial training. If regular refresher training is not available, acquired skills and

knowledge are lost. Looking at the diversity of interventions CHWs deliver in the communities, they should be provided with hands-on-training.

Operationalisation

Assignment of CHWs to outreach teams on a rotational basis twice per year or more often, as it suits the district and health facility, for them to learn from expert health professionals. Outreach teams are in-charge of specific geographic areas and households. Problem-solving exercises, skills training and teamwork might be a planned benefit to CHWs. The CHWs will also enjoy and appreciate the advantage of immediate and frequent feedback.

Trained facilitators from district offices as well as assigned supervisors (enrolled nurses) may perform ongoing refresher training. Additional training in areas such as nutrition, malaria, diarrhoeal diseases, family planning, chronic diseases, oral hygiene and HIV/AIDS is necessary (O'Donovan et al., 2017). Problem-solving exercises are beneficial during refresher training. The lead CHWs ensures that the CHWs under his/her supervision are visiting their households at least once per month, where they conduct health promotion and ensure that clients take prescribed medication correctly and monitor the clients' health. The leader CHWs helps the clinical team to answer questions on households' health status. The leader CHWs makes unannounced visits.

CHWs need training on how to document their visits consistently. Group monitoring visits to facilities must be compulsory for all CHWs. During these visits, supervisors need to be compelled to monitor quality of the report documents, sharing of experiences, and assistance when necessary. The above-mentioned approach may accommodate frequent feedback. Table 6.3 indicates some fundamental services for age-specific groups that CHWs must perform proficiently.

Table 6.3: Services of CHWs to age-specific groups

AGE-SPECIFIC GROUPS	SERVICE PROVISION AND PROFICIENCIES
Birth to five years	Information about immunisation, breast feeding, hygiene Growth monitoring and nutrition, assessment, counselling and support Assessment and referral of sick children
Adolescence (10-19 years)	Provide adolescent-friendly services when giving information about personal hygiene and dealing with physical and psychological changes of adolescence Information in dealing with peer pressure, referrals to social workers Information about sexual behaviour, sexually transmitted diseases, sexual harassment, use of contraceptives and unintended pregnancies Advantages of education and skills training
Adults (20-59 years)	Promotion of family wellness Prevention of diseases such sexually transmitted illnesses, human immunodeficiency virus/acquired immunodeficiency syndrome, malaria, information on early diagnosis and treatment, pre-and post-test counselling Adherence counselling Tracing of lost to follow up clients Information and referral to different client services e.g. social work, occupational health, women and child protection Rehabilitative services Antenatal, delivery and post-partum services and family planning
Elderly (60 years and above)	Family education on elderly care Connection of elderly to available welfare services e.g., old age grants, feeding programmes
Clients in need of specialised care	Connection with specialised services (physical disabilities, mental illnesses, OVCs)
Other services	Treatment of minor injuries Identification of community structures and groups to give encouragement, peer-to-peer health promotion Community and family mobilisation to outreach services Establish and strengthen village health committees

6.5. CONSULTATION WITH EXPERTS

The researcher arranged individual appointments with experts for briefing on the nature of the study. The purpose of briefing was to subject the developed strategies to the scrutiny of experts and for them to identify shortcomings in the strategies. In addition, it was expected of the experts to complement the developed strategies with inputs from their own perspectives. The researcher explained the objectives, methodology and findings after which experts agreed to review, give inputs and comments on developed strategies.

All communication was done through email conversations. This was necessitated by the strict Covid-19 protocols at the time. Inputs and comments were received back via the same online route. The original emailed inputs appear as appendix 15. Experts included the national level CHWP supervisor and the family health supervisor in the Khomas region. The researcher also approached UNICEF as an international body for its expertise. This process is crucial for substantiation of the developed strategies.

Moreover, the researcher is an expert trainer and lecturer in the field of community health work and has been instrumental in the development of CHWs curriculum together with international experts from Ethiopia and the United States. The researcher also undertook an observational tour to the Tigray region in Ethiopia where she worked closely with Health Extension Workers. Table 6.4 shows inputs and comments from experts that the researcher incorporated into the strategies.

Table 6.4: Inputs and comments from experts

EXPERT	INPUTS AND COMMENTS
National supervisor	**Good strategies. Please consider adding the following:** 1. National steering committee to develop policies, guidelines, strategies and SOPG manuals required for the effective implementation of the CHWP nationally. 2. Conduct on-the-job technical support, mentoring and coaching to the CHWs in the communities, as well as monthly meetings with CHWs at the health facilities where they are attached. 3. Make CHWs understand the importance of going through the community gatekeepers (village headmen, chiefs and councillors) when communicating information that may require major changes within the community members' lives. Community members usually accept information better when communicated by through their leaders. 4. Provide adequate knowledge to enable CHWs and their supervisors to explain the linkage between poor sanitation and hygiene and communicable diseases such as diarrhoea, respiratory infections, intestinal worms and others, in order to discourage open defecation and ensure the proper disposal of human waste. 5. Ensure effective use of the community's data at the community level is essential for planning and evaluating the progress of health status. CHWs, through the leadership of the community leader and guidance from the supervisor, can convince the community to change behaviour and improve their health status with the help of the community's health data. 6. Provide on-the-job technical support, mentoring and coaching to the CHWs in the communities, as well as monthly meetings with CHWs at the health facilities where they are attached.
UNICEF	Please, consider and incorporate the following: 1. District teams to strengthen regular visits to CHWs. 2. Strengthen existing platform where monthly meetings take place. 3. Strengthen existing reporting activities. 4. Consider the checklist for supportive supervision as developed by MoHSS, though not yet signed off and published.

6.6. SUMMARY

Chapter 6 presented the strategies that were developed to strengthen the CHWP implementation in Namibia. The development of strategies included supportive supervision of CHWs services, effective communication, training of registered nurses to implement CHWP, effective management of CHWP, feedback and in-service training for CHWs. Underlying policies and guidelines for implementation of CHWP and steps to be considered in strategy development were outlined. The developed strategies in this study represent the terminus of the study. The purpose is for these strategies to be implemented to address challenges that impact the CHWP environment. The researcher believes that it would be beneficial to strengthen the implementation of CHWP.

The next chapter determines implementability and preliminary evaluation of the study in Khomas region.

CHAPTER 7

DETERMINING IMPLEMENTABILITY AND PRELIMINARY EVALUATION

7.1. INTRODUCTION

In this chapter, phase 4, which is to determine the implementability of the developed strategies, is described first. Second, the chapter outlines preliminary evaluation of developed strategies, which is phase 5. Implementation is the process that turns strategies into actions to accomplish strategic objectives and goals (terminus).

To prevent failure in the implementation of developed strategies, the researcher found it necessary to focus on determining the ease with which the strategies could be implemented in a two-day workshop. This is done by describing and applying the Experiential Learning Theory (ELT) of Kolb & Kolb (2014) during discussions of developed strategies.

Feedback provided by attendees of the workshop assisted in making modifications where necessary. Determining implementability also helps to prevent discordant interpretations of developed strategies among implementers.

7.2. KOLB'S EXPERIENTIAL LEARNING THEORY

Experiential learning is a well-known model in education. Kolb's ELT (Kolb & Kolb, 2014) defines experiential learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience".

ELT provides a holistic model of the learning process and a multilinear model of adult development. Both elements are consistent with what we know about how people learn, grow, and develop. The theory is called "experiential learning" to emphasise the central role that experience plays in the learning process; an emphasis that distinguishes ELT from other learning theories (Kolb & Kolb, 2014). The philosophy of experiential learning focuses on experience as the most important tool for learning. The premise of experiential learning is that

individuals create knowledge through the transformation of their lived experiences into existing cognitive frameworks, thus causing individuals to change the way they think, perform tasks and behave (Kolb & Kolb, 2014).

The researcher's view is that the point of departure that facilitates learning in this study should be from direct experience by facilitators and supervisors through active participation in the learning process and by continuous evidence on what has been learnt during the workshop. Equally important is that CHWs learn from their attachment to facilities and outreach teams through transformation of experience.

Steps in the experiential learning cycle based on registered nurses, immediate supervisors and CHWs are shown in Chapter 1, Figure 1.1: Kolb's learning styles. These steps are discussed below.

7.2.1. **Concrete experiences of registered nurses who facilitate CHWs**

A concrete experience refers to a situation where facilitators, supervisors and CHWs are involved in a new experience. The facilitators who are having challenges with supervising the CHWs encounter concrete experiences of the situations in terms of CHWP implementation. Kolb and Kolb (2014) view learning as an integrated process, therefore, experiential learning values and honours the existing knowledge and competencies that attendees bring to a learning process.

The goal of experiential learning – or for learning to be truly experiential - is to involve something personally significant or meaningful to attendees. For learning to happen, attendees have to be personally engaged in their learning process.

Furthermore, facilitators who were having challenges with supervising the CHWs had a chance, through discussions, of developing strategies to share their concrete experiences of the facilitation process. The discussions of developed strategies enabled them to comprehend that those challenges can be overcome in the presence of strong support from the district office and beyond.

Conversely, discussions of developed strategies provided facilitators with an opportunity to reflect on and review their experiences while allowing them to connect with the rest of facilitators who were experiencing similar challenges.

7.2.2. Reflective observation for facilitators who have challenges with supervising the CHWs

Reflective observation involves either watching other people or developing observations about one's own experiences. In these discussions, facilitators who are having challenges with supervising the CHWs were sincerely involved in the learning process while reflecting on their own experiences. Of particular importance in reflective observation is to take cognisance of any inconsistencies between experience and understanding. Therefore, it was crucial that the researcher, as a facilitator of the discussions, be observant to see whether the new experiences were well written or understood by attendees.

In reflective observation, attendees get the opportunity to discuss their experiences, and this should continue throughout the learning process. Reflective observation is otherwise termed as the stage during which learners are watching and listening, reflecting issues from different points of view, and discovering meaning in the learning material.

In this study, the process of reflection caused the facilitators (registered nurses) who were having challenges with supervising the CHWs to describe their experiences of newfound knowledge as a tool that empowered them to relook the facilitation of services rendered by CHWs in terms of what they learnt from discussion of strategies.

7.2.3. Abstract conceptualisation

Abstract conceptualisation comprises the application of thought and logic to the learning situation as opposed to informing experience by feelings alone. That means that facilitators who were having challenges with supervising the CHWs were expected to reflect on their thinking or to review their thoughts with the purpose of putting them into logical patterns where those thoughts made sense to them and to other implementers of CHWP.

These registered nurses and CHWs with an accommodating learning style use 'hands-on' experience and rely on intuition rather than logic. They tend to rely on others for information

than carry out their own analysis. They rather prefer to work in teams to complete tasks ((McLeod, 2017).

However, facilitators were afforded the opportunity to express their views and suggest how developed strategies could be employed to provide useful changes.

7.2.4. **Active experimentation**

In active experimentation, facilitators (registered nurses), who are having challenges with facilitating services rendered by CHWs, were encouraged to test what they learnt through concrete experience and make necessary conclusions from their learning experience.

Active experimentation allowed facilitators who were having challenges with facilitating services rendered by CHWs to put into practice what they had learnt through the discussion of strategies. That empowered them to make individual judgment about the experiences and/or their effects in relation to the intended action. They had to work diligently and were actively involved in their plans in order to enhance their learning through their own experience.

7.3. PREPARATIONS

For this study, the researcher designed a two-day workshop for the discussion and to determine implementability of the developed strategies in the Khomas region. The researcher arranged with the I-Care Health Training Institute through the director's office for a venue and where refreshments would be served. Each attendee received a schedule with a list of activities to be covered. Attendees were encouraged to record the information, which they may have deemed worth noting during the discussions for future reference.

7.3.1. **Schedule of discussions**

The presentation of the strategies was divided into three main sessions to be covered during a two-day workshop. The attendees registered for the workshop by 08h30. Each session required at least 2-4 hours, starting from 09h00 to 11h00 for the first session, the second session from 11h30 to 13h30, and the last session for the day was from 14h30 until 16h00. The same pattern

was followed on the second day. The time schedule provided for attendees to have tea and lunch breaks. (see table 7.1).

7.3.2. **Presentation of the developed strategies**

The success of strategies in general is closely related to "how" the information is communicated and how the integration is facilitated. The challenge was to get the attendees involved in the learning experience that the workshop intended. The researcher, as the facilitator, adhered closely to the schedule to make sure that all items received due attention and that all activities were completed.

To realise the first objective, namely, to determine the implementability of the developed strategies, the facilitator, as the agent, ensured that the schedule was carried out within the frameworks of the experiential learning theory. The first session focused on the overview of the background of the study, SOPG, National Strategies for the Community Health Worker Programme and personal experience of the facilitator as the curriculum developer and trainer of trainers of the CHWP.

The second session focused on discussions of the developed strategies while the last session focused on the experiences of newfound information as a tool that empowered registered nurses to relook the facilitation of services rendered by CHWs in terms of what they learnt from the discussion of developed strategies. It was also expected from the registered nurses, as facilitators, to reflect on their thinking or to review their thoughts with the purpose of putting them into logical patterns where those thoughts made sense to them and to other implementers of CHWP. Table 7.1 shows the schedule that was designed for the two-day workshop.

Table 7.1: The schedule for the discussions and implementation of the developed strategies

DAY 1: 30 AUGUST, 2021		
TIME	**ACTIVIES**	
08h30-09h00	Registration, Welcoming and Devotion	
09h00-09h30	Opening of the workshop	
	Housekeeping and Participants' Introduction	
	Expectations/Ground rules	
	Volunteers energisers/Logistics	
	Aims/Purpose and Objectives of the Workshop	
	SESSIONS CONTENT	**ACTIVITIES**
09h30-11h00	**SESSION 1: OVERVIEW** Session 1.1 Discussions on Standard Operating Procedure Guidelines, National Strategies for the Community Health Worker Programme	**Activity1:** Brainstorming on definitions of SOPG and National Strategies, Strategies, CHWP
11h00-11h30	TEA BREAK	
11h30-13h30	Session 1.1 Continues Discussions on personal experiences of the facilitator as the curriculum developer and trainer of trainers of the CHWP.	PowerPoint presentation on experiences **Activity2:** Group discussions
13h30-14h30	LUNCH BREAK	
14h30-16h00	**SESSION 2: DISCUSSION OF STRATEGIES** 2.1 Strategy 1: Adequate, frequent and supportive supervision (facilitation) of CHWs services 2.2 Strategy 2: Effective communication among implementers and communities	PowerPoint presentation of developed strategies **Activity3:** Group discussions
DAY 2: 31 AUGUST, 2021		
09h00-09h30	Recap of day 1 **SESSION 2: Continues** 2.3 Strategy 3: Training of registered nurses (Facilitators) to implement CHWP	PowerPoint presentation of developed strategies **Activity4:** Group discussions
09h30-10h00	TEA BREAK	
10h00-11h30	**SESSION 2: Continues** 2.4 Strategy 4: Adequate management of CHWP at facility level	PowerPoint presentation of developed strategies **Activity5:** Group discussions

	2.5 Strategy 5: Sufficient feedback and in-service training for CHWs	
11h30-12h30	**SESSION 3: REFLEXION OF EXPERIENCES** Presentation of questionnaire for preliminary evaluation to attendees.	**Activity 6:** At the end of the workshop the researcher as facilitator (agent) requested attendants (recipients) to evaluate sessions by filling in a short questionnaire
12h30-13h30	LUNCH BREAK	
13h30-14h30	Conclusion	Recap of the discussions and way forward

7.3.3. **Material used during discussions**

The material used during the presentation of developed strategies stimulated the participation of attendees during the sessions. Standard Operating Procedure Guidelines and National Strategies for the Community Health Worker Programme were made available to attendees. A wall screen and marker pens were available for brainstorming while an LCD was used for PowerPoint presentations.

7.3.4. **The venue for discussions**

The context or the environment where the discussions took place was the I-Care Health Training Institute in the form of a two-day workshop. The intention was to discuss each developed strategy and evaluate its implementability before actual implementation at community level could commence with endorsement of MoHSS.

The venue for the workshop was a spacious room which allowed social distancing according to Covid-19 restrictions and regulations. An informal seating arrangement was adopted to put attendees at ease and to contribute to the smooth running of discussions. The informal seating arrangement created an environment conducive to open communication and a feeling of freedom to participate without fear and prejudice. For discussions and other activities, tables and chairs were arranged in a circle.

7.3.5. **Application of Kolb's experiential learning theory**

Concrete experience

Attendees gained new knowledge and values through discussions and presentations. For some of the attendees, it was their first time to be introduced to SOPG and National Strategies on CHWP. Active experimentation was used through feedback from group discussions. Attendees needed to listen to the PowerPoint presentations in order to gain concept abstraction.

Adult learning theory

For adult learners, learning can be defined as a relatively permanent change in behaviour or knowledge. It includes observable activity and internal processes such as thinking, attitudes and emotions. Attendees shared their views and experiences and made contributions about the topic presented. Some attendees asked for clarity about information that was presented. The adult learning approach was facilitated by allowing contributions to the topic presented by the attendees through individual or group feedback.

Reflective observation

Attendees were allowed to discuss their points of view in relation to what and how they facilitated CHWs in the past.

Active experimentation

In the way forward, preparations are made to implement the information and content that was gained though the workshop. By engaging CHWs in discussions and simulations and creating a learning environment for CHWs to learn.

7.4. PRELIMINARY EVALUATION

This second part of chapter 7 discusses the preliminary evaluation, which is phase 5 of the study. The preliminary evaluation could only be done in the Khomas region because of Covid-19 travel and movement restrictions. Attendees invited to the two-day workshop included seven

registered nurses who are facilitating the CHWP together with one family health care supervisor at district level and the regional PHC supervisor. Six facilitators could attend. Continuous Education staff at the NHTC had an option to attend and one staff member was present. The PHC supervisor apologised due to other commitments (Please see appendix 16).

Evaluation is the making of a judgement about the value of something. It can be described as the systematic assessment of the design, implementation or results of an initiative for the purpose of learning or decision-making (Poth et al., 2016).

The researcher presented the strategy development process by means of PowerPoint presentation. It included the background of the study, Standard Operating Procedure Guidelines and National Strategies for the Community Health Worker Programme, personal experiences of the facilitator as the curriculum developer and trainer of trainers of the CHWP, adequate, frequent and supportive supervision of CHWs services, effective communication among implementers and communities, training of registered nurses (Facilitators) to implement CHWP, effective management of CHWP at facility level, sufficient feedback and in-service training for CHWs.

After the presentation, attendees were given the opportunity to evaluate the developed strategies in accordance with the criteria as proposed by Chinn and Kramer (2011), namely: How clear are the strategies? Are the relationships between the attributes, experiences and consequences of the concepts easily understandable? How simple are the strategies? Is the structure of the strategies and its components easily understandable? How general are the strategies? What is the scope and purpose of the strategies? How accessible are the strategies? This refers to evidence of implementability of the developed strategies. How important are the strategies? The importance of the strategies relates to its purpose, which is the facilitation of services rendered through CHWs by registered nurses.

For the preliminary evaluation, data were collected by means of filling in an evaluation tool the researcher compiled and handed to the attendees to write down their individual responses. The researcher also anticipated that the data provided would contribute to decisions about developed strategies.

7.4.1. **Responses from attendees**

Most attendees 100% (n=8) pronounced the developed strategies as worthwhile and effective. Please see tables 7.2 to 7.6 for comments from attendees.

7.4.1.1. Strategy 1: Adequate, frequent and supportive supervision

Table 7.2: Adequate, frequent and supportive supervision

Evaluation Criteria	Comments from attendees
How clear is this strategy?	• *"Very clear as it is based on evidence-based observations and proposed solutions"* • *"Very clear and it may strengthen the supervision when it comes to reporting on real issues in the community"* • *"Quite clear by means of easy working. Supervision will encourage and improve CHWs services"* • *"Clear but lack of staff to allocate enrolled nurse as immediate supervisor"* • *"Clear strategy, I did not know that I could delegate someone to do immediate supervision"* • *" It is clear and in line with the reasons the strategies were developed"*
How simple is this strategy?	• *"It is simple because it will relieve the workload from the facilitator"* • *"Simple with proper training and supervision"* • *"Simple with no difficulty in existing system"* • *"Not as simple as it sounds especially when it comes to deployment of enrolled nurse to work with CHWs"* • *"The strategy is simple since it does not require funds to implement"* • *"It can be done after the responsible facility staff are trained"*
How general is this strategy?	• *"It is general in terms of benefiting receivers as well as consumers and health service providers"* • *"Very general and can be used in all regions"* • *"Action has to be taken"* • *"It includes both health workers to work together so that the system can talk the same language"* • *"Very general we need to work together, support each other and cooperate with one another"* • *"It is general because it does not only target one district but can be used with all CHWs"*
How accessible is this strategy?	• *"The strategy is accessible because it can be done by any health professional"* • *"Accessible if correct channels are used"* • *"The strategy will make the CHWP easy to implement"* • *"To implement this strategy is accessible"*
How important is this strategy?	• *"The strategy is important as it relieve the workload of facilitators, and also strengthen supervision and reporting of collected data/information"* • *"Important as it takes health services to the people"* • *"The strategy is very important for service provision"*

7.4.1.2. Strategy 2: Effective communication among implementers

Table 7.3: Effective communication among implementers

Evaluation Criteria	Comments from attendees
How clear is this strategy?	• *"Communication is key to success of the CHWP. The strategy is very clear, the strategy could guide recruitment processes as well"* • *"The strategy is very clear. If such training is conducted, the work will be much easier"* • *"Strategy is clear"* • *"Clear strategy that indicates CHWs communication with the community members as well"*
How simple is this strategy?	• *"Simple and indicates that communication channels should be followed"* • *"This strategy is simple and will prevent conflict between implementers of CHWP"*
How general is this strategy?	• *"The strategy is general since it is addressing poor communication which was observed in most regions"* • *"Effective communication should be part of initial training"*
How accessible is this strategy	• *"Very accessible unless there are lack of resources"* • *"It is accessible, the supervisors can be trained at the workplace without much funding"*
How important is this strategy?	• *"Important to take services to the people who are not able to reach the clinics"* • *The strategy is very important as effective communication improves quality service delivery. It puts clients at ease to share personal information"*

7.4.1.3. Strategy 3: Training of registered nurses and immediate supervisors to implement CHWP

Table 7.4: Training of RNs and immediate supervisors to implement CHWP

Evaluation Criteria	Comments from attendees
How clear is this strategy?	• *"Very clear and straight forward. Proposing for training of immediate supervisors and outline components of the training"*
How simple is this strategy?	• *"Simple and easy to implement"*
How general is this strategy?	• *"The observation that prompted this strategy is found in most regions"*
How accessible is this strategy	• *"Very accessible as training material, personnel and venue is readily available"*
How important is this strategy?	• *"The strategy will be useful"* • *"It is very useful in promoting CHWs activities because their supervisors will be knowledgeable"*

7.4.1.4. Strategy 4: Effective management of CHWP at facility and clinic levels

Table 7.5: Effective management of CHWP at facility and clinic levels

Evaluation Criteria	Comments from attendees
How clear is this strategy?	• *"Clear and aiming at proper management of CHWP. Outlining of who, where, when and what to be done at facility level"*
How simple is this strategy?	• *"This strategy is easy to implement as personnel to manage the CHWP are available"*
How general is this strategy?	• *"The strategy can be applied at any health facility where the CHWP is rolled out and is general"*
How accessible is this strategy?	• *"Partly accessible because the CHWs kits are not always refilled"* • *"Stock-outs make accessibility a problem at times"*
How important is this strategy?	• *"Very important because management of the programme will make it a success"*

7.4.1.5. Strategy 5: Sufficient feedback and in-service training for CHWs

Table 7.6: Sufficient feedback and in-service training for CHWs

Evaluation Criteria	Comments from attendees
How clear is this strategy?	• *"The strategy is well clarified with simple understandable terms"* • *"The strategy is clear and I find the CHWP easier to understand"*
How simple is this strategy?	• *"This strategy is brief, simple and easy to follow"* • *"It is understandable and the structure is clear"*
How general is this strategy?	• *"The strategy is specific for all facilitators"* • *"Well done on this part"* • *"The scope, application and purpose of the strategy are general in facilitating CHWs*
How accessible is this strategy?	• *"The strategy is accessible to implementers at different levels"* • *Very accessible as long as CHWs are well equipped and supported"*
How important is this strategy?	• *"Very important as it contributes a lot to the knowledge and experience of the CHWs"*

7.5. CONCLUDING REMARKS

The attendees of the presentation were all in agreement that the developed strategies were clear and easy to understand. They mentioned that the strategies were straightforward and simple. Attendees agreed that strategies could be applied in any region where the CHWP is implemented. The strategies were found to be very accessible and realistic. The attendees agreed that the developed strategies were important for the CHWP to be successful.

7.6. SUMMARY

This chapter provides an account of the determination of the implementability and preliminary evaluation of strategies developed for registered nurses to facilitate services rendered by CHWs. The implementability of the developed strategies and the preliminary evaluation at the end of discussions are outlined. The researcher based the evaluation on the implementability of each individual developed strategy. The results of the preliminary evaluation indicate that the attendees found the developed strategies meaningful and were encouraged by the knowledge they had acquired to continue with the implementation process. The next chapter deals with the conclusions, contributions, limitations and recommendations of this study.

CHAPTER 8

CONCLUSIONS, CONTRIBUTIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

8.1. INTRODUCTION

In the previous chapter, the researcher discussed the implementation and preliminary evaluation of the strategies that were developed. Responses of preliminary evaluation of attendees from the Khomas region were also elicited.

The rationale of this final chapter of the study is to give the researcher an opportunity to point out whether the purpose and the objectives were attained. It is also to evaluate the study in terms of its positive contributions to the body of scientific knowledge on the facilitation of the services rendered by CHWs.

The researcher makes recommendations and conclusions and indicates the limitations of the study to ensure the application of the developed strategies and improve the quality of health care services rendered by CHWs. The researcher discusses further research and makes a final concluding remark on the study.

8.1.1. Recommendations to the Ministry of Health and Social Services

Deployment of experienced and dedicated enrolled nurse

The researcher recommends that MoHSS design a supervision structure and deploy a knowledgeable enrolled nurse to provide frequent, supportive supervision to CHWs. This person can undergo training in supervision techniques and data management. The approach would ensure that CHWs receive quality feedback that would improve their performance significantly. The nurse would be able to provide curative services that include maternal, newborn and child health care to that community. Shifting of some health facility workload to CHWP level through this process is possible.

Compulsory attachment to outreach teams

The researcher recommends that a group of CHWs accompany outreach teams at least twice a year. This approach would be time- and resource-efficient because it would allow direct supportive supervision. Supervisors can also give immediate and constructive feedback. The approach allows in-service training to take place and covers region- and district-specific health needs. A larger team of health professionals can monitor and mentor CHWs at this level and give an opportunity for decision-making practices. The efficiency of CHWs would increase and their acceptability and motivation boosted.

Strengthen advocacy

The researcher has observed that advocacy about the CHWP is not taking place as desired in the regions of study. MoHSS has an important role to play in promoting community empowerment and participation. It is crucial to create awareness, transfer knowledge and skills to communities and to ensure their participation and engagement in the planning, implementation, monitoring and evaluation of health service activities (Vareilles, Pommier & Marshal, 2017).

CHWs and communities in these regions need to strengthen and advance the CHWP to respond to their health needs and to changing population dynamics. MoHSS must mobilise other sectors like education, police, sanitation, gender and child welfare as well as social protection. The creation of opportunities for CHWs to work with other sectors like social welfare and sanitation will enhance skills building about cross-sectional references of clients.

8.2. CONCLUSIONS

The researcher is certain that she has attained the purpose of this study because this study was conducted within a theory generative research and a mixed methods design of quantitative and qualitative approaches and triangulation thereof. This study employed a mixed methods design. Both quantitative and qualitative data were integrated to establish a complete and comprehensive picture of the CHWP. In this study, the researcher drew conclusions from the objectives of the five phases of the study.

Phase 1:

Objective 1: Conduct a situational analysis **Sub objective 1:** Determine the level of facilitation of services rendered through CHWs by registered nurses. **Sub objective 2:** Explore the views of PHC supervisors on facilitation of services rendered through CHWs by registered nurses. **Sub objective 3:** Explore and describe the perception of CHWs on facilitation of their services. **Sub objective 4:** Explore and describe the views of registered nurses (supervisors) on their roles towards facilitation of services rendered by community health workers.

Conclusion

The researcher used the quantitative method to quantify the level of facilitation of services rendered by registered nurses through CHWs. On the other hand, the researcher applied the qualitative method to determine in-depth responses in relation to the different views. The ultimate purpose was to develop strategies for strengthening the implementation of the CHWP in Namibia. Collection of quantitative data for the questionnaire and the qualitative data for the FGDs and in-depth interviews took place in the Hardap, Kavango East and Khomas regions. The researcher did sampling to select 138 CHWs for the quantitative part, purposive sampling was necessary for in-depth interviews with PHC supervisors since they were only three. The researcher selected 64 CHWs for the FGDs, and 50% of the registered nurses facilitating CHWs, who were on duty during data collection.

Data collection for the qualitative component continued until data saturation. Descriptive statistics were used to analyse the quantitative data. The qualitative data were analysed thematically. The validity, reliability and trustworthiness of the study were also ensured. Validity was ensured mainly with data collection tools that were validated through literature review. The researcher conducted a pilot study of the tool and avoiding data collection from excluded individuals ensured the reliability of the tool. The researcher further ensured trustworthiness by explaining the objectives of the research to motivate respondents to give genuine responses and by reporting every step of the research process.

Phase 2:

Objective 2: Development of a conceptual framework.

Conclusion

To develop the conceptual framework of the study, the researcher conceptualised the elements on which the strategies for strengthening the implementation of CHWP is based. The elements of practice-oriented theory of Dickoff et al. (as cited in Chinn & Kramer, 2015), namely agent, recipient, context, dynamics, procedure and terminus, were used to guide the conceptualisation process. The conceptualisation process is discussed in Chapter 5 of this study.

Phase 3:

Objective 3: Development of the strategies

Conclusion

During this phase, strategies were developed using the results from phases 1 and 2. This objective was achieved by the development of strategies to strengthen the implementation of CHWP based on SOPG (MoHSS, 2014) and literature. The performance of registered nurses, as main facilitators, was looked at while the immediate supervisory function was added and to be assigned to enrolled nurses with five or more years of experience. The researcher is also convinced that by involving the main facilitators in the strategy discussion process, a sense of ownership of the CHWP was increased. This process will make implementation, monitoring and evaluation of the programme a success.

Phases 4 & 5:

Objectives 4 & 5: Determining implementability and preliminary evaluation

Conclusion

During these phases, the researcher determined whether the developed strategies were implementable thus a preliminary evaluation was performed. According to what was recounted by attendees, the researcher is convinced that MoHSS can make good use of the strategies. Preliminary evaluation achieved what the researcher had intended to achieve as attendees narrated that it was their first encounter with SOPG and the National Strategy for Community-

Based Health Extension Programme. They also mentioned that the developed strategies would be implemented as they do not have any implication on policies but would rather enhance the entire CHWP.

8.3. UNIQUE CONTRIBUTION OF THE STUDY

This study is a unique contribution to community health services in Namibia. The strategies developed for strengthening the implementation of the CHWP in Namibia represent a unique outcome that ensures an important aspect in the existing body of knowledge. The study provides important insight into the implementation of developed strategies at district level. Moreover, its findings add to the general body of knowledge on lessons of training, supervision and motivation. The information available can be used to strengthen inter-professional collaboration and professional growth. It will assist with understanding interactions and processes of community health work. Therefore, the developed strategies will serve as knowledge resources to help the agent, dynamics and the recipient to understand the state of the CHWP.

When the developed strategies are well understood and internalised, implementers of the CHWP will be able to apply them appropriately to scientific approaches resulting in the improvement of health research and health research systems.

A conceptual framework was developed and can be used as a reference for further research in this field. The original concepts, as identified by Dickoff et al. (as cited in Chinn & Kramer, 2015), are the agent, recipient, context, dynamics, procedures and terminus. These concepts demonstrate that community health work is a multifaceted field, which is influenced by factors turning around several core concepts that need to be addressed to ensure a conducive environment for CHWs. The researcher anticipates that the implementation of these strategies will become effective and efficient through its utilisation. Table 8.1 summarises some important contributions.

Table 8.1: Important contributions

Strategy	Contribution
Supportive Supervision	With the immediate supervisor in place, the CHWP ensures that CHWs receive support, encouragement, direction and employ corrective measures. Problem-solving approaches are provided immediately and are time- and resource-effective.
Communication	A closer view on the need for effective communication is looked at. This knowledge resource can be incorporated into in-service training for CHWs as well as their supervisors. This was not included in the initial training and may also be used for future training. The importance of language, patience, flexibility, listening skills and channels of communication were indicated.
Training	The significance of training facilitators, supervisors and CHWs was reiterated. Supervisor's main activities and responsibilities impart the necessary knowledge and skills. The need for age-specific training was addressed by breaking activities into different actions.

8.4. LIMITATIONS OF THE STUDY

Limitations, as explained by Burns and Grove (2015), can be theoretical or operational aspects that may influence the generalisability of the study results. This study was limited in a few ways. The following limitations, which relate to determining implementability and preliminary evaluation, were experienced.

Covid-19 restrictions hampered the implementation of developed strategies in the three regions of study. Travelling was limited between regions and social gatherings were limited to only 10 individuals. This impacted availability of venues and catering for participants. Zoom connections of MoHSS were restricted to only five people and fully booked for two consecutive months. The limitation was addressed through presentation of the additionally developed strategies to national CHWP management and the technical staff of the Khomas region.

Determining implementability and preliminary evaluation, as discussed in Chapter 7, was only from Khomas region.

Availability of funds could be a limitation to expand research coverage to a broader study in Namibia. Dwindling funds might also hamper the implementation of the developed strategies in Hardap, Kavango East and Khomas regions and beyond. Implementation of strategies can only be executed after MoHSS approval and adoption.

8.5. RECOMMENDATIONS

Recommendations are suggestions based on the experiences of the researcher during situational analysis and existing gaps identified in the field. The researcher recommends that further implementation and evaluation be done as soon as restrictions have been lifted. As this study specifically speaks to CHWs' facilitation and supervision in the Hardap, Kavango East and Khomas regions, the following recommendations were made:

8.5.1. Recommendations for further research

Regarding further research, the researcher suggests that evaluation of the impact of the CHWP be done in these regions. The evaluation could be done on both external (long-term) basis for neutral findings and internal (short-term) basis for regional performance appraisal.

8.5.2. Recommendations for education

In light of the findings, the researcher recommends that MoHSS work in collaboration with developmental partners in the country in the designing of training programmes that would reinforce health facilitation skills and capacity-building, especially of registered and enrolled nurses who facilitate services rendered through CHWs.

At the same time, a training programme, which would introduce career paths for CHWs, will be an added advantage.

8.6. CONCLUDING REMARKS

This study determined the level of facilitation of services rendered through CHWs by registered nurses. It also explored the views of PHC supervisors on the facilitation of services rendered through CHWs by registered nurses. Perceptions of CHWs on the facilitation of their services are explored and described. The researcher explored and described the views of registered nurses on their roles in the facilitation of services provided by CHWs.

Based on the findings of this study, strategies were developed to assist registered nurses in facilitating services rendered by CHWs. The developed strategies were tested for implementability in the Khomas region and preliminary evaluation performed.

In this chapter, the researcher indicated whether the purpose and objectives have been achieved. Limitations of the study were identified, recommendations were made and the direction of future research were emphasised. Furthermore, the researcher shared experiences gained during this study.

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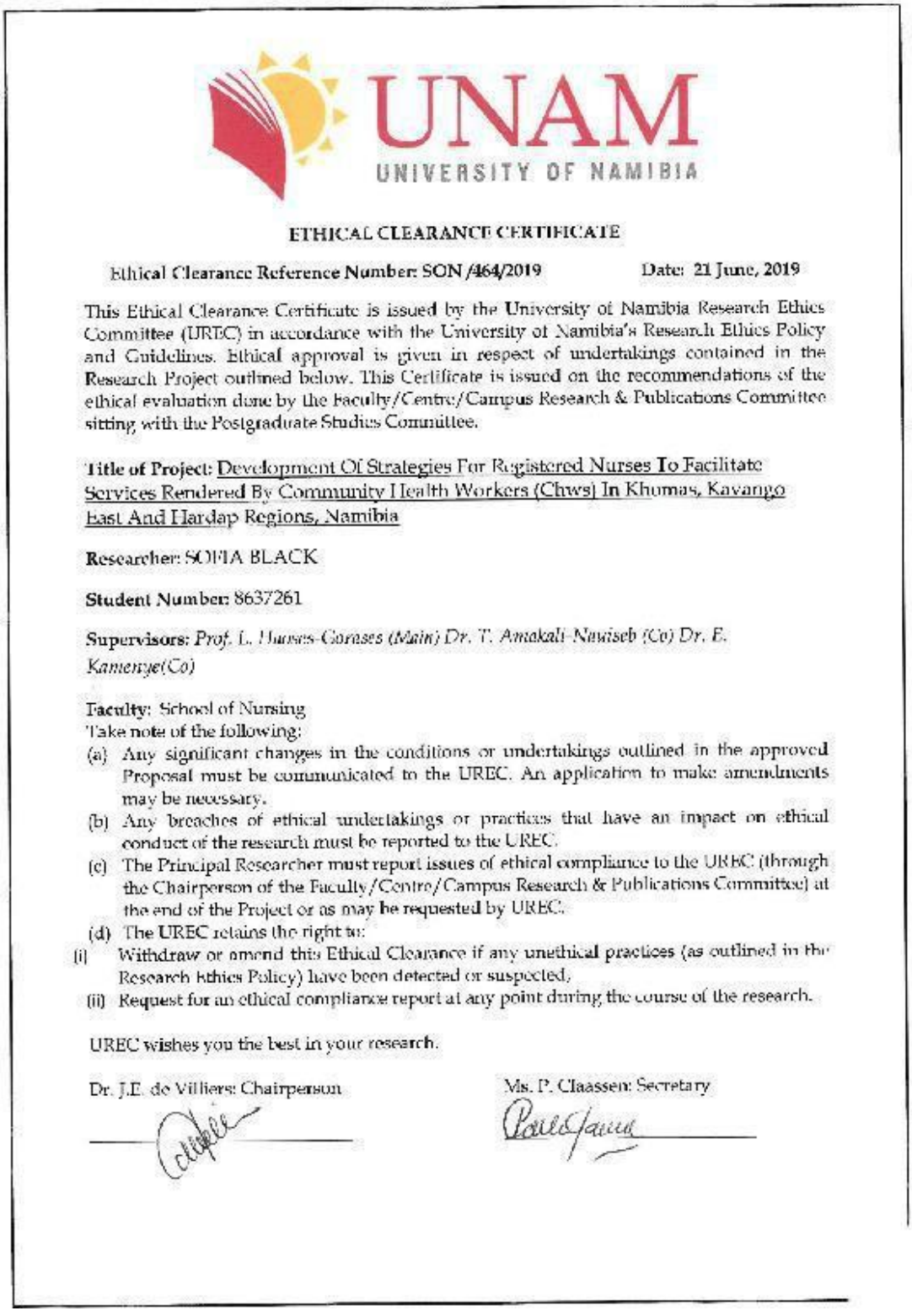
APPENDICES

APPENDIX 1: Ethical clearance certificate



UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SON /464/2019 **Date: 21 June, 2019**

This Ethical Clearance Certificate is issued by the University of Namibia Research Ethics Committee (UREC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the Faculty/Centre/Campus Research & Publications Committee sitting with the Postgraduate Studies Committee.

Title of Project: Development Of Strategies For Registered Nurses To Facilitate Services Rendered By Community Health Workers (Chws) In Khomas, Kavango East And Hardap Regions, Namibia

Researcher: SOFIA BLACK

Student Number: 8637261

Supervisors: *Prof. L. Haines-Corases (Main) Dr. T. Amakali-Nauiseb (Co) Dr. E. Kamenye(Co)*

Faculty: School of Nursing

Take note of the following:

(a) Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the UREC. An application to make amendments may be necessary.

(b) Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the UREC.

(c) The Principal Researcher must report issues of ethical compliance to the UREC (through the Chairperson of the Faculty/Centre/Campus Research & Publications Committee) at the end of the Project or as may be requested by UREC.

(d) The UREC retains the right to:

(i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected.

(ii) Request for an ethical compliance report at any point during the course of the research.

UREC wishes you the best in your research.

Dr. J.E. de Villiers: Chairperson

Ms. P. Claassen: Secretary

APPENDIX 2: Application form

ANNEX 1

UREC NUMBER: (For Official Use)

APPLICATION FORM

(INFORMATION SHOULD BE TYPED)

RESEARCH ETHICS COMMITTEE

Original UREC Application Forms must be made available to the Centre for Research and Publications upon request

SECTION 1: DETAILS OF APPLICANT/PRINCIPAL INVESTIGATOR		
Title, First name, Surname: Ms. Sofia Hanstein Black	Staff/Student number: 8637261	*PROJECT ID NUMBER(Official Use)*
Professional Status: Lecturer (Registered Nurse, Midwife, Community Health Nurse, Nurse Educator)		
University DIVISION: Faculty of Health		
University DEPARTMENT: School of Nursing		
Complete Postal Address: PO Box 10322, Khomasdal, Windhoek		
Telephone No: 0812613459	E-mail address: sofiablck338@gmail.com	
Registration with MOHSS* ☐Yes No X	Registration #: Nursing Council Registration Number :NUR02981	

*Note:

- *or equivalent statutory health council registration no. as appropriate*
- *if registration is pending, submit proof of application*
- *If a non-medically trained PI is overseeing research which involves medical procedures, the application must include a medical doctor registered with the MOHSS as a co-investigator*

SECTION 2: TITLE OF STUDY			
Title of Research Project: Development of strategies for registered nurses to facilitate services rendered by community health workers (CHW) in Kavango East, Khomas and Hardap regions, Namibia			
Sponsor's Protocol No (if applicable) NA			
Sponsor's Details (if applicable) NA			
Is this a sub-study (new research question) linked to an existing/main study? ☐Yes ☐No X		If yes, HREC #: NA	
SECTION 3: STUDY FOR DEGREE PURPOSES	X Yes ☐No	Undergraduate ☐	Postgraduate X
Name of Degree: Doctor in Nursing Science		Supervisor: Professor L. Haoses-Gorases	
Division: School of Nursing			
Department: Post graduate		E-mail: lhaoses@unam.na. 0612063200.	

SECTION 4: DETAILS OF COLLABORATING INVESTIGATORS		
Name and Title	**Position and role**	**Division AND Department**
1.		
2.		
3.		
4.		

SECTION 5: DETAILS OF SUB-INVESTIGATORS		
Name and Title	**Position and role**	**Division AND Department**
1.		
2.		
3.		

SECTION 6: WHERE WILL THE STUDY BE CONDUCTED?	
1. Windhoek Central Hospital	
2. Oshakati Hospital	
3. ..... Hospital	
4. Faculty of Medicine and Health Sciences	
5. Other: please list: Kavango East, Khomas and Hardap regions	

SECTION 7: HUMAN SUBJECTS RESEARCH PROTECTION	
1. Does the Research involve Human Subjects who are Alive?	☐Yes No X
Dead (includes identifiable tissues specimens)?	☐Yes No X
Medical records only?	☐Yes No X
Students, staff or alumni of the University of Namibia	☐Yes No X
2. Will any medicine be tested during the investigation?	☐Yes No X
2.1 If Yes to question 2, is the medicine approved by the Medicines Control Council?	☐Yes No X
2.2 If yes to question 2.1, is the medicine registered for the dose which will be used in this specific project?	☐Yes No X
2.3 If Yes to question 2.1, is the medicine registered for the indication(s) which will be used in this specific project?	☐Yes No X
2.4 If No to question 2.1, is the medicine approved by the Medicines Control Council for your use in this specific project?	☐Yes NoX

2.5 If No to question 2.2 and/or 2.3, is the medicine approved by the Medicines Control Council for your use in this specific project?	☐Yes # No X
3. Will any radioactive material be administered to the patient during the investigation?	☐Yes☐No X
4. Is any biohazardous material (*) involved in the project? (*) *"Biohazardous material" refers to recombinant DNA molecules, viruses, fungi, parasites, bacteria and all other potentially biohazardous material or products that are dangerous to both the experimental patient and the researcher.*	☐Yes☐No X

SECTION 8: RESEARCH WITH CHILDREN

1. Does your research involve children? *(A child is defined as a person younger than 18 years old)*	☐Yes☐No X
If no, please continue to section 9	
If yes, please specify the age range of potential child participants	NA

1.1	**Indicate whether the child research is *Therapeutic* or *Non-therapeutic*(Please check [✓] the appropriate box below and provide a brief justification) NA**	
1.1.1	**Therapeutic research** = interventions that hold out the prospect of direct health-related benefit for the child participant; OR NA	NA
1.1.2	**Non-therapeutic research** = interventions that do not hold out the prospect of direct health-related benefit for the child participant but results may be produced that significantly contribute to generalisable knowledge about the child participant's condition. NA	NA
1.1.3	Brief justification: **NA**	
1.2	**Indicate which risk category is applicable to your research involving children** (Please check [✓] the appropriate box below and provide a brief justification) NA	
1.2.1	*"The research poses no more than minimal risk to the child (that is, the risk commensurate with daily life or routine medical or psychological examinations – referred to as 'negligible risk' in some guidelines);*	NA
1.2.2	*The research poses more than minimal risk but holds out the prospect of direct benefit for the child participant.*	NA
1.2.3	*The research poses a minor increase over minimal risk, with no prospect of direct benefit to the child participant, but will likely yield generalisable knowledge about the condition under study;*	NA
1.2.4	*The research does not meet the conditions for the risk categories above but presents a reasonable opportunity to further the understanding, prevention, or alleviation of a serious problem affecting the health or welfare of children.*	NA
1.2.5	Brief justification:	
1.3	**This research is essential research for children and presents a reasonable opportunity to further the understanding, prevention, or alleviation of a serious problem affecting the health or welfare of children.**	☐Yes☐No X

SECTION 9: STUDY TYPE

1.	**Industry Sponsored Clinical Trial**		**2. Self Initiated Clinical Trial**	**NA**
3.	**Retrospective Record Review**		**4. Laboratory-Based Research**	**NA**

5. Qualitative Research		6. Prospective Descriptive Study	
7. Other: Mixed Method		Please state type if 'Other': Qualitative and Quantitative	

SECTION 10: HOW IS THIS RESEARCH FUNDED? *(State approximate total budget)*			
1. Industry	N$	2. NIH/US government funded research , etc.	N$
3. Other international grant funded research (e.g. Wellcome Trust)	N$	4. National grant funded research (e.g. NCRST, etc)	N$
5. Harry Crossley funded research	N$	6. Research funded solely from UNAM URPCbudget	N$
7. Self funded research	N$	8. Non-sponsored student research for degree purposes at the University of Namibia	X

SECTION 11: DISCLOSURES	
1. Have you acquainted yourself with the code of conduct regarding the Ethics of research at this Institution and do you undertake to fully comply with it at all times?	X ☐Yes☐No
2. Has this study been, or is it likely to be, submitted to any other Research Ethics Committee?	☐Yes☐No X
2.1 If yes, please name the Committee(s) and provide outcome i.e. approved/rejected. NA *(If approved, attach approval letter)*	
3. Has the Principal investigator or any of the co-investigators been previously/or are presently being investigated for alleged research misconduct?	☐Yes☐No X
3.1 If yes, please provide details and dates NA	
4. Are any of your intended research participants in other research studies and/or trials?	☐Yes☐No X
4.1 If yes, please provide details	
5. Are you presently a Principal Investigator (PI) in other research and/or clinical trial activities?	☐Yes☐No X
5.1 If yes, please provide details and % of your time allocated to each	
6. Have you completed a Payment instruction form: Health/Human or Payment instruction form: Clinical trial AND attached proof of payment to this application (Health/Human research)?	☐Yes☐No X
7. Does this protocol comply with the Helsinki Declaration of 2013? *(See http://www.wma.net/en/30publications/10policies/b3/)*	X ☐Yes☐No
7.1 If no, please explain with full justification	

8. Does the protocol provide insurance for research-related adverse events?	☐Yes☐No X
8.1 If yes, please describe:	
8.2 If no, please justify: NA	
8.3 Is there provision for insurance?	☐Yes☐No X
8.4 If no, please justify: There are no research- related adverse events involved	
9. Does the project involve the use of diagnostic test results (e.g. those obtained by imaging or by laboratory testing)?	☐Yes☐No X
9.1 If yes, has the applicant consulted a professional from a relevant diagnostic discipline (e.g. radiology or pathology, as applicable)?	☐Yes☐No x
9.2 Please provide the name, position, and discipline of person consulted: None	

SECTION 12: SIGNING OF APPLICATION		
Applicant	**Supervisor** *(only for student research)*	**Head of Division**
Sofia Hanstein Black..... Print name ..... Signature 18/03/2019 Date	Prof L. Haoses-Gorases..... Print name ..... Signature 18/03/2019 Date	Dr. H. Amukugo Print name ..... Signature 18/03/2019 Date

APPENDIX 3: Protocol synopsis

RESEARCH ETHICS COMMITTEE

(MUST BE TYPED)

PROTOCOL SYNOPSIS (Not longer than 2 pages)

Name: Sofia Black

Staff/Student Number: 8637261

Title: Development of strategies for registered nurses to facilitate services rendered by community health workers (CHW) in Kavango East, Khomas and Hardap regions, Namibia

1. Introduction

The Ministry of Health and Social Services (MoHSS) has been experiencing challenges to ensure equitable access to health services for families and communities. Shortage of health professionals contribute to the challenges (MoHSS, 2013; Namibia Vision 2030, 2004). Above mentioned health delivery challenges have prompted PHC directorate to adopt CBHP. This is a programme initiated to provide comprehensive, universal, equitable and affordable health services for urban, rural and peri-urban populations. The programme focuses on health promotion and –education which targets households, particularly mothers and women through house to house visits (Gebru, Taha, & Kassahun, 2014).

The World Health Organization (WHO) has identified and maintained the importance of community-based health workers (CBHW) in reducing inequities in access to essential health services (WHO, 2018). PHC directorate of MoHSS in collaboration with development partners and national health training centre (NHTC) developed a CBHW Standard Operating Procedure (SOP) Guide.

By means of a comprehensively developed Standard Operating Procedure Guideline, implementers are expected to follow the guidelines provided. Insufficient supervision is further affected by the fact that the CHW training exercise focused on the CHW candidates and PHC

supervisors rather than on strategies to enhance facilitation of services rendered by CHWs at operational level as stated in the NHTC report (MoHSS, 2016).

Presently facilitation of CHWs activities in some regions gives the impression that it is seemingly a secondary responsibility of registered nurses who are already implementing their key performance areas. Insufficient support and skill development does not add positive value to CHWP and might jeopardize its success (Huyen, 2014).

2. Research questions

The main questions to be addressed in this study are;

Do registered nurses facilitate services rendered by CHWs effectively?

Are the SOPG of PHC implemented by registered nurses and CHWs?

Have registered nurses (supervisors) been trained and prepared to facilitate services rendered by CHWs?

3. Study Objectives/ Aims

The objectives of the study are to:

Determine the level of facilitation of services rendered by CHW by registered nurses, explore the views of PHC supervisors on facilitation of services rendered through CHW by registered nurses, explore and describe the perception of CHW on facilitation of their services, explore and describe the views of registered nurses on their roles towards facilitation of services rendered by CHWs, review and describe facilitation of CHW services, develop a conceptual framework and develop strategies for registered nurses based on Standard Operating Procedure Guidelines of PHC.

4. Research Methodology

The researcher will make use of the convergent parallel mixed method design. The mixed method design combines qualitative and quantitative components in a single research study and overcome limitations of a single method research Data triangulation and methodological triangulation will be ensured by making use of different methods of data collection such as questionnaires, in-depth interviews, focus group discussions and published research materials

5. Ethical Considerations

The researcher undertakes to respect the protection of human beings by ensuring confidentiality as required by University of Namibia's ethical principles in data collection, maintenance and dissemination of information.

Permission to conduct the study will be obtained from the University of Namibia (Unam) Ethics Review Committee for clearance, Post Graduate Studies Committee of Unam, Research and Ethical Committee of MoHSS. Participants will be treated equally and fairly at all times and confidentiality will be maintained.

APPENDIX 4: Checklist

ANNEX 4

RESEARCH ETHICS COMMITTEE

CHECKLIST (To be completed by the applicant and checked by the Centre for Research and Publications)

UREC NUMBER: (For Official Use)

INFORMATION MUST BE TYPED

PROJECT TITLE:

SECTION A: CHECKLIST - COMPLETION OF APPLICATION FORM		
Have you completed all the sections in the application form? Please answer yes, no or not applicable in the "applicant column".	**Applicant**	**CRP**
	Y / N / NA	**Y / N / NA**
***Section 1*: Details of Applicant/Principal Investigator**	Y	
UNAM staff/student number(if applicable)	8637261	
Faculty	Y	
Department	Y	
Registration with AppropriateMinistry/Organisation (e.g. MOHSS, NCRST)	Y	
Registration number (where applicable)	Y	
***Section 2*: Title of Study**		
Is this a sub- research linked to an existing approved main research?	N	
***Section 3*: Research for degree purposes**	Y	
Is the study for degree purposes	~~Y~~	
Level of the degree(e.g. Masters or PhD)	PhD	
Name and affiliation of Supervisor(s)~~indicated in case of study purposes?~~	Y	
***Section 4*: Names and contact details of investigators(if any)**	Y	
***Section 5*: Where will the study be conducted(geographic location)?**	Y	
***Section 6*: Will there be human participants?**	Y	
***Section 7*: Will the research involve vulnerable groups?**	N	
***Section 8*:Will the research involve animals?**	N	
***Section 9*: Will the research have an impact on the environment?**	N	
***Section 10*: Is the research a clinical trial?**	N	
***Section 11*:Who is funding the research?**	Self-funded	
What is thetotal budget?	Approximately N$200.000.00	
Have you paid the UREC review fee? (Where applicable)	NA	
***Section 12*: Disclosure(s) of conflict of interest (all investigators)**	Y	

APPENDIX 5: Ethical checklist

ETHICAL CHECKLIST

FACULTY OF HEALTH SCIENCE

SCHOOL OF NURSING

Student Name: Sofia Hanstein Black

Student Number: 8637261

TITLE**:** DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS (CHW IN KHOMAS, KAVANGO EASTAND HARDAP REGIONS, NAMIBIA

Date: November 2018 Main Supervisor: Prof. L. Haoses-Gorases

Ethical Principles and Guidelines for the <u>protection of human subjects</u> of research

Representatives and committees can assess the following principles and its compliance within research proposals of Post graduate students in the recommendation of ethical approval by Unam RPO.

1. PREVENTION OF HARM AND ENSURING GOOD TO RESEARCH

	no

PARTICIPANTS

1.1 Can this study be done without using human subjects?

	no

1.2 Are vulnerable persons participating in the study? (Infants, children, prisoners, mentally impaired, non -autonomous persons, over exposed research subjects)

1.3 Did student motivate the appropriateness of including vulnerable subjects in study?

	no

1.4 Did the student ascertain and explicitly described the possible harm that may ensue from the research?(Physical, emotional, psychological. social, economic, legal harm should be considered) It is not yes acceptable to just state that no harm will follow. Being embarrassed/uncomfortable is also harmful)

1.5Did student consider and described the benefits of the research to the participants?

(Not the significance of the study. But advantages to participants)

yes	

1.6 Is the description of risks/benefits included into the informed consent information to participants?

yes	

1.7Do the committee think that the students' assessment of 2.1-2.6 is reasonable? (Depending on the risks involved in the study, the benefits to participants should be satisfactory risk/benefit ratio must be considered)

yes	

2. RESPECT FOR RESEARCH PARTICIPANTS

Did the student indicate the following in the research proposal?

2.1The information that will be provided to research participants (purpose; risks; benefits; procedures; expectations from participants; opportunity to ask questions and seek clarification; why participants was selected and research responsible for research and his/her contact number)

yes	

2.2How researcher will ensure that participants and third parties (children and challenged comprehension situations) understand the information that is provided.

yes	

2.3 **How informed consent will be obtained from participants/third parties** (preferably written consent form providing all information and contact details of researcher. Researcher and participant get copies of document)

yes	
yes	

2.4 **Considerations of voluntariness of research participation** (by ensuring no undue reward, coercion and opportunity to withdraw from study)

yes	

3. FAIRNESS TO RESEARCH PARTICIPANTS.

3.1 Did **student motivate the appropriateness of including specific participants to the study?** (Adults before children; non-institutionalized persons before institutionalized persons; overburdened participants; researched fatigue classes of persons)

yes	

3.2 Is any researcher biases present with the selection of research participants? (These include any social, racial, sexual, cultural biases. Students should have considered fairness regarding any unjust social patterns e.g. selecting racial minorities, the economically disadvantaged, sick and dependent persons; readily available persons; administrative convenient reasons for selection or easily manipulated persons)

	no

APPENDIX 6: Participant information leaflet and consent form

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

ANNEX 5

TITLE OF THE RESEARCH PROJECT: Development of strategies for registered nurses to facilitate services rendered by community health workers (CHW) in Kavango East, Khomas and Hardap regions, Namibia

REFERENCE NUMBER: 8637261

PRINCIPAL INVESTIGATOR: Sofia Hanstein Black

ADDRESS: PO Box 10322, Khomasdal

CONTACT NUMBER: 0812613459

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff or doctor any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Research Ethics Committee at The University of Namibia and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and Namibian National Research Ethics Guidelines.

1. What is this research study all about?

a) Where will the study be conducted; are there other sites; total number of participants to be recruited at your site and altogether.

b) Explain in participant friendly language what your project aims to do and why you are doing it?

c) Explain all procedures.

d) Explain any randomization process that may occur.

e) Explain the use of any medication, if applicable.

2. Why have you been invited to participate?

a) Explain this question clearly.

3. What will your responsibilities be?

a) Explain this question clearly.
b) Explain the duration the participant is expected to participate in the study (i.e. 2 hours, 4 days, etc.)

4. Will you benefit from taking part in this research?

a) Explain all benefits objectively. If there are no personal benefits then indicate who is likely to benefit from this research e.g. future patients.

5. Are there in risks involved in your taking part in this research?

a) Identify any risks objectively.

6. If you do not agree to take part, what alternatives do you have?

b) Clearly indicate in broad terms what alternative treatment is available and where it can be accessed, if applicable.

7. Who will have access to your medical records?(Where applicable)

a) Explain that the information collected will be treated as confidential and protected. If it is used in a publication or thesis, the identity of the participant will remain anonymous. Clearly indicate who will have access to the information.

8. What will happen in the unlikely event of some form injury occurring as a direct result of your taking part in this research study?

a) Clarify issues related to insurance cover if applicable. If any pharmaceutical agents are involved will compensation be according to ABPI guidelines? (Association of British Pharmaceutical Industry compensation guidelines for research related injury which is

regarded as the international gold standard). If yes, please include the details here. If no, then explain what compensation will be available and under what conditions.

9. Will you be paid to take part in this study and are there any costs involved?

10. Is there anything else that you should know or do?

a) You should inform your family practitioner or usual doctor that you are taking part in a research study. (Include if applicable)

b) You should also inform your medical insurance company that you are participating in a research study. (Include if applicable)

*c) You can contact **Prof. L. Haoses-Gorases** at tel **0811270252** if you have any further queries or encounter any problems.*

d) *You can contact the Centre for Research and Publications* **at +264 061 2063061;** pclaassen@unam.na*if you have any concerns or complaints that have not been adequately addressed by the investigator.*

e) You will receive a copy of this information and consent form for your own records.

11. Declaration by participant

By signing below, I.....agree to take part in

a research study entitled *(insert title of study).*

I declare that:

a) I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.

b) I have had a chance to ask questions and all my questions have been adequately answered.

c) I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.

d) I may choose to leave the study at any time and will not be penalised or prejudiced in any way.

e) I may be asked to leave the study before it has finished, if the study doctor or researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) .....…..……. on (*date*).....2005.

..... **.....**

Signature of participant Signature of witness

12. Declaration by interpreter

I *(name)*declare that:

a) I assisted the investigator (*name*) …..... to explain the information in this document to (*name of participant*) ……..…….. using the language medium of (Oshiwambo, Oshiherero, Afrikaans, etc.)

APPENDIX 7: Permission from MoHSS

ID. 10791

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2507
Fax: 061 – 222558
E-mail: itashipu87@gmail.com

OFFICE OF THE EXECUTIVE DIRECTOR

Ref: 17/3/3 SB
Enquiries: Mr. A. Shipanga

Date: 30 September 2019

Ms. Sofia Black
University of Namibia
Windhoek

Dear Ms. Black

Re: Development of Strategies for registered nurses to facilitate (with Emphasis on mentoring, supportive supervision, monitoring, evaluation and training) services rendered by community Health Workers (CHWs) in Hardap, Kavango East and Khomas Regions, Namibia

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for academic purpose;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

3.4 A quarterly report to be submitted to the Ministry's Research Unit;

3.5 Preliminary findings to be submitted upon completion of the study;

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry for the publication of the findings.

4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely,

EXECUTIVE DIRECTOR
MINISTRY OF HEALTH AND SOCIAL SERVICES

BEN NANGOMBE
EXECUTIVE DIRECTOR

"Health for All"

APPENDIX 8: Permission from Director of Khomas region

Office of the Directors

Enquiries: Sofia Hanstein-Black
0812613459

Date: 29 March 2021

Dr C. Xoagus
Khomas Region
Windhoek

Dear Dr Xoagus

With reference to our conversation on Wednesday 24/03/2021, as background the following; I am registered as a student at the University of Namibia for Doctor of Nursing Science. In order to fulfil the requirements for the above mentioned degree, I have to submit a full research thesis to the University. The purpose of the study is to develop and propose strategies for registered nurses to facilitate supervision of services rendered by Community Health Workers in Khomas, Kavango East and Hardap regions.

Permission is hereby requested to conduct a two day workshop with the aim to introduce the proposed strategies to facilitators of Community Health Workers in the Khomas region. A preliminary evaluation will also be performed to test implementability of such proposed strategies.

Attached is a copy of the permission granted for the study by the Executive Director of the Ministry of Health and Social Services.

Your positive consideration will be highly appreciated.

Yours sincerely

Sofia Hanstein Black

MINISTRY OF HEALTH
AND SOCIAL SERVICES
OFFICE OF THE DIRECTOR
30 MAR 2021
TEL NO: 061-2035001 / 8
P/BAG 13322, WINDHOEK
DIRECTORATE, KHOMAS REGION

Approved.
Acting Direct

APPENDIX 9: Questionnaire for community health workers

Student Name: Sofia Hanstein Black

Student Number: 8637261

Date of discussions: October/November 2019

Title: **Development of strategies for Registered Nurses to facilitate services rendered by Community Health Workers (CHWs) in Khomas, Kavango East and Hardap regions, Namibia**

QUESTIONNAIRE FOR COMMUNITY HEALTH WORKERS

You are humbly requested to participate in this survey. **The researcher would want to know how the registered nurses have been facilitating the services you render to the community as part of your initial field work to attain the competencies mentioned in sections B to F.** Your opinion is valuable in obtaining a correct picture of supervision rendered by registered nurses to you during your daily activities as health extension worker.

Please complete the questionnaire as accurately and honestly as possible, should you agree to participate voluntarily. Your answers will be kept confidential at all times and your name will not be used in any data analysis and reporting resulting from the survey.

Thank you so much for agreeing to participate in this survey. The survey consists of six sections and takes approximately half an hour (30) minutes to complete. This questionnaire consists of seven pages.

Section A: Demographic and General Information

Can you tell us about the following services you render? **Please choose one answer by marking with an "x"**

A1. What is your age in completed years?

20-29	
30-39	
40-49	
50+	

A2.What is your gender?

Male	
Female	

Other	

A3. In which region and constituency do you currently work?

Constituency	**Region**

A4.How often do you visit each household per month?

Not every month	
Once	
Twice	
Thrice	
More than three times	

A5. Which clinic are you attached to in your region?

A6. How long have you been employed as CHW?

Two to three years	
Three years	
More than three years	

A7. Have you received any additional training (refresher course) to help you fulfil your role as CHW?

Yes	
No	

A8. Do you have all supplies and equipment you need to provide the services you are expected to deliver?

Yes	
No	
Only some	

A9. Have you received a written evaluation of your work in the last 12 months?

Yes	
No	

A10. Are reports or information about the Community Health Programme (CHP) and its results shared with? (Yes or no to each).

You	
With the community	
With community leaders	

Section B: Maternal, New-born, Child Health and Nutrition.

[Please Note: Strongly disagree=SD, disagree=D, neutral=N, agree=A and strongly agree=SA]

Score	**0**	**1**	**2**	**3**	**4**
Statement	SD	D	N	A	SA
B1. The registered nurse always gives me feedback after supervision.					
B2. The registered nurse supervised me when giving information on Family Planning.					
B3. The registered nurse supervised me when giving information on danger signs of pregnancy and delivery.					
B4. The registered nurse supervised me when giving information to promote early malaria testing and treatment seeking behaviour in the community.					
B5. The registered nurse supervised me when I assessed children under five with pneumonia infection.					
B6. The registered nurse supervised me when I referred children with severe sickness to the health facility.					
B7. The registered nurse supervised me when I was giving information on PMTCT and adherence counselling.					
B8. The registered nurse supervised me when I promoted breastfeeding and complementary feeding practices.					
B9. The registered nurse supervised me when I screened children with malnutrition.					
B10. The registered nurse supervised and gave me feedback when I was giving information on prevention of TB and HIV.					

Section C: Disease Prevention and Control.

Score	**0**	**1**	**2**	**3**	**4**
Statement	SD	D	N	A	SA

C1. The registered nurse supervised me when I was giving families education on how to identify signs and symptoms of malaria infection.					
C2. The registered nurse gave me feedback when I was giving families education on how to identify danger signs if malaria is suspected.					
C3. The registered nurse demonstrated (showed) me how to trace PMTCT interrupters or defaulters.					
C4. The registered nurse demonstrated (showed) me how to screen vulnerable individuals for TB.					
C5. The registered nurse demonstrated (showed) me how to trace TB and HIV interrupters or defaulters.					
C6. The registered nurse demonstrated (showed) me how to link TB, HIV and PMTCT interrupters back to the health facility to continue treatment and follow-up.					
C7. The registered nurse showed me how to provide home-based HIV testing.					
C8. The registered nurse showed me how to provide home-based HIV counselling.					
C9. The registered nurse provided me with information on how to report patients with notifiable disease or communicable diseases within the catchment area.					
C10. The registered nurse declared me proficient to supervise peers on disease prevention and control.					

Section D: Hygiene and Sanitation.

Score	**0**	**1**	**2**	**3**	**4**
Statement	SD	D	N	A	SA
D1. I was shown by the registered nurse how to give health education on safe excreta disposal.					
D2. I was supervised when I was educating families on safe solid disposal.					
D3.I was supervised when I was educating families on liquid waste disposal.					
D4. I was supervised when I was educating families on safe water handling.					

D5. I was given feedback when I was educating families on safe water handling.					
D6. I was supervised when I was educating families on effective hand washing practices.					
D7. I was given feedback when I was educating families on effective hand washing practices.					
D8. I was supervised when I was educating families on safe food handling.					
D9. I was given feedback when I was educating families on safe food handling.					
D10. The registered nurse declared me proficient to supervise peers on hygiene and sanitation.					

Section E: Social Welfare and Disability

Score	**0**	**1**	**2**	**3**	**4**
Statement	SD	D	N	A	SA
E1. I identified people with social problems under supervision of the registered nurse.					
E2. I referred people with social problems under supervision of the registered nurse.					
E3.The registered nurse supervised me when I identified people with disabilities to appropriate services.					
E4. The registered nurse supervised me when I referred people with disabilities to appropriate services.					
E5. The registered nurse showed me how to provide basic interventions for common types of disabilities.					
E6. The registered nurse demonstrated to me how to educate families and communities on the dangers of alcohol.					
E7. The registered nurse demonstrated to me how to educate families and communities on the dangers of other substance abuse.					
E8. The registered nurse demonstrated to me how to educate families and communities on child welfare.					
E9. The registered nurse demonstrated to me how to educate families and communities on women and child abuse.					
E10. The registered nurse declared me proficient to supervise peers on social welfare and disability matters.					

Section F: Planning, Information Management, Referral and Coordination

Score	**0**	**1**	**2**	**3**	**4**
Statement	SD	D	N	A	SA
F1. The supervisor showed me how to plan my daily activities.					
F2. The supervisor assisted me to draw up a catchment village map.					
F3. The supervisor discusses achievements with me when I present my monthly report.					

F4. The supervisor discusses how to manage my daily activities.					
F5.The supervisor discusses identified challenges with me when I present my monthly report.					
F6. The supervisor recommends action points with me when I present my monthly report.					
F7. The supervisor discusses collected household census information with me.					
F8. The supervisor analysis collected household census information with me.					
F9.The supervisor showed me how to refer identified challenges to relevant institutions.					
F10. The supervisor showed me how to coordinate all my roles and tasks.					

Thank you for your cooperation and participating in this survey. We will not use your name or any information that directly points to you during the analysis and reporting of the survey

APPENDIX 10: Informed consent for community health workers

Student Name: Sofia Hanstein Black

Student Number: 8637261

TITLE: DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS (CHWs) IN KHOMAS, KAVANGO EASTAND HARDAP REGIONS, NAMIBIA

My name is Sofia Hanstein Black; I am registered as a student at the University of Namibia for Doctor of Nursing Science. In order to fulfil the requirements for the above mentioned degree, I have to submit a full research thesis to the University. The purpose of the study is to develop strategies for registered nurses to facilitate supervision of services rendered by Community Health Workers in Khomas, Kavango East and Hardap regions.

This study involves no foreseeable risk or harm to you. Your involvement in the study would be the completion of a questionnaire and participation in focus group discussions. It will be highly appreciated if you could complete the questionnaire to the best of your ability. All information will be treated confidentially by ensuring anonymity since your name will not appear on any form or document.

You are free to ask any question about the study or about being a participant in the study or if you have any further questions. My contact details are as follows 0812613459 or 0612032908, sofiablck338@gmail.com during office hours. If you have any queries or need clarification please contact my supervisor Prof. Haoses-Gorases at the University of Namibia lhaoses@unam.na. 0612063200.

Your participation is voluntary and you are under no obligation to participate. You have the right to withdraw at any time from the study without prejudice.

Permission to conduct the study will be obtained from the University of Namibia and the Ministry of Health and Social Service Research Management Committee.

The purpose of the questionnaire and focus group discussion has been explained to me. I consent to take part in the focus group discussions and the questionnaire with regards to the development of strategies

for registered nurses to facilitate supervision of services rendered by health extension workers in Khomas, Kavango East and Hardap regions.

I also consent to be voice recorded during focus group discussions. My participation is voluntary and I understand that I can withdraw at any time. None of my thoughts or experience will be shared with other people except with the supervisors of the researcher.

---------- ----------

Please print your name Date:

Please sign your name

---------- ----------

Witness signature Date:

APPENDIX 11: Informed consent for registered nurses

Student Name: Sofia Hanstein Black

Student Number: 8637261

TITLE: DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS (CHWs) IN KHOMAS, KAVANGO EASTAND HARDAP REGIONS, NAMIBIA

My name is Sofia Hanstein Black; I am registered as a student at the University of Namibia for Doctor of Nursing Science. In order to fulfil the requirements for the above mentioned degree, I have to submit a full research thesis to the University. The purpose of the study is to develop strategies for registered nurses to facilitate supervision of services rendered by Community Health Workers in Khomas, Kavango East and Hardap regions.

This study involves no foreseeable risk or harm to you. Your involvement in the study would be the participation in in-depth interviewing. All information will be treated confidentially by ensuring anonymity since your name will not appear on any form or document.

You are free to ask any question about the study or about being a participant in the study or if you have any further questions. My contact details are as follows 0812613459 or 0612032908 during office hours.

Your participation is voluntary and you are under no obligation to participate. You have the right to withdraw at any time from the study without prejudice.

Permission to conduct the study will be obtained from the University of Namibia and the Ministry of Health and Social Service Research Management Committee.

The purpose of the in-depth interview has been explained to me. I consent to take part in the in-depth interview with regards to the development of strategies for registered nurses to facilitate supervision of services rendered by health extension workers in Khomas, Kavango East and Hardap regions.

I also consent to be voice recorded during the interview. My participation is voluntary and I understand that I can withdraw at any time. None of my thoughts or experience will be shared with other people except with the supervisors of the researcher.

Please print your name

Date:

Please sign your name

Witness signature

Date:

APPENDIX 12: Focus group guide for community health workers

TITLE: DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS (CHWs) IN KHOMAS, KAVANGO EAST AND HARDAP REGIONS, NAMIBIA

Student Name: Sofia Hanstein Black

Student Number: 8637261

Date: October/November 2019

Time: 08:30

Number of participants:

Principal researcher and facilitator: Sofia Hanstein Black

Welcoming remarks:

Topic: Facilitation of services rendered by CHWs

Purpose of the research: Explore and describe the perception of CHWs on facilitation of their services**.**

The results will be used: To develop strategies for registered nurses to facilitate services rendered by CHWs

You were selected because: You are trained and deployed as CHWs in Khomas, Kavango East and Hardap regions and will be able to give information on your experiences.

Ground rules of the focus group discussion.

1. The discussion will be among you while I facilitate the process
2. All participants will be given an opportunity to speak.
3. One speaker at a time while others are listening
4. The speaker will address the topic of discussion
5. No dialogue between any two participants
6. No option is wrong or irrelevant

7. You don’t need to agree with others, but you must listen respectfully as others share their views
8. We ask that you turn off your phone. If you cannot and if you must respond to a call please do so as quietly as possible and re-join us as quickly as you can
9. Participants will be orientated on the use of an audio-recorder
10. My role as facilitator is to guide the discussion

Questions for CHWs (The probing / follow up questions are examples and may not all need to be asked. After the opening question, the interview will be guided by the views of the participants and probing questions will be used).

1. What do you understand by facilitation of services?
2. What do you think about the way facilitation is conducted?

Examples of follow up questions:

a. Can you explain further?
b. Please give examples
c. What do you mean by that?

APPENDIX 13: Interview guide for registered nurses

TITLE: DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS (CHW) IN KHOMAS, KAVANGO EAST AND HARDAP REGIONS, NAMIBIA

Student Name: Sofia Hanstein Black

Student Number: 8637261

Questions for Registered Nurses (The probing / follow up questions are examples and may not all need to be asked. After the opening question, the interview will be guided by the views of the participants and probing questions will be used).

1. What do you understand by facilitation of services rendered by CHWs?
2. **What do you know about the Standard Operation Procedure Guideline (SOPG)?**

Examples of follow up questions:

A. How well equipped is your facility to provide skills training to CHWs?

B. Can you explain further?

C. Please give examples

D. What do you mean by that?

APPENDIX 14: Interview guide for PHC supervisors

TITLE: DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS (CHWs) IN KHOMAS, KAVANGO EAST AND HARDAP, NAMIBIA

Student Name: Sofia Hanstein Black

Student Number: 8637261

Questions for PHC Supervisors (The probing / follow up questions are examples and may not all need to be asked. After the opening question, the interview will be guided by the views of the participants and probing questions will be used).

1. What is your view on facilitation of services rendered through CHWs by registered nurses?
2. Are you familiar with the Standard Operation Procedure Guideline (SOPG)?
3. Can you elaborate on your supervision of registered nurses facilitating CHW services?

Examples of follow up questions:

a. Can you explain further?

b. Please give examples

c. What do you mean by that?

APPENDIX 15: Expert comments and inputs

Tuutaleni Shilyomunhu <tutalahs@yahoo.com> Wed, Jul 21, 9:48 PM

to me

Dear Ms. Black,

Kindly receive attached with my few inputs.

Best regards
Tuutalen

Good strategies. Please consider adding the following;

The national steering committee develops policies, guidelines, strategies and standard operation procedure manuals required for the effective implementation of the CHWP nationally.

To conduct on the job technical support, mentoring and coaching to the CHWs in the communities, as well as monthly meetings with CHWs at their health facilities of attachment

CHWs need to understand the importance of going through the community gatekeepers (village headmen, chiefs, councillors when communicating information, which may require major changes within the community members' lives. Community members usually accept information better when communicated by through their leaders.

Adequate knowledge is required to enable CHWs and their supervisors to be able to explain the linkage between poor sanitation and hygiene and the communicable diseases such as diarrheal, respiratory infections, intestinal worms and others, in order to discourage open defecation and ensure the proper disposal of human waste.

Effective usage of the community's data at the community level is essential for planning and evaluating the progress of health status. The CHW through the leadership of the community leader and guidance from the supervisor can convince the community to change behaviour and improve the health status with the help of the community's health data.

On the job technical support, mentoring and coaching to the CHWs in the communities, as well as monthly meetings with CHWs at their health facilities of attachment.

Gloria Siseho

Wed, Jul 28, 6:00 PM
to me, Tuutaleni

Dear Ms. Black,

Well done on your work on CHWs programmes and strategies.

Attached my comments.
Sorry I did not have enough background to your findings …hence may have inserted comments you may find not useful.
Though would suggest that the case for SS be driven by strong recommendations from the field and current practice in implementing CHWs programme.

All the best and take care.

Kind regards

Gloria Mutimbwa Siseho
Health Specialist
Child Survival and Development Section
UNICEF Namibia

United Nations Children's Fund
Namibia Country Office
1st Floor, UN House
38-44 Stein Street, Klein Windhoek
P.O. BOX 1706, Windhoek, Namibia

www.unicef.org

Tel: +264 61 2046111 or 2046235
Fax: +264 61 204 6206
Mobile: +264 81 124 2173
Email: gsiseho@unicef.org

Attachments area

ReplyReply allForward

Please consider and incorporate the following:

District teams to strengthen regular visits to CHWs

Strengthening of existing platform where monthly meetings take place

Strengthening of existing reporting activities

Though not yet signed off and published please consider the checklist for supportive supervision as developed by MoHSS

APPENDIX 16: Attendees registration form

REGISTRATION FORM

TITLE: DEVELOPMENT OF STRATEGIES FOR REGISTERED NURSES TO FACILITATE SERVICES RENDERED BY COMMUNITY HEALTH WORKERS (CHWs) IN HARDAP, KAVANGO EAST AND KHOMAS REGIONS, NAMIBIA

VENUE: I-CARE HEALTH TRAINING INSTITUTE

DATE: 30-31 AUGUST 2021

TIME: 08:00-16:30

Number	Name and Surname	No. of CHWs	Rank/Position	Years of Experience with CHWs	Contact Details	Name of Facility	Signature
1	Emilie Nghuumono	21	RN/M	06	0814850951	Hakahana	
2	Albertina Albertina Samuel	6	RN/M	9 months	0814955916	Doctabis clinic	
3	Callisto Madi	10	Enrolled Nurse	4 03	0813623639	Otjomuise	
4	Fredirica Ambunda	13	RN	2 yrs	0813191014	Maxuilili clinic	
5	Martha K. Siboleka	18	RN	2 yrs	0813511229	Wanaheda Clinic	
6	Rita K. Pinge	87	Regional Supervisor	5 yrs	0812611960	Khomas Region	
7	Anisie Benjamin	101	SHA	Observer	0812411532	NHTC	
8	Olivia Elleman	10	RN/M	2 yrs	0813618458	Okurangava	
9							
10							
11							
12							
13							
14							
15							

APPENDIX 17: Editor's Certificate

EDITING CERTIFICATE

I, Nkazana Sarah Mwanandimai, confirm that I have edited

the language (Abstract and Chapter 1-8) and references of a

PhD research dissertation

by

Sofia Hanstein Black

titled

Development of strategies for registered nurses to facilitate services rendered by community health workers (CHWs) in Hardap, Kavango East and Khomas regions, Namibia

NB: The author has the prerogative to accept, reject, or change amendments made by the editor before submission.

Signed

Date: 17 October 2021

Ms Nkazana Sarah Mwanandimai, email: nkazana.mwana@gmail.com; Cell: +264 81 325 0360
Member: Professional Editors' Guild (SA)

APPENDIX 18: Declaration by investigator

I ***Sofia Hanstein Black*** declare that:

I explained the information in this document to

……..

I encouraged him/her to ask questions and took adequate time to answer them.

I am satisfied that he/she adequately understands all aspects of the research, as discussed above

I did/did not use a interpreter. (*If a interpreter is used then the interpreter must sign the declaration below.*

Signed at Windhoek on 18/03/2019.

..... **.....**
..... **.....**

Signature of investigator Signature of witness