

Barriers to the provision of smoking cessation intervention/services: A mixed-methods study among health care workers in Zambezi region, Namibia

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Abstract

Background. Healthcare workers (HCWs) can play a significant role in tobacco prevention by delivering smoking cessation (SC) interventions to patients who smoke.

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Objective: To identify and explore the perceived barriers which prevent healthcare workers from delivering SC counselling to patients in Zambezi region, Namibia.

Methods: A regional-based, concurrent mixed-methods study was conducted between March and October 2020 among HCWs of the 8 constituencies of Zambezi region, Namibia. In the study, 129 respondents, who had been residents of the selected constituencies for over 5 years and aged between 17 to 60 years, participated.

Results: 129 respondents participated in the study. Majority of respondents were females (62.9% and 68.1%) compared to (37.1% and 31.9%) males. The mean age of respondents was 35.91 (SD=9.3) and 36.61 (SD=8.7) respectively and their ages ranged between 18 and 59 years. Key barriers were identified: (i) HCWs-based barriers included lack of time to provide SC, inadequate training and insufficient knowledge on SC interventions; (ii) system-based barriers identified lack of SC guidelines and educational materials for patients, and specialists to refer patients; and (iii) patient/client-based barriers included lack of patient interest in SC information, patients not adhering to advice given on SC.

Conclusions: This study showed that SC delivery in Zambezi region is inadequate. Barriers were identified regarding the delivery of SC intervention for the first time. Targeted SC interventions are required to combat these identified specific barriers. There is a crucial need to improve HCWs skills and knowledge in providing SC intervention.

Introduction

Tobacco use is the single highest preventable cause of disease and death globally.¹ It is responsible for over 5 million deaths annually.² Tobacco use is a chronic and recurrent disease, but opportunity based interventions, if introduced by healthcare workers (HCWs), have been proven to be more effective in addressing physical addiction and adjusting in-built patterns of behaviour and opinions.³ Article 14 of the World Health Organization Framework Convention on Tobacco Control (FCTC) should be taken into consideration as it specifies that party members should design evidence-based guidelines and deliver treatment to assist current smokers to quit.⁴ About 45% of low-income countries do not have access to smoking cessation (SC) intervention.⁵ In spite of persuasive evidence that HCWs play a significant part in SC,⁶ most of smokers do not get the recommended SC intervention.⁷ Interventions on smoking from HCWs is usually not offered systematically. Understanding the factors related with smoking among HCWs responsible for health promotion would be vital in developing tobacco use mitigation approaches. While the causes of smoking are multifaceted and complex, understanding these influences from the viewpoint of a HCW in charge of strategy implementation and among those who are the beneficiaries of the control strategies

is very important.

Smoking prevalence is estimated to be around 20% with increasing smoking-related risk and incidence of non-communicable diseases in the Namibia.⁸ Namibia's advancement is less than satisfactory in the execution of Article 14 of the FCTC. This recommends the necessity to design strategies against tobacco use particularly among socio-economically disadvantaged communities of Namibia. Although several studies have been conducted about smoking in Namibia,^{9,10} studies on the barriers to the provision of SC interventions are still missing thus increasing the challenges associated with developing control interventions. Therefore, the aim of the current study is to identify barriers which prevent HCWs from providing SC services to patients in Zambezi region, Namibia.

Materials and methods

Ethical considerations

Ethical approval to conduct this study was obtained from the Research Ethics Committee (EC) at the University of Namibia (Ref No: OSHAC586/2020) and the Ministry of Health and Social Services (Ref No: 17/3/3 SM).

Study setting

Zambezi region is one of the fourteen regions of Namibia. In 2016, the population size was 98,849 of which 51% were females, with an annual growth rate of 1.3%, and with 31% of the population residing in urban areas compared to 69% in rural area.¹¹ It borders Kavango region on the west, Botswana, Zimbabwe, Zambia and Angola. The region is divided into 8 constituencies. Economically, it is the 3rd poorest region in Namibia, the severely affected areas are Kongola and Sibbinda constituencies where about 58% and 55% of the population live below the poverty line.¹²

Study design, participants and sampling

A sequential exploratory mixed-method study was conducted between March and October 2020 among HCWs of the 8 constituencies of Zambezi region. 129 respondents who had been residents of the selected constituencies for over five years and aged between 17 to 60 years were selected for the study. To determine the number of respondents from each area within the region, proportionate sampling using the Namibia statistics data for the year 2016 was used. All potentially eligible respondents from the regions between the selected age groups were approached, introduced to the study and invited to participate. Only those who agreed and signed the consent forms were enrolled in the study. The mixed-method study design was selected because of its likeliness to produce more comprehensive and exceptional data in an area that has not been adequately studied.¹³

Study instrument and data collection

For the qualitative stage of the study, the researchers developed and implemented focused group discussions (FGDs) with HCWs to discuss their perceived barriers for the delivery of SC services; as well as their knowledge, attitude, and practices (KAP), behaviours, and opinions regarding SC. The FGD respondents were selected using a purposive sampling method to obtain relevant information for the research. We continued to recruit until we reached data saturation. Built on the main research questions a semi-structured guide was developed to moderate the FGDs. The data collection was conducted in March and October 2020. The

mean period of the FGDs was 40 minutes. The FGDs were audio recorded with the consent of all study participants. The qualitative study used the research methods of triangulation and heterogeneity, and it was completed when saturation was attained. After data collection, the researcher transcribed the data and analysed FGD verbatim transcripts using thematic framework analysis. For the quantitative stage, the data were collected through a cross-sectional survey to assess the HCWs' confidence and potential barriers in providing smoking cessation counselling and as well as their KAP regarding SC and smoking effects. The data collection for quantitative phase was conducted in October 2019 to April 2020, and follow-up was completed by May 2020.

A structured interview and self-administered pretested questionnaire were designed in English, translated to the locally spoken language Silozi and it was administered to each respondent when necessary. The study instrument collected data on the demographic and socioeconomic characteristics of the study participants, also on KAP, risk factors of smoking, types of smoking methods used and smoking behaviour. A series of quality assurance processes was implemented to ensure that data quality was not compromised but preserved, including data validation, data cleaning, questionnaire verification, as well as ensuring that questionnaires were tested for consistency. Daily administered questionnaires were checked by the principal investigator to ensure quality assurance of collected data and completeness of questionnaires.

Data analysis

Data was coded, entered into SPSS where data cleaning and analysis were done. Descriptive statistics was used by the researcher to summarize the respondents' characteristics and barriers' evaluations. For the qualitative study, the researcher transcribed the data and analysed FGD verbatim transcripts using thematic framework analysis. Following the data collection and analysis, the quantitative and qualitative data sets were combined by portrayal qualitative categories onto quantitative data.¹⁴ There were 3 main areas identified: system, HCWs and client based barriers. These 3 areas served as a primary framework to recognize possible barriers in providing SC services in Zambezi region, Namibia.

Results

Sample description

Thirty-five HCWs participated in 4 FGDs and 94 participants completed the survey. Majority of participants were females (62.9% and 68.1%) respectively, compared to (37.1% and 31.9%) males. The mean age of respondents was 35.91 (SD =9.3) and 36.61 (SD =8.7), respectively, and their ages ranged between 18 and 59 years. The oldest participant who completed the survey was 59 years old. When it came to the profession of respondents, 57 nurses (60%) were the highest respondents while only doctors (2.1%) responded to the survey. In addition, the majority of the FGD (25.7%, n=9) and survey respondents (21.3 %, n=20) were from Katima Urban constituency. (The socio-demographic characteristics of the study participants are summarized in Table 1.

Healthcare workers based barriers

The HCWs qualitatively differentiated between their duties in giving SC support and guiding patients to stop smoking. Although these HCWs viewed themselves as givers of preventive healthcare, they didn't regard delivery of SC support as their duty. In most cases the HCWs stopped their participation in the delivery of SC

services once they gave advice without proposing other interventions. One nurse indicated: «I usually give advice to smokers to consider quitting or reducing but I have never prescribed any medication to quit smoking as it is not my responsibility» [Nurse, 35].

Some nurses felt that they were being underestimated by patients as they could only be viewed as assistants to doctors and dentists: *e.g.* «One time a patient told me straight to my face that my role is to assist the doctor and not give prescriptions, that really offended me and changed my mind-set, I do not really understand as we all went to school and have knowledge» [Nurse, 33]. A few HCWs agreed that medication should not be the first method to stop smoking, but they should first try to refer patients to specialists such as social workers to assist patients to quit smoking. In contrast, some of the respondents stated opposing view concerning likelihood of referring smokers to other specialists such as psychologists, counsellors and social workers: «It is really unlikely for a person in Zambezi to visit a psychologist willingly as it is still viewed negatively in some communities it has a lot to do with our culture, the stigma that comes with seeing a social worker is unbearable» [Community Health worker (CHW), 38]. Moreover, the HCWs indicated that they were hesitant to offer SC counselling as they were scared to damage the patient-HCW relationship. In a way it was seen as confrontational especially when dealing with an elder or someone of the opposite gender. A nurse said: «Advising someone who is older than me or a male will really make me uncomfortable and may just seem disrespectful in my culture. I would really not mind talking to my family, friends and co-workers about smoking but with patients its a bit sensitive» [Nurse, 31].

Most of the HCWs never received official training on SC services and were deficient in suitable knowledge: «During our trainings SC is mentioned as a risk factor but not in full detail, as such we do not have the ability to prescribe medication but we can offer basic counselling to patients who smoke» [CHW 25].

The qualitative descriptions reported by HCWs were supported

by quantitative findings. A large percentage of participants stated having inadequate knowledge and training on SC services as important barriers that prevent them from assisting patients who smoke to quit 61.7% (n=58) and 41.5% (n=35) respectively (Table 2). Another barrier reported by HCWs was lack of time. The majority of HCW identified short periods of time available during a patient meeting as a main barrier to the provision of SC services. HCWs frequently addressed many problems during consultations, restricting the time available to deliver SC interventions. One comment from a respondent gives the insight: «The majority of our patients are walk-ins. They come to the health facilities when undergoing a challenge, and as you look at the patient history, you may discover that they smoke but since that is not their main reason for consulting, we focus on their health challenge and not on SC» [Doctor, 40].

Similarly, to the qualitative descriptions reported by healthcare workers the quantitative findings indicated that 66% (n=62) of respondents found a lack of time as a barrier to providing SC interventions to patients.

Some HCWs presented resistance against increasing preventive responsibilities as they feel they are already overworked. However, they agreed that providing advice and referral to smokers to seek help was a minor part of their job, but not their sole responsibility.

Structural based barriers

HCWs reported that they have a burden of an excessive workload and unreasonable administrative paperwork which were restricting the time meant for engaging with their patients. They felt they were having too many other responsibilities that required their attention instead of spending their time on providing SC counselling to smokers. One doctor noted: «I just greet and start typing on the system what the client is reporting I just feel time is not on my side to spend more time chatting, I have had clients who

Table 1. Socio-demographic characteristics of study participants.

| Variable | Character | Survey (n=94) % (n) | FGDs (n=35) % |
|------------------------|-------------------------|---------------------|---------------|
| Gender | Male | (30) 31.9 | (13) 37.1 |
| | Female | (64) 68.1 | (22) 62.9 |
| Age | 17-25 years | (8) 8.5 | (5) 14.3 |
| | 26-34 years | (34) 36.2 | (11) 31.4 |
| | 35-43 years | (34) 36.2 | (11) 31.4 |
| | 44-52 years | (14) 14.9 | (6) 17.1 |
| | 53-65 years | (4) 4.3 | (2) 5.7 |
| Job title | Nurse | (57) 60.6 | (10) 28.6 |
| | Social Worker | (15) 16 | (7) 20 |
| | Dental Worker | (4) 4.3 | (5) 14.3 |
| | Community Health Worker | (15) 16 | (11) 31.4 |
| | Doctor | (3) 3.2 | (2) 5.7 |
| Years working as a HCW | 0-5 | (52) 55.3 | (18) 51.4 |
| | 6-10 | (28) 29.8 | (12) 34.3 |
| | 11-15 | (6) 6.4 | (4) 11.4 |
| | 16-20 | (6) 6.4 | (1) 2.9 |
| | 21-25 | (2) 2.1 | |
| Area (Constituency) | Kabbe South | (15) 16 | (3) 8.6 |
| | Kabbe North | (13) 13.8 | (6) 17.1 |
| | Linyanti | (5) 5.3 | (3) 8.6 |
| | Judea Lyamboloma | (12) 12.8 | (5) 14.3 |
| | Sibbinda | (7) 7.4 | (2) 5.7 |
| | Katima Mulilo Urban | (20) 21.3 | (9) 25.7 |
| | Rural Katima Mulilo | (12) 12.8 | (5) 14.3 |
| | Kongola | (10) 10.6 | |

FGD, focused group discussions; HCW, healthcare workers.

complained that I do not even look at them when they are talking to me, but if they were in my shoes, they would maybe understand me» [Doctor, 40]. Another barrier for providing effective SC services was the limited availability of SC products in the Zambezi region pharmaceutical market. As reported by one HCW «Although you would like to prescribe medication for SC, it is not attainable from the state and in private pharmacies it can be costly or not found, in the end the patient just drops the whole treatment process» [Doctor, 39]. The majority of the respondents indicated that they would rather advise smokers to use cold turkey, a cheaper way of quitting cigarette smoking. Moreover, the HCWs reported that they had a lack of patient educational materials that they could distribute to smokers to go read for themselves. Lack of remuneration was not perceived as a major barrier to the delivery of SC services, although they indicated that it would serve as a motivating factor, «If the government would pay more to ensure that, as HCWs, we incorporate SC counselling I am sure most would try to squeeze it in regardless of the time constraints» [Nurse, 25].

Results from the quantitative study also showed that 60.6%

(n=57) of HCWs reported the lack of SC guidelines as important barrier to the provision of evidence-based SC interventions, while 66% (n=62) reported the lack of SC experts for referring patients as important barriers. Lastly, 56.4 % (n=53) of respondents regarded lack of educational resources for patient as an important barrier (Table 2).

Patient-based barriers

The HCWs believed that interacting with patients with a little motivation in SC programs was a challenging matter; therefore, they highlighted that patients should depend on their willpower for quitting and select SC approaches on their own. One HCW reported, «the patients usually come in for severe issues, not interested in managing smoking related chronic challenges. Majority of them do not view smoking as a problem» [Nurse, 37]. A Social Worker stated, «Some patients really enjoy smoking. Therefore, they do not want to quit. We try both counselling and pharmaceutical but they end up dropping out of the sessions and continue smoking» [Social Worker, 31].

Table 2. Barriers that prevent HCW in providing smoking cessation interventions, n=94. Question: how would you rate the following as a barrier that prevent you from assisting patients who smoke to quit? Adapted from: Harutyunyan, Arusyak *et al.* (2019).29

| | Total % (n) |
|--|-------------|
| Healthcare Workers based barriers | |
| No formal training on smoking cessation interventions | |
| Not a barrier | 1.1 (1) |
| Somewhat a barrier | 37.2 (35) |
| Important barrier | 61.7 (58) |
| Insufficient knowledge on smoking cessation intervention | |
| Not a barrier | 13.8 (13) |
| Somewhat a barrier | 44.7 (42) |
| Important barrier | 41.5 (39) |
| Lack of time to provide smoking cessation intervention | |
| Not a barrier | 10.6 (10) |
| Somewhat a barrier | 23.4 (22) |
| Important barrier | 66 (62) |
| System/structural based barrier | |
| Lack of smoking cessation guidelines | |
| Not a barrier | 7.4 (7) |
| Somewhat a barrier | 31.9 (30) |
| Important barrier | 60.6 (57) |
| Lack of SC specialists to refer patients | |
| Not a barrier | 5.3 (5) |
| Somewhat a barrier | 28.7 (27) |
| Important barrier | 66 (62) |
| Lack of educational resources for patients | |
| Not a barrier | 4.3 (4) |
| Somewhat a barrier | 39.4 (37) |
| Important barrier | 56.4 (53) |
| Patient/client-based barrier | |
| Lack of patient interest in receiving SC information | |
| Not a barrier | 6.4 (6) |
| Somewhat a barrier | 47.9 (45) |
| Important barrier | 45.7 (43) |
| Patients not adhering to information given on SC | |
| Not a barrier | 12.8 (12) |
| Somewhat a barrier | 23.4 (22) |
| Important barrier | 63.8 (60) |
| Patients have urgent health problems to be addressed | |
| Not a barrier | 11.7 (11) |
| Somewhat a barrier | 28.7 (27) |
| Important barrier | 59.6 (56) |

The majority of HCWs believed that the key promoters that stimulate patients' craving to stop smoking were the growth of chronic health challenges (e.g., cancer) and the financial burden associated with smoking. One doctor reported: «I have seen several patients over the years who I advised to quit but they would immediately relapse, but once they get a chronic disease they immediately quit smoking for good» [Doctor, 55].

Some HCWs reported that at some point they had prescribed SC medication; however, in most cases the patients did not follow to the treatment strategy, and HCWs did not remember any effective cases of smokers quitting because of medication. «As a HCW one can prescribe the most suitable medication for a patient, however, it depends on the patient's willingness to adhere to the treatment plan, thus I can't recall any of my patients was successful» [Doctor, 43].

The majority of the HCWs reported that they usually did not follow-up SC among their patients. This was due to time constraint, distance to where the patients reside, and relocation of houses, incorrect addresses and contact numbers being provided in their records. «When free I try to make contacts with former patients but usually, it's time wasting as they are never traceable, especially the ones from the rural areas». Additionally, HCW reported that they had a habit of avoiding talking about SC with special patient subcategories such as patients with other addiction disorders, with severe comorbidities, mental health issues, and elderly patients. This is because of the deluded belief that smoking has *previously brought them harm* and their well-being challenges take priority above SC therapy. HCW reported that patients who referred to themselves as *healthy smokers*, those who smoke but do not have smoking-related diseases, were not regarded qualified to obtain SC interventions by the HCWs. «The only time I will talk about SC is when the clients bring it up. I do not usually ask each patient about their smoking status it is not part of our routine». [Nurse, 32]

According to 63.8% (n=60) of study respondents, not adhering to information regarding SC was identified as an important patient-based barrier. Additionally, 45.7% (n=43) of HCWs perceived patients' lack of interest in receiving SC information as an important barrier and lastly, addressing patients' other immediate health problems was seen as an important barrier for providing SC by 59.6% (n=56) of HCWs (Table 2).

Discussion

Over the past few years, several surveys have been conducted regarding smoking in Namibia;^{9,10,15-19} however, there has been lack of information on the barriers towards the provision of SC intervention in Zambezi region, therefore increasing the challenges associated with developing prevention interventions. Knowledge of the barriers towards the provision of SC intervention would be essential in the design and implementation of SC strategies. Therefore, the aim of the current study was to contribute to knowledge gaps on the identification of barriers which prevent HCWs from delivering SC therapy and treatment to patients in Zambezi region, Namibia. To our knowledge, this is the only study exploring the barriers that prevent HCWs in Zambezi region from engaging in SC with patients.

The study outcomes presented an understanding of the regular perceived barriers that prevent HCWs in Zambezi from delivering SC intervention to their patients who smoke. The main outcomes of this study were divided into three separate categories namely; structural, healthcare workers and patient-based barriers.

The identified structural based barriers included the lack of

availability of SC medications within the region, the high cost of SC medications, and the lack of compensation for providing SC interventions to patients. On the HCWs-based barriers the main finding were insufficient training and inadequate knowledge on SC treatment (the use of supporting materials, the use of specific SC interventions e.g., 5As). Lastly, the identified patient-based barriers were the lack of interest in receiving SC information, the lack of motivation to quit, not complying with the SC treatment, and having more urgent health problems that need attention.

Insufficient training of healthcare workers, knowledge, confidence and skills on smoking and its treatment are some of the main challenges to obtain effective and consistent treatment of tobacco addiction.⁶ Most of the HCWs in Zambezi region had never obtained any formal training on SC or tried to improve their knowledge of SC either during in-service or pre-service trainings. According to Young and Ward,²⁰ partaking in SC trainings increased the probability by 50% of delivering support to patients who smoke in comparison to HCWs who are not trained.²¹

The study undertaken by Caplan *et al.*⁷ revealed that SC proportion among patients can be significantly enhanced by motivating HCWs' submission with the SC guidelines, although other literature has shown that HCWs are not always acquainted with these guidelines.^{22,23} The findings of our study showed that the majority of HCWs in Zambezi were not aware of the national tobacco control legislation that were passed under the FCTC.¹⁸ Although, the Ministry of Health and Social Services approved the convention in 2005, no additional actions were taken on to empower the HCWs to execute the framework.¹⁸ Our results are comparable to other studies which found that HCWs usually failed to follow all of the sections of the SC guidelines.²⁴ Compatible with other studies conducted in Europe,^{23,25,26} our results propose that lack of training, lack of motivation to quit smoking in patients, lack of compensation for HCWs for providing SC, smoking being a sensitive subject to discuss with patients were considered as a major barriers. Additionally, this study revealed that majority of HCWs in Zambezi regarded delivering SC as tedious and that the time used was not equivalent to the efforts as less patients quit smoking. The possible explanation would be the fact that HCWs are inundate with administrative work which limits the duration spent with patients and impacts HCWs' resolution to deliver SC interventions. Our study also showed that HCWs prioritize SC intervention based on particular details of the patient such as medical condition at the time of consultation. Similar to other studies,^{27,28} our study revealed that significant number of HCWs were not comfortable talking about patients' smoking behaviour and it is a culturally sensitive subject based on age and gender. Despite recognising their role in advising patients to stop smoking, the majority of HCWs did not regard delivery of SC support as a part of their work.

Study limitations

This study is limited by being conducted only within the Zambezi region. This may influence the generalizability of the conclusions to other locations in Namibia. Lastly, since this study assessed only the barriers from HCWs viewpoint, further studies need to explore patients' viewpoint on the barriers of smoking cessation interventions.

Conclusions

This study is unique because it is the first study on the barriers regarding the delivery of SC intervention in the Zambezi region, Namibia. This study showed that SC delivery in Zambezi region is inadequate. Targeted smoking cessation interventions which are

tailored to the local context and sensitive to the culture and community norms are required to combat barriers that restricted HCWs participation in delivering SC interventions in Zambezi region. There is a critical requirement to improve HCWs skills and knowledge in providing SC intervention and to ensure affordability and availability of SC services in Zambezi region. Further research is recommended.

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