

RESEARCH ARTICLE**Analysis of Factors Influencing Teenage Pregnancy in Namibia****Author**

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Email: nkanime@unam.na**Abstract**

Teenage pregnancy (TP) is a worldwide phenomenon affecting both developed and developing countries; it is a universal problem. Teenage pregnancy is the result of the fact that teenagers are sexually active. It has not only become a public health issue, but also a media focal point. It is one of the main issues in every health care system since early pregnancy can have harmful implications on girls' physical, psychological, economic and social status. In 2014 the World Health Organization reported that 11% of all births were due to women aged 15-19 years and approximately 95% of teenage pregnancies occur in developing countries [12]. This paper aims to assess spatial differentials of factors influencing teenage pregnancy in Namibia to help policy makers, program managers and health care authorities make better targeted decisions in planning and problem solving. The study used secondary data from the 2013 NDHS. The units of analysis were teenage girls aged between 15 and 19 years. Univariate and bivariate analysis entailed description of all sampled teenagers followed by ever pregnant respondents by individual and household variables. Multilevel binary logistic regression established the association between independent variables and teenage pregnancy using backward stepwise regression at 5% significance level. The results show that a total of 1857 teenage girls were successfully sampled. Of these 378 (20.4%) had experienced teenage pregnancy. Spatial distribution of teenage pregnancy indicated that TP is more prevalent in Kavango region with 15.6% followed by Ohangwena region with 11.6%. The region with the least teen pregnancy prevalence was Oshana with 3.4%. The results also revealed significant spatial association with contraceptive use and age at first sexual debut. Ohangwena region recorded the lowest level of contraceptive use among teenage girls. There are also spatial variations with regard to type of contraceptive use. The majority of regions showed high proportion of teenage girls had their first sex before the age of 15. Overall, the study concluded that teenage pregnancy in Namibia is significantly influenced by use of contraceptives, age at which teenage girl had first sex, education level, and household wealth status. It is therefore important for the country to scale up and expand adolescent friendly health services especially in regions highly affected. Innovative and education programmes in the form of drama or movie series targeting teenagers should be used as advocacy and information sharing strategy.

Keywords: teenage pregnancy, spatial, regions, Namibia

Introduction

Teenage pregnancy is a worldwide phenomenon affecting both developed and developing countries; it is a universal problem [1]. It is the result of the fact that teenagers are sexually active. It has not only become a public health issue, but also a media focal point, it is a major issue irrespective of the teenager's marital status [2]. Teenage pregnancy is one of the main issues in every health care system since early pregnancy can have harmful implications on girls' physical, psychological, economic and social status [1]. Pregnancy in the very young is generally considered to be a high risk event because of the additional burden imposed by reproduction on a still growing body. Teenagers are neither children nor adults, but are in transition to adulthood. They constitute a high-risk group often highlighted in public debates [1]. Teen pregnancy is defined as any pregnancy occurring among adolescent girls aged 19 years or younger. In recent decades, the number of teens who have become pregnant worldwide has increased and become a major health issue for both developing and developed countries. According to the World Health Organization (1995, p. 3) "One of the most important commitments a country can make for future economic, social and political progress and stability is to address the health and development needs of its young people"

Teenagers in sub-Saharan Africa have one of the highest birth rates compared to teenagers in the other regions of the world, accounting for a significant proportion of the overall fertility in many countries in the region [3-4]. High teenage birth rates reflect the

vulnerabilities they experience and the lack of opportunities available to them [3]. A wide range of factors contribute to the high rates of unintended pregnancy and unplanned births among teenagers; poor knowledge of sexual and reproductive health services, legal barriers to accessing services, provider bias, stigma around premarital sex and lower decision making autonomy of married teenagers are among the factors contributing to unintended pregnancies [3-4].

Teenage pregnancy is associated with social stigma, stillbirth, low birth weight and maternal death. Evidence shows that before the age of 15 years, more than 21% of adolescent girls are already mothers, while close to 50% of the pregnancies are unplanned [5]. Despite huge investments and refinement of the policies, teenage pregnancy continues to reach crisis proportions in most African countries [6]. Recent studies on teenage pregnancy in the subcontinent had looked at individual level demographic, socioeconomic and reproductive health knowledge and behaviour parameters [7-8]. Other studies [9-11] had explored the effect of household variables on teenage pregnancy in Nigeria, Kenya, and Lesotho showing household size and parents' marital status as significant predictors of teenage pregnancy.

Nevertheless, teenage pregnancy remains a challenge requiring urgent resolution the world over [6]. In 2014 the World Health Organization reported that 11% of all births were due to women aged 15-19 years [12]. Approximately 95% of teenage pregnancies occur in developing countries with 36.4 million women becoming mothers before age 18 [6]. In 2018, the estimated adolescent birth rate globally was 44 births per 1,000 girls

aged 15 to 19; in West and Central Africa, this figure stood at 115 births, the highest regional rate in the world. Countries such as Central African Republic, Niger, Chad, Angola and Mali top the list of countries with highest adolescent birth rate (above 178). While childbearing among younger adolescent girls has declined, it has remained stagnant among older girls [13].

The Government of Namibia has taken various measures to reduce teenage pregnancy and its consequences. Some of the measures taken thus far include amending and/or implementing: a law against early marriage and a national adolescent and youth reproductive health strategy. However, teenage pregnancy continues to be a burning public health and demographic challenge in Namibia. Some researches identified different determinant factors of teenage pregnancy: like not living with parents, low socioeconomic status, early sexual intercourse and low level of contraception knowledge [10, 14-15]. However, the dearth of spatial information on determinants of teenage pregnancy is particularly pronounced in Namibia. Therefore, this study aimed to determine the factors contributing to teenage pregnancy to help policy makers, program managers and health care authorities with better decisions in planning and problem solving. Understanding the correlates of teenage pregnancy can motivate policy and programmatic responses to teenage pregnancies and help monitor progress toward reducing their incidence.

Data and Method

We used the 2013 Namibia Demographic and Health Surveys (NDHS) data to identify the socio-economic and demographic correlates using a subsample of teenagers aged 15–19 years. DHS surveys collected detailed information on individual and household characteristics, fertility, sexual behavior, contraception, and related reproductive behaviors from women of reproductive age (15–49 years). DHS is a nationally representative household survey with cross-sectional design and widely used for monitoring and evaluation of population, health and nutrition programs in developing countries.

The dependent variable of the study was ever pregnant – This included teenage females who were currently pregnant at the time of the survey, and those that had one or more children. The study considered all females aged 15-19 who answered affirmatively to any of the two areas as the ever pregnant sample. The data are only for current pregnancies or previous births and do not capture teenage pregnancies that ended in miscarriage, abortion or stillbirth.

Although several previous studies [8,16] used the ecological framework of multidimensional factors at the individual, relational, familial and structural levels that influence adolescent pregnancy, we could not use this framework fully due to the limitations in our data. The data we used (secondary data) is not collected to capture the constructs in the model comprehensively – and as a result we have focused on the influence of few constructs at the individual,

household and community levels that we have available data for.

Independent variables encompassed socio-demographic and reproductive-related individual factors as well as social disorganisation factors at the household and community levels. Individual independent variables included age, ever married, education attainment, employment status, age of sexual debut and partner's age. Household level variables included sex of household head, age of household head and wealth index.

Individual level covariates hypothesized to influence teenage pregnancy include girl's education, exposure to media, age, and age at first sex. The variable exposure to media was constructed from questions in the DHS on whether the respondent listens to radio, watches television, or reads newspapers and magazines. Age at first sex was captured as a continuous variable. Household level covariates include household wealth index, place of residence, and sex of the household head. Household wealth index was recoded into two categories of the poor coded as 0 and the rich coded as 1. Place of residence was coded as 1 if urban and 0 for rural. Similarly, the variable on sex of the household head is coded as 0 for male and 1 for female.

Data were analyzed using SPSS statistical software version 25. First, we conducted exploratory analyses of each of the variables and descriptive analysis looking at trends and patterns of teenage pregnancy. Country-level bivariate analyses were conducted to examine associations between teenage pregnancy and the selected individual,

household and community level variables. Values for categorical variables were shown as absolute numbers and percentages while the mean and standard deviations or median of the continuous variables were recorded. Selection of variables for multivariate multilevel regression was conducted using backward stepwise regression at 5% significance level. Variables were included into the multivariate mixed effects logistic regression if they had a significant association at the bivariate level. Multi-level logistic regression analysis was used to identify the net effects of each explanatory variables after adjusting for potential confounders. Teenage pregnancy was then fitted to the models- This is a dichotomous outcome with possible responses of 'yes' or 'no'. We report the fixed effects in terms of odds ratios (OR), and 95% confidence interval (CI) after adjusting for potential confounders.

Results and Discussion

During 2013 NDHS, a total of 1857 female teenagers were successfully sampled. Of these 378 (20.4%) had experienced teenage pregnancy. This represents a 4 percentage point increase in teenage pregnancies in Namibia since the 2006-07 NDHS. The proportion of teenagers who have had a live birth rose rapidly with age, increasing from 3 percent at age 15 to 27 percent at age 19. Rural teenagers and those with a primary education tend to start childbearing earlier than their urban and better educated peers. The 2013 NDHS report [17] affirmed that the issue of teenage fertility is important for both health and social reasons. It reported that

children born to very young mothers are at increased risk of sickness and death. The report further indicated that teenage mothers are more likely to experience adverse pregnancy outcomes and are more constrained in their ability to pursue educational opportunities than those who delay childbearing.

Among those who experienced teenage pregnancy only 2.9% are married while 21.2% (n=80) indicated that they live with partner. The majority of those living with partners were aged 19 years. There is however indication of child marriage as there were teenagers who were married before attaining their 18th birthday. Table 1 shows the percentage distribution of teenagers who experienced teenage pregnancy by their background characteristics. Spatial distribution of teenage pregnancy showed that it is more prevalent in Kavango region with 15% followed by Ohangwena with 11.6%. The region with least teenage pregnancy was Oshana with 3.4% prevalence. The majority of teenagers who experience pregnancy lived in rural areas (58.2%). The proportion of teenagers who experienced pregnancy increased with the level of education. It was high among those with secondary education (61.9%) and low among those with no education (6.1%). Close

to 56% of teenagers who experienced teenage pregnancy live in households headed by women; and majority (72.2%) belong to households with poor wealth index. Only 14.8% of teenager reported being employed. The median age at first sex among teenagers who experienced pregnancy was 16 years; and on average they experienced 1st birth at the age of 17 years. It is also of interest to note that teenagers on average have partners who on average are older than them. Overall, only 39% of teenagers who experienced pregnancy were using contraceptives. Majority of them were using injections (71.8%) followed by condom (16.8%) and pill (9.4%). There is a significant association between region of residence and contraceptive use among teenagers; as well as age at their 1st sex. Ohangwena has the lowest proportion of teenagers using contraceptives (13.6%) while 43.3% of teenagers in Kunene region reported using contraceptives. Thirty percentages of teenagers in Kunene region were using injections. Condom use was more prevalent in Khomas, Oshana and Oshikoto regions. More than 50% of teenagers in Omusati, Oshikoto, Karas, Ohangwena, Hardap and Erongo regions had their 1st sex before the age of 15 years.

Table 1: Percentage distribution of teenagers who experienced teenage pregnancy by their background characteristics

Characteristic	% or Mean
Secondary education (%)	61.9
Urban Residence (%)	41.8
Richest Households (%)	27.8
Ever Married (%)	25.7
Contraceptive Use (%)	39.4
Access to Radio (%)	74.6
Access to TV (%)	43.7
Access to newspaper (%)	48.4
HH Female	55.6
Median age at 1 st sex (median)	16 years
Median age at 1 st birth (median)	17 years

Table 2 presents results of the multivariable multilevel logistic regression analysis. We included the following variables into the regression model: age, place of residence, education, wealth, marital status, exposure to media, sex of household head, age at first sex and contraceptive use. The regression analysis identified several factors that are associated with teenage pregnancy and motherhood. Age of respondent and age at first sex are positively associated with teenage pregnancy and motherhood. The results show that older teenagers were more likely to experience teenage pregnancy than the younger ones (OR=1.511). These findings are consistent with a study conducted in northern Ethiopia which found that young women in the age group of 18±19 years had a seventeen times higher odds of teenage pregnancy when compared to the 16±17 year old age group [14]. A study conducted in Nigeria also found that

pregnancy and childbearing increased with age of the female teenager [18]. It reported that the odds ratio of having had a birth increased with age. Specifically, the study reported that younger teenagers were significantly less likely to have had a birth relative to a 19 year old teenager.

In addition, teenagers who had their first sex at older teen ages have a high likelihood of experiencing teenage pregnancy than those who had their first sex at more young teen ages (OR=1.131). Some researchers argued that teenagers who initiate sexual intercourse early had higher odds of teenage pregnancy [7,19]. They argued that early sexual initiation may lead to higher sexual risk-taking behavior, such as having multiple partners and not using contraceptives, and early pregnancy. This argument contradicted with our findings. In Namibia, although there are young women who have their 1st sex at early ages say at ages younger than 15 years,

on average the first birth occurs only at age 17 years.

With regards to family structure or living arrangement, the results show that married teenagers had higher odds of early motherhood. Teenagers who were married were 5 times more likely to have teenage pregnancy than those who were single. Consistent to our finding, many studies [14,20] concluded that in a setting where early marriage is highly prevalent, teenagers are exposed to unwanted pregnancy, unsafe abortion and STIs. Marriage may force teenagers to curtail their education lose future opportunities for economic independence and reduce a women's decision-making power. Other studies [15] have further shown that teenagers affected by early marriages are deprived of economic empowerment and self-efficacy and are at risk of early pregnancies [21]. They are also prone to maternal morbidity and mortality [54]. WHO's guidelines on prevention of unintended pregnancy stressed on policies to reduce early marriage [22]. Related to early marriage, are also issues of rape, coerced sex, sexual advances from adult men and unequal gender power in relationships that undermines adolescents' decision-making ability to either reject sex or negotiate the use of contraceptives.

Educational attainment, household wealth, exposure to media and contraceptive use status were significantly associated with teenage pregnancy. Those with at least secondary education, those from wealth households and those using contraceptives and have access to newspapers are less likely to experience teenage pregnancy. Having secondary and above education reduced the

odds of teenage pregnancy by 30%; while coming from a wealth household, using contraceptives and having access to newspapers reduced the odds of teenage pregnancy by 33%, 34% and 48%, respectively.

Earlier studies [15, 18, 19] also found that teenagers with at least secondary education are significantly less likely to have had a birth relative to those without any formal education. The implication is that retention of the girl child in schools reduces the chances of being pregnant. Research studies [23-24] have found that one of the best ways to decrease teen pregnancy is by increasing the female literacy rate, which increases the use of contraception and allows girls to understand sex education resources. Girls who have received a high amount of education are five times less likely to become pregnant and educated girls enter into child marriages less often and are more likely to have healthy future pregnancies. Literature [24] has shown that school provides the perfect environment to combat teen pregnancy. At school, students spend a lot of their time with trusted teachers in a regulated and supportive learning environment.

Another main factor influencing teenage pregnancy was access to media. This study revealed that teenagers who read newspapers or print media have less likelihood of experiencing pregnancy. This could be that the media is also a source of knowledge and information on contraception. The media is viewed as a source of information, especially for issues such as sexual health and sexual intercourse. Literature has shown that limited information and a lack of functional health literacy have a negative impact on decision-

making skills and health outcomes [25]. Furthermore, limited access to information is associated with less knowledge on the use of contraception services and pregnancy prevention.

Studies conducted in the USA and East Africa [15, 26-27] show that poverty leads

teenagers to engage in sexual relations due to different reasons in the early age. Poverty may drive teens to engage in sexual activities to generate income. A case control study conducted in Ethiopia found that teenagers in the poorest category were 3.09 times more likely to get pregnant when compared to those in the richest category [4

Table 2: Multilevel analysis of the association between variables and teenage pregnancy in Namibia, NDHS 2013

Variable	Estimated coefficient	OR
Secondary education	-0.314	0.703*
Household wealth status	-0.395	0.673**
Contraceptive use	-0.402	0.669**
Ever Married	1.625	5.076***
Access to newspaper	-0.642	0.526***
Age	0.413	1.511***
Age at 1 st sex	0.123	1.131***

Chi-square = 39.486, P<0.001; * = P<0.05; **P<0.01; ***P<0.001

Conclusions and Recommendations

This study explored the factors that are associated with teenage pregnancy in Namibia. Spatial differences on the levels and prevalence of teenage pregnancy is evident in Namibia. This in part could be attributed to cultural differences; and also to how reproductive health programs are advocated and implemented. The outcome of the analysis leads us to come up with conclusions and policy recommendations. First of all, age appears to be an important factor determining pregnancy and child bearing among teenagers. Early marriage

plays a significant role in the occurrence of teenage pregnancy. Thus, it is more expedient for there to be targeted programmes/interventions directed at enlightening teenagers, on behaviour change that will encourage delayed entry into marital unions. Ensuring that teenagers remain in school to secondary level of education may be a way out of reducing the negative outcomes of teenage pregnancy and child bearing. This is because only those who have education level lower than secondary are significantly more likely to either be currently pregnant or have a child. Thus affirming the knowledge that education often

provides positive effects on delaying pregnancy and child bearing. Poverty may be a contributing factor to teenage pregnancy and teenage child bearing, for only teenagers from the richest quintile households are significantly less likely to be currently pregnant. It is important that households from richest wealth quintiles are likely to be able to send their female teenagers to at least secondary level of education.

Policymakers and opinion leaders should focus on community sensitization, comprehensive sexuality education and ensure girls enroll and stay in schools. Also, peers and significant others should be

involved in designing interventional programs for adolescent pregnancy prevention. This could reduce teenage pregnancy rates. Moreover, provision of adolescent-friendly health services at schools and healthcare centers, and initiating teenage empowerment programs could have a positive impact on reducing teenage pregnancy. Programs that encourage parent-teenage communication of reproductive health issues, starting from early adolescence, in order to build skills to prevent pregnancy in the late teenage years, are very important.

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