

Statistical Modelling of Adolescent Pregnancy in Namibia

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Abstract

Adolescent pregnancy was considered a private matter that only involved the pregnant adolescent and the immediate family members. This issue has now however become a public concern. An increasing awareness of social and economic consequences of adolescent pregnancy has led to a consensus among researchers and policy makers and the general public at large that adolescent pregnancy and childbearing is a serious social problem. It is linked to concerns such as the spread of HIV/ AIDS, non-marital births, sexual abuse and neglect, abortions, infant and maternal mortality, high rate of unemployment, school failure and drop-outs, and loss of self-esteem and limited future career opportunities. This paper identifies and explains factors that influence adolescent pregnancy in Namibia using the 2006/7 DHS.

Keywords: Adolescent pregnancy; Risk factors; Namibia

Introduction

Adolescent pregnancy is not a new issue in Namibia. There have been always young women, their partners and their family facing difficult life changing decisions because of intended or unintended pregnancy. Until recently, adolescent pregnancy was considered a private matter that involved the pregnant adolescent and the immediate family members. This issue has now however become a public concern. An increasing awareness of social and economic consequences of adolescent pregnancy has led to a consensus among researchers and policy makers and the general public at large that adolescent pregnancy and childbearing is a serious social problem. It is linked to concerns such as non-marital births, sexual abuse and neglect, abortions, infant and maternal mortality, high rate of unemployment, school failure and drop-outs, and loss of self-esteem and limited future career opportunities.

According to UNICEF Report 2008 [1], women below 20 are likely to experience maternal death four times more than women above the age of 20. Adolescent childbearing, common in many parts of the world, carries particular risks. "Unprotected sex by adolescents consequently results in pregnancies, which may lead to their dropping out of school, marrying early, abandoning babies and obtaining illegal abortion". Adolescents who engage in unprotected sex are likely to be infected with HIV and AIDS as well as other STD's. Adolescent: refers to young people age 15-19 (WHO) and Adolescent pregnancy is pregnancy in girls aged 15-19 years of age.

Lawoyin and Kanthul in 2010 revealed that attitudes, multiple sexual partners as well as other factors were linked to risk factors for adolescent pregnancy [2]. Chinsebu et al in 2008 support the concept that adolescent sexuality is an important public health issue, as it affects risks to contract HIV and other sexually transmitted infections [3]. Sexual prevalence for school-going male in 2004 was 44% while for females it was 24.8% in Namibia. In the study parental supervision was negatively associated with sexual intercourse.

Garenne and Zwang in 2005, speculate that the high premarital fertility prevalence is due to low levels of contraception before first marriage and late mean age at first marriage. They found significant variation by ethno-linguistic groups with the Herero and Damara/ Nama having the highest levels of premarital fertility (above 60%) and Ovambo and Lozi a low premarital fertility of 40%. Other groups such as the San and Kavango groups were observed to have remained traditional, because they had a low premarital fertility of around 20%. This could be explained by the fact that these groups during the time of study were the minority and San people are nomads who are hard to be tracked.

Mmari and Blum in 2009, conducted a comprehensive and systematic literature search to examined factors influencing adolescent pregnancy risk behaviour [4]. Their results showed that factors that were significantly associated pregnancy risk behaviour were related to the adolescents themselves and only a few factors outside the individual were related to pregnancy risk behaviour. It can then be concluded that there is a need for a broader search on the risk and developing factors.

Blum & Roberts in 2004 and Mmari and Blum in 2009 concur that the most important pregnancy risk factors are education and schooling; knowledge and attitudes related to condom and contraception; perceived sexual behaviour of friends; partner approval/support for using condoms and contraceptives [4,5].

Although most research show that females are at risk of early marriage, early sexual debut and adolescent pregnancy, Palermo and Peterman in 2009 suggests that female orphans are widely cited as being most at risk [6]. Studies in Cape Town South Africa by Jewkes et al in 2001 revealed that the partners of pregnant teenagers were significantly older and less likely to be also in school [7]. The pregnant teenagers were significantly more likely to have experienced forced sexual initiation and were beaten more often. Results further indicated that both forced sexual initiation and unwillingness to confront an unfaithful partner were strongly associated with the pregnancy. The authors further argued that the associated was mediated through unequal power relations within the relationships which were

reinforced by violence. Nduna and Jewkes in 2012 established that in the eastern cape of South Africa, denial and disputes of pregnancy by the girls' boyfriends, who usually expressed disbelief about the news of the pregnancy, rejected responsibility and relocated from their usual place of residence, left the pregnant girls distressed, dejected and hopeless [8]. Namibian girls, being a geographical neighbour to South Africa, are likely to share the same experiences. In Namibia, Mufune in 2003 showed that taboos and social sanctions against prohibited social behaviour have changed markedly, thereby loosening community control over sexuality and sexual behaviours that may predispose to HIV/AIDS related risk [9]. The disappearance of initiation practices such as efundula, which once served to protect young girls from early unwanted sex, has served to empower men more in sexual matters. These issues of disempowerment, gender inequality and income disparities associated with high percentage of poor households especially in rural areas (which promote sex work) are linked to teenage pregnancy in Namibia. This paper identifies and explains factors that influence adolescent pregnancy in Namibia using the 2006/7 DHS.

Materials and Methods

The study was conducted on women who had been pregnant and were pregnant at the time of study. Secondary data from the 2006/7 Namibia Demographic Health Survey (NDHS) was collected and 3064 women were categorized, who were adolescents when they gave birth. DHS is a national survey drawn on using a multistage cluster sampling. At first stage, a random sample of enumeration areas (EA), which are primary sampling units, was chosen from the census sampling frame. From the selected EAs, households were systematically drawn. Only women of reproductive age (15–49 years), in the selected households, were interviewed using a face-to-face questionnaire. The questionnaire included variables on individual bio-demographic factors, household characteristics, history of marital unions and births. The response variable was the age at first birth of the woman coded 1 if occurred below 20 years of age, and 0 otherwise, for women in the reproductive age-group. Independent variables included condom use at first sex, place of residence, socio-economic status, educational status, language of respondent, religion, drinking and smoking habits. Binary logistic regression was performed to establish factors influencing adolescent pregnancy.

Results

About 46.2 % of the women had attained secondary education whilst only 2% had attained higher education. The percentage with primary or no education (51.8%) exceeded those with secondary or higher education. This seems to suggest that education may have a big role to play in mitigating against adolescent pregnancy. The distribution of educational level among women who had experience adolescent pregnancy is displayed in Figure 1.

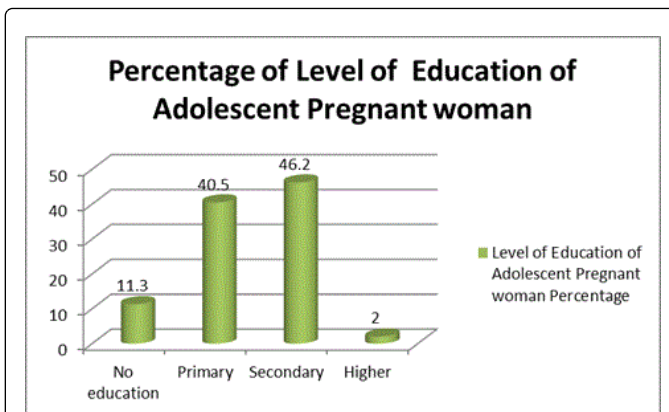


Figure 1: Percentage level of education of adolescent pregnant women

The distribution of women who experienced pregnancy during their adolescence by their region of residence are shown in Figure 2. The percentage of adolescent pregnancy varied according to region. The top five regions with the highest percentages of teenage pregnancies were Kavango (13.1%), Otjozondjupa (9.1%), Khomas (9.0%), Zambezi (8.5%) and Ohangwena (8.2%). Intervention efforts to reduce teenage pregnancy should especially focus on these regions (Figure 2).

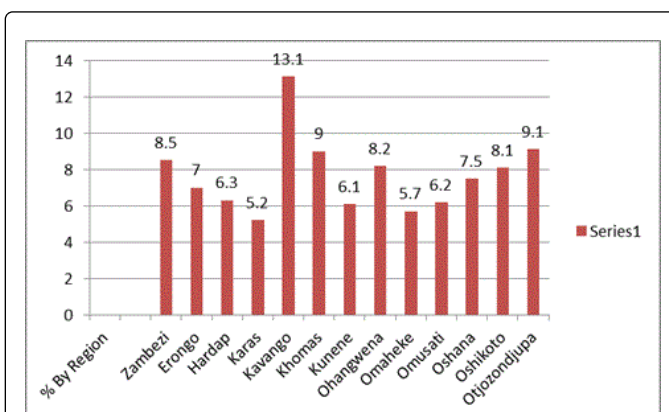


Figure 2: Percentage of Adolescent pregnancy by Region

Most of the women (55.1%) were from rural areas. With regard to religion, most women were protestant (75.9%). A considerable number of the women came from female-headed households (52.3%). The dominant language spoken by the women was Oshiwambo (44.8%). Table 1 displays the results of correlation analysis of potential determinants of adolescent pregnancy (Table 1).

Potential Predictor	Pearson Correlation Coefficient	Probability value
Year of birth	0.204	<0.001***
Region	-0.069	<0.001***
Type of place of residence	0.061	<0.001***

Highest educational level	-0.213	<0.001***
Religion	0.021	0.088
Wealth Index	-0.121	<0.001***
Ever use of any contraceptive method	0.001	0.949
Age of first sexual partner	-0.031	0.256
First sexual partner younger, same age, or older	0.048	0.086
Main Language Spoken at home	0.053	<0.001***

***significant at 1% level, * significant at 5% level

Table 1: Results of correlation analysis

The results indicate that the year of birth of the respondent, region, type of place of residence, educational level, social economic status (measured by the Wealth Index), and the cultural factors (measured through the Main Language Spoken at home) were significantly correlated with adolescent pregnancy. The religion of the woman was not significantly associated with adolescent pregnancy. The variables with significant associations with adolescent pregnancy were included in the binary logistic regression model. The results of the logistic regression are presented in Table 2.

Independent variable	Propability value	Odds Ratio	95% C.I for Odds Ratio	
			Lower	Upper
Year of Birth	<0.001***	1.062	1.055	1.069
Region				
Zambezi		1		
Erongo	0.227	1.306	0.847	2.012
Hardap	0.082	1.285	0.969	1.703
ikaras	0.938	1.012	0.75	1.366
Kavango	0.868	0.974	0.716	1.325
Kohomas	0.943	1.014	0.698	1.473
Kunene	0.688	0.949	0.734	1.227
Ohangwena	0.706	1.062	0.775	1.456
Omaheke	0.134	0.793	0.585	1.074
Omusati	0.473	0.897	0.666	1.208
Oshana	0.013*	0.676	0.496	0.92
Oshikoto	0.526	0.91	0.681	1.217
Otjozonjupa	0.441	0.893	0.67	1.19
Place of residence				
Urban		1		
Rural	0.909	1.008	0.875	1.161
Highest Education Level				
No Formal Education		1		
Primary	<0.001***	4.687	3.296	6.665
Secondary	<0.001***	6.944	5.061	9.529
Higher	<0.001***	2.386	1.767	3.224
Wealth Index				
Poorest		1		
Poorer	0.007***	1.451	1.107	1.903

Middle	0.001***	1.552	1.209	1.992
Richer	0.002***	1.388	1.122	1.717
Richest	0.002***	1.333	1.107	1.605
Main Language Spoken at Home				
Afrikaans		1		
Damara/ Nama	0.989	1.003	0.689	1.458
English	0.126	1.308	0.927	1.847
Herero	0.625	0.818	0.366	1.829
Kwangali	0.051	1.439	0.998	2.075
Lozi	0.943	0.99	0.742	1.32
Oshiwambo	0.594	0.887	0.572	1.376
San	0.047*	0.705	0.499	0.995
Subbia	0.427	1.277	0.699	2.333
Other	0.459	1.183	0.758	1.848
*** Significant at 1% level, * Significant at 5 % level				

Table 2: Results of logistic regression

Logistic regression results suggested that the risk of adolescent pregnancy was significantly increasing among the new generation compared the older generation as the year of birth suggests (OR 1.062, CI: 1.055-1.069). With regard to region, there were generally no significant differentials in the risk of adolescent pregnancy except for Oshana region where the risk of adolescent pregnancy was significantly lower than that of the Zambezi region (OR 0.676, CI:0.496-0.920). The rural/ urban place of residence did not seem to influence the risk of adolescent pregnancy among the women (p-value =0.909). It was interesting to note that compared to women with no formal education, the risk of adolescent pregnancy actually increased among women with primary education (OR 4.687, CI: 3.296-6.665); secondary education (OR 6.944, CI: 5.061-9.529), then the risk reduced among women with higher education (OR 2.386, CI:1.767-5.224) but still relatively higher than for women with no formal education.

With regard to the socio-economic status of the women, compared to the poorest, the risk of adolescent pregnancy was higher for the poorer women (OR 1.451, CI: 1.107-1.903; middle status women (OR 1.552, CI: 1.209-1.992); richer women (OR 1.388, CI: 1.122-1.717) and the richest women (OR 1.333, CI: 1.107-1.605) but the odds declined as the women got richer. There were generally no significant cultural factors impacting on the risk of adolescent pregnancy except for the San women who were significantly less likely to experience adolescent pregnancy compared to their Afrikaans speaking counterparts (OR 0.705, CI: 0.499-0.995).

Discussion

The risk of adolescent pregnancy was significantly increasing among the new generation compared the older generation in Namibia. Thus could be due to secularization, moral decay and unprotected sexual activities. Generational differentials in adolescent pregnancy are

being felt in both developing and the developed world. Ferraro et al in 2013 observed that adolescent childbearing was higher in the first generation in Brazil [10]. Twenge et al in 2014 revealed that in the US generation/ birth cohort and age showed that the trend toward greater sexual permissiveness was primarily due to generational dynamics [11].

The Oshana region was less likely to experience adolescent pregnancy compared to the Zambezi region. Language (a proxy for the ethnicity and cultural factors) was significant predictor for the risk of adolescent pregnancy with the San speaking women being significantly more likely to experience adolescent pregnancy compared to their Afrikaans speaking counterparts. In Namibia, the regional which could also be explained by different cultural practices, access to information and resources [9]. Elsewhere regional disparities in the risk of adolescent pregnancy have also been noted [12,13]. There were no significant differentials in the risk of adolescent pregnancy between rural and urban women, religious affiliation. A possible explanation could be secularization, the erosion of culture and the dwindling gap between urban and rural norms and culture due to the impact of urbanization and ICT coverage and what it brings along.

Results indicated that women with primary education, secondary and Higher education were significantly more likely to have adolescent pregnancy compared to those with no formal education. This was surprising as most literature indicate otherwise. Girls who had never fallen pregnant during their adolescent years concurred that becoming pregnant during adolescence would negatively impact on their education, family and peers; and they anticipated feelings of shame and embarrassment in the event that they fell pregnant [14]. In Brazil, girls from households with a per capita family income of USD70 or less, with parents who separated before the adolescent reached the age of 20 were less likely to complete their education [15]. However, in Namibia, girls who fall pregnant while at school are allowed to shelve

their studies for a while to give birth and take care of the baby, and then go back to school to resume their education.

With regard to socio-economic status, measured by wealth index, there were significant differentials in the risk of adolescent pregnancy with the poorer, middle, richer and richest women all more likely to experience adolescent pregnancy compared to the poorest women. This also was surprising as it is usually alleged that poor girls engage in early unprotected sex resulting in adolescent pregnancy. Studies in Nigeria revealed that students were highly becoming prone to early pregnancy due to the low socio-economic status of the households [16].

Conclusions

In Namibia the prevalence of adolescent pregnancy was 31.3%. Adolescent pregnancy was influenced by generation, region, highest educational level, socio-economic status and cultural factors. Intervention programs and policy initiatives should focus on youth, regions, everyone regardless of the socio-economic or culture.

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