ORIGINAL RESEARCH ARTICLE

Teenage pregnancy among unmarried teenagers in Malawi: Does sex of the household head matter?

DOI: 10.29063/ajrh2020/v24i4.6

Ololade J Baruwa[1], Sibusiso Mkwananzi[2], Acheampong Y Amoateng[3] and Nicolette Naidoo[4]*

Population & Health Research Entity, Faculty of Humanities, North-West University (Mafikeng Campus) South Africa[1,3]; Centre for Social Development in Africa, University of Johannesburg, South Africa[2]; Department of Demography and Population Studies, School of Public Health and Social Sciences, University of Witwatersrand Johannesburg, South Africa[1]; Wits Reproductive Health and HIV Institute, Johannesburg[1,4]

***For Correspondence:** Email: *baruwaololade@gmail.com*; Phone: +27731579733

Abstract

The role of parents, especially the household head, is very crucial in the sexual values and behaviour of teenagers. This study used the Malawi Demographic and Health Survey (MDHS) data of 2015-16 to examine the impact of sex of the household head on pregnancy outcomes among unmarried teenagers in Malawi. Using STATA 14, the data was analysed using univariate, bivariate and multivariate level of analysis. The multivariate logistic regression analysis was employed to examine the association between sex of the household head and teenage pregnancy. Results showed that teenage pregnancy was higher among unmarried females living in female-headed households (OR 2.54; CI: 1.01-6.43) compared to females from male-headed households. The study also found that unmarried teenagers with secondary and higher education had lower risk of teenage pregnancy (OR 0.53; CI: 0.40-0.72) compared to those with no education and primary education. The study concludes that teenage pregnancy is higher in female-headed households, a finding which suggests that parenting styles differ between male and female heads of households. Policy interventions in regard to sex education should be specific to the sex of the household heads in which teenage girls reside, while unmet need for contraceptives among teenagers should also be addressed. *(Afr J Reprod Health 2020; 24[4]: 51-57).*

Keywords: Teenage pregnancy; unmarried teenagers; reproductive health; sex of household head; Malawi

Résumé

Le rôle des parents, en particulier du chef de famille, est très crucial dans les valeurs sexuelles et le comportement des adolescents. Cette étude a utilisé les données de l'enquête démographique et sanitaire du Malawi (MDHS) de 2015-2016 pour examiner l'impact du sexe du chef de ménage sur les résultats de la grossesse chez les adolescentes non mariées au Malawi. À l'aide de STATA 14, les données ont été analysées à l'aide d'un niveau d'analyse univarié, bivarié et multivarié. L'analyse de régression logistique multivariée a été utilisée pour examiner l'association entre le sexe du chef de ménage et la grossesse chez les adolescentes. Les résultats ont montré que la grossesse chez les adolescentes était plus élevée chez les femmes célibataires vivant dans des ménages dirigés par une femme (OR 2,54; IC: 1,01-6,43) par rapport aux femmes des ménages dirigés par un homme. L'étude a également révélé que les adolescentes non mariées ayant fait des études secondaires et supérieures avaient un risque plus faible de grossesse chez les adolescentes (OR 0,53; IC: 0,40-0,72) par rapport à celles sans éducation ni éducation primaire. L'étude conclut que la grossesse chez les adolescentes est plus élevée dans les ménages dirigés par une femme, une constatation qui suggère que les styles parentaux diffèrent entre les hommes et les femmes chefs de famille. Les interventions politiques en matière d'éducation sexuelle devraient être spécifiques au sexe des chefs de famille dans lesquels résident les adolescentes, tandis que les besoins non satisfaits en contraceptifs chez les adolescentes devraient également être traités. *(Afr J Reprod Health 2020; 24[4]: 51-57).*

Mots-clés: Grossesse chez les adolescentes; adolescents non mariés; la santé reproductive; sexe du chef de ménage; Malawi

Introduction

Teenage pregnancy is a social and public health concern globally. About 11% of births occur among women aged 15-19 globally, and more than 90% of these births occur to women in less developed countries[1]. Sub-Saharan Africa accounts for the highest rate of teenage pregnancy in the world with 143 births per 1000 women aged 15-19 years[2]. Malawi is one country in sub-Saharan Africa where teenage pregnancy is very high; it is estimated that 154 per 1000 women between the ages of 15-19 get pregnant annually in that country[3]. Further, a report which used information of women aged 20-24 who had a live birth before 18 years as a proxy for teenage pregnancy reported that 35% of women

aged 20-24 gave birth before the age of 18 years in Malawi[4].

Teenage pregnancy is considered to be a risk event because most teenage girls are not physically and psychologically matured for reproduction[5]. Additionally, teenage pregnancy contributes to high rate of mortality and morbidity among females within the ages of 15-19[6]. For example, globally, approximately 15 million women less than 20 years give birth yearly and 529,000 of these women die as a result of pregnancy and child related complications. Moreover, complications such as induced hypertension, eclampsia, obstructed labour, fistula and premature onset of child labour are more prevalent among teenage girls compared to their older counterparts[8]. Also, pregnancy in very young women is not only associated with adverse pregnancy outcomes, but also negative outcomes on the health of the child[9]. Children of teenage mothers have higher health risks, including higher infant mortality and increased risk of low birth weight[10].

While information on teenage pregnancy can be sourced using vital registration system, it is almost impossible to measure the prevalence of teen pregnancy in Malawi because of non-reporting due to its associated stigma, especially among unmarried females[2,11]. As a result, alternative ways used to estimate the prevalence of teenage pregnancy is through reports from the United Nations Population Fund (UNFPA) and Malawi Demographic and Health Survey (MDHS). According to one of the sources, there were 152 births in every 1000 women aged 15-19 years recorded in Malawi, while about 9% were reported to be currently pregnant[12]. Furthermore, a 2% increase in the rate of teenage pregnancy was documented in the report by UNFPA[4]. The 2015-16 MDHS also showed that 13.6% of teenagers begun childbearing in Malawi[13].

Teenage pregnancy and childbearing circumstances in Malawi provide a convincing case to study. Although teenage pregnancy has declined globally, Malawi still has one of the highest rate of teenage pregnancy in the world[3,12,13]. Despite the attention that has been given to teenage pregnancy in Malawi through interventions such as "keeping girls in school and conditional cash transfer (CCT) policy for young females to stay in (or return to) school" among others, teenage pregnancy has remained consistently high. Consequently, there is need to investigate the phenomenon and the factors that could be associated with it in that country.

Previous research in Malawi has established that premarital pregnancy among teenage females has been associated with a number of factors such as barriers to contraception, decreasing age at first sex, lack of sexual behaviour knowledge, socio-demographic factors and cultural practices[14-16]. However, these studies have not been conclusive in regard to the possible effects of the sex of the household head on the risk of pregnancy among teenage females in Malawi[11,14,20].

Thus, the purpose of the present study is to investigate the association between sex of the household head and teenage pregnancy in Malawi. To the best of our knowledge, this is the first study that will use the Malawi DHS, a nationally representative survey to examine the relationship between sex of the household and pregnancy outcomes among unmarried teenagers in Malawi. We contend that certain environmental conditions such as the households in which a girl live are key in her development in regard to her sexual behaviours and expectations regarding sexual reproduction. Also, the role of parents especially that of the household head, is very crucial in the development of sexual values and behaviours of the teenager. Moreover, the levels of confidence, ability to negotiate for personal preferences in relationships and the ability to abandon a relationship may depend on a teenage girl's exposure to male or female head figure in the house[15]. Against this background, we examine the effect of the sex of the head of the household on the rate of teenage pregnancy in Malawi.

Methods

This study used a cross-sectional secondary data that was obtained from the latest Malawi Demographic and Health Survey (MDHS) of 2015-16. Out of the 24,562 women that were successfully interviewed, 5273 women were between the ages of 15-19 years. The data showed that 3909 of them were never married and 1308 were sexually active.

Hence, this paper focused on the 1308 women between the ages of 15-19 that were sexually active and never married in the 2015-16 MDHS.

The outcome variable for this study is pregnancy outcomes among unmarried teenagers. Pregnancy outcome was constructed using three variables from the MDHS: "children ever born," "ever had a terminated pregnancy," and "currently pregnant." A response to having at least one child: "Yes" to ever-terminated a pregnancy and "Yes" to the item if currently pregnant constitute pregnancy outcome. The explanatory variable in this study is sex of the household head which was categorized as male household head and female household head. Besides the explanatory variable, we also controlled for such socio-demographic background characteristics as religion (measured as Catholic, Other Christians and Muslim), education (measured as no education/primary education and secondary/higher education), wealth status (measured as poor, middle and rich), employment status (measured as not working and working), region (measured as northern, central and southern), and place of residence (urban and rural). All variables were constructed to produce a meaningful sample for analysis.

Analysis was carried out at the univariate, bivariate, and multivariate levels. At the univariate level, the study used frequencies and percentages to describe the study population. The bivariate analysis used Chi-square tests to examine the relationships between the sex of the household heads, as well as the selected variables and teenage pregnancy. The multivariate analysis employed logistic regression analysis to estimate both unadjusted and adjusted odds ratios for teenage pregnancy with 95% confidence interval. All data were weighted and analysed using Stata 14.

The multivariate analyses were conducted in two stages in order to establish the association between sex of household and teenage pregnancy. The first model examined the independent association (unadjusted odds ratios) between sex of the household head and pregnancy among unmarried teenagers, as well as the association between other socio-demographic variables and teenage pregnancy among unmarried teenagers. The second model (adjusted odds ratios) examined the association between sex of the household head and pregnancy among unmarried teenagers while controlling for the selected socio-demographic variables.

This study used a secondary data of the 2016 MDHS. Hence, ICF Macro through the DHS programmed site granted the ethical authorization to analyse the data.

Results

Table 1 describes the characteristics of the study population including the level of pregnancy outcome among unmarried teenagers. Result shows that 27% of unmarried teenagers in Malawi reported to have ever been pregnant. Further, results show that majority (57.4%) of the respondents are from male headed household, most (68%) of the respondents belong to other Christian denomination and 62.5% of the respondents had primary education or no education. Three-fourth (74.9%) of the respondents resides in the rural areas while 54.2% are from Southern region. More than half (54.1%) of the respondents are within the rich wealth quintile and the majority (66%) of the respondents are not working.

Bivariate analysis

Table 2 presents the prevalence and Chi-square results of teenage pregnancy by sex of the household head of unmarried teenagers and by their selected characteristics. As the table shows, there is a statistical relationship between sex of the household head and teenage pregnancy among unmarried teenagers. Further, the table shows that the prevalence of teenage pregnancy is higher (32.5%) among unmarried teenagers living in female-headed households.

Education is the only variable that shows significant relationship with teenage pregnancy. Specifically, Table 2 shows that the prevalence of teenage pregnancy is 34.6% among unmarried Muslim teenagers, 27.4% among unmarried teenagers from rural areas, 27.4% among unmarried teenagers residing in Southern region, 30.2% among unmarried teenagers in the poor

Table 1: Percentage distribution of teenage pregnancy and sociodemographic characteristics of unmarried teenagers from Malawi DHS 2015-16

Variables	Frequency (n)	Percentage (%)
Pregnancy outcome		
Yes	353	27.0
No	955	73.0
Sex of Household head		
Male	751	57.4
Female	557	42.6
Religion		
Catholic	261	20.0
Other Christians	887	68.0
Islam	156	12.0
Place of residence		
Urban	328	25.1
Rural	980	74.9
Region		
Northern	189	14.5
Central	410	31.3
Southern	709	54.2
Wealth index		
Poor	351	26.8
Middle	249	19.1
Rich	708	54.1
Education		
No education and Primary	818	62.5
Secondary and Higher	490	37.5
Employment status		
Not working	863	66.0
Working	445	34.0

wealth quintile, and 31.4% of among unmarried teenagers who have no education and primary education, and 27.9% among unmarried teenagers that are working.

Multivariate analysis

Table 3 shows that there is a significant association between sex of the household head and pregnancy among unmarried teenagers in Malawi in Model 1 and Model 2. The unadjusted binary logistic regression results in Model 1 shows that teenage females living in households headed by females were 1.71 times more likely to be pregnant compared to teenage females living in households headed by males. In Model 2, after controlling for socio-demographic factors, the magnitude of the association increased by 2.3%. The result was statistically significant and revealed that teenagers living in households headed by females were 1.75 times more likely to be pregnant compared to teenage females living in households headed by males.

Table 3 also shows that there is a statistically significant relationship between education and teenage pregnancy among unmarried teenagers in both the unadjusted and adjusted logistic regression. Specifically, table 3 shows that teenagers who have secondary and higher education were 0.58 times less likely to be pregnant compared to teenagers who have primary and no education. After controlling for other socio-demographic variables used in the study, teenagers who have secondary and higher education were 0.53 times less likely to be pregnant compared to teenagers who have primary and or no education.

Discussion

The present study investigated the association between sex of the household head and pregnancy among unmarried teenagers, while controlling for relevant sociodemographic factors. Data were collected from 1308 sexually active unmarried teenagers, of whom 353 (27%) reported ever being pregnant. When Chi-square bivariate analyses were conducted to examine the relationships between all the selected variables and teenage pregnancy, sex of the household head and education were the only variables that were significantly associated with teenage pregnancy among unmarried teenagers in Malawi. However, results showed that the prevalence of teenage pregnancy was higher among unmarried teenagers living in households headed by females, belong to Islamic religion, living in rural areas, from Southern region, from poor wealth quintile, have no education and primary education, and employed.

The multivariate results showed that the sex of the household head does have an effect on the risk of teenage pregnancy. Essentially, the present study showed that teenage pregnancy was higher among unmarried teenagers living in households headed by females. Even though a study of the relationship between the sex of a household head and teenage pregnancy has not been done in Malawi, the finding is not consistent with previous studies that have used a different sample to measure pregnancy outcomes among women[15,17].

Table 2: Prevalence and bivariate Chi-square analysis of teenage pregnancy and selected characteristics of teenagers from Malawi DHS 2015-16

	Teenage pregnancy			
	No	**Yes**	**Total**	
Variables	**N (%)**	**N (%)**	**N (%)**	**X^2 (P-value)**
Sex of Household head				
Male	579 (77.1)	172 (22.9)	751 (100.0)	14.9 (0.00)
Female	376 (67.5)	181 (32.5)	557 (100.0)	
Religion				
Catholic	197 (75.5)	64 (24.5)	261 (100.0)	5.7 (0.06)
Other Christians	654 (73.7)	233 (26.3)	887 (100.0)	
Islam	102 (65.4)	54 (34.6)	156 (100.0)	
Place of residence				
Urban	243 (74.1)	85 (25.9)	328 (100.0)	0.2 (0.61)
Rural	712 (72.6)	268 (27.4)	980 (100.0)	
Region				0.3 (0.84)
Northern	141 (74.6)	48 (51.0)	189 (100.0)	
Central	300 (73.2)	110 (26.8)	410 (100.0)	
Southern	514 (72.5)	195 (27.5)	709 (100.0)	
Wealth index				5.7 (0.06)
Poor	245 (69.8)	106 (30.2)	351 (100.0)	
Middle	174 (69.9)	75 (30.1)	249 (100.0)	
Rich	536 (75.7)	172 (24.3)	708 (100.0)	
Education				
No education and Primary	561 (68.6)	257 (31.4)	818 (100.0)	21.8 (0.00)
Secondary and Higher	394 (80.4)	96 (19.6)	490 (100.0)	
Employment status				0.3 (0.61)
Not working	634 (73.5)	229 (26.5)	863 (100.0)	
Working	321 (72.1)	124 (27.9)	445 (100.0)	

Table 3: Odds ratio from logistic regression analysis identifying associations between sex of the household head and other variables and teenage pregnancy in Malawi 2015-16

	Model 1 (unadjusted)		**Model 2 (adjusted)**	
	Odds ratio	(95% CI)	Odds Ratio	(95% CI)
Sex of household head				
Male (RC)	1		1	
Female	1.71	1.34-2.18*	1.75	1.36-2.26*
Socio-demographic variables				
Religion				
Catholic (RC)	1		1	
Other Christians	0.91	0.68-1.23	0.91	0.67-1.23
Islam	1.47	0.98-2.22	1.33	0.87-2.04
Region				
Northern (RC)	1		1	
Central	0.68	0.41-1.10	0.63	0.38-1.05
Southern	0.81	0.50-1.30	0.74	0.45-1.22
Place of residence				
Urban (RC)	1		1	
Rural	1.02	0.76-1.36	0.78	0.56-1.11
Wealth index				
Poor (RC)	1		1	
Middle	1.17	0.833-1.65	1.37	0.96-1.96
Rich	0.87	0.66-1.16	1.14	0.81-1.60
Education				
Primary or no education (RC)	1		1	
Secondary and Higher	0.58	0.44-0.76*	0.53	0.40-0.72*
Employment status				
Not working (RC)	1		1	
Working	0.97	0.76-1.25	0.93	0.71-1.22

For instance, a study on household characteristics and unintended pregnancy among ever-married women (women of reproductive age. i.e. 15-49 years) in Nigeria found that unintended pregnancy is lower among women in households headed by female compared to those headed by male[17] Another study which assessed the association between gender of the household head and teenage pregnancy in Tanzania found no association between sex of the household head and teenage pregnancy[15].

Nevertheless, a plausible explanation for higher pregnancy outcome among unmarried teenagers from female-headed households in Malawi may be because teenagers from households headed by females lack the protective paternal parenting which is characterized by vigilant monitoring, sanction against premarital sex and teenage childbearing[18]. This variation between female and male household heads in regard to the monitoring of girls may be due to the fact that female household heads may be occupied with catering for the younger children or household members and as a result may neglect activities of older female children or fail to give them proper sex education[6,17]. Another possible reason may be that teenagers living in households headed by females may have less income generating activities and care supports to access health care facilities, contraceptives and formal education[19].

The present study also found that education significantly influences teenage pregnancy. The finding that teenagers having secondary or tertiary education decrease the risk of teenage pregnancy is consistent with previous studies[7,20,21]. This could be because education serves as a protective measure against teenage pregnancy through delaying sexual intercourse to a later stage in life compared to those that have no education and primary education[20]. Subsequently, education tends to delay early family formation such as pregnancy and childbearing. Therefore, teenagers who dislike and do not attend school are more at risk of teenage pregnancy compared to those who like and attend school; education gives less or no little time to engage in risk behaviours, it better inform teenage females on the need to practice safe sex and inspire teenage females to develop career[16,20,21].

Some limitations should be considered while interpreting the results of the present study. First, the possibility of a socially desirable response cannot be completely ruled out. This is because in a country like Malawi where teenage pregnancy is discouraged, some respondents might not want to report pregnancy they had had previously or currently. Secondly, heads of households in this paper may not necessarily be fathers of the respondents as their mothers may have remarried or they may be living with other relatives. Thirdly, due to the cross-sectional nature of the data used, results should be interpreted as mere associations and not causal. This is especially because we cannot completely determine the temporal sequence of events.

However, this paper has its strengths despite the above-mentioned limitations. First, it is a national study of a representative sample of unmarried teenagers in Malawi. Secondly, this is the first study that examines sex of the household head as a predictor of pregnancy among unmarried teenagers in Malawi. Therefore, findings from this study can be used to inform programs and policies.

Conclusion

In conclusion, the findings from this study have shown that sexual behaviours such as teenage pregnancy are function of not only individual characteristics such as educational attainment, but also as contextual characteristics such as the sex of the household head in which a teenager lives. Thus, interventions should encourage sexual education or communication between parents and teenagers, especially for females living in female-headed households. In addition, there is a need to address unmet contraceptives among female teenagers.

Contribution of Authors

All authors conceptualized the manuscript. Dr. Baruwa, Dr. Mkwananzi and Professor Amoateng conducted literature review and analysed the data. Ms. Naidoo reviewed and edited the manuscript.

References

1. World Health Organization. WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive

Outcome among Adolescents in Developing Countries. Geneva: WHO; 2011.
2. Nguyen H, Shiu C and Farber N. Prevalence and factors associated with teen pregnancy in Vietnam: results from two national surveys. Societies. 2016 Jun;6 (2):17.
3. Sedgh G, Finer LB, Bankole A, Eilers MA and Singh S. Adolescent pregnancy, birth, and abortion rates across countries: levels and recent trends. Journal of Adolescent Health. 2015 Feb 1; 56 (2):223-30.
4. UNFPA. Adolescent Pregnancy: A Review of the Evidence. 2013
5. Banerjee B, Pandey GK, Dutt D, Sengupta B, Mondal M and Deb S. Teenage pregnancy: a socially inflicted health hazard. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine. 2009 Jul; 34 (3):227.
6. Okigbo CC and Speizer IS. Determinants of sexual activity and pregnancy among unmarried young women in urban Kenya: a cross-sectional study. PLoS One. 2015; 10 (6).
7. Acharya DR, Bhattarai R, Poobalan A, Teijlingen VE and Chapman G. Factors associated with teenage pregnancy in South Asia.
8. Paranjothy S, Broughton H, Adappa R and Fone D. Teenage pregnancy: who suffers? Archives of disease in childhood. 2009 Mar 1; 94 (3):239-45.
9. Ganchimeg T, Ota E, Morisaki N, Laopaiboon M, Lumbiganon P, Zhang J, Yamdamsuren B, Temmerman M, Say L, Tunçalp Ö and Vogel JP. Pregnancy and childbirth outcomes among adolescent mothers: a World Health Organization multicountry study. BJOG: An International Journal of Obstetrics & Gynaecology. 2014 Mar; 12 1:40-8.
10. Kumar A, Singh T, Basu S, Pandey S and Bhargava V. Outcome of teenage pregnancy. The Indian Journal of Pediatrics. 2007 Oct 1; 74 (10):927-31.
11. Levandowski BA, Kalilani-Phiri L, Kachale F, Awah P, Kangaude G and Mhango C. Investigating social consequences of unwanted pregnancy and unsafe abortion in Malawi: the role of stigma. International Journal of Gynecology & Obstetrics. 2012 Sep; 11 8:S167-71.
12. National Statistical Office, Macro ICF, ICF Macro, Macro ICF, ICF Macro, ICF. Malawi Demographic and Health Survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF; 2011. Available: http://www.measuredhs.com
13. National Statistical Office, Macro ICF, ICF Macro, Macro ICF, ICF Macro, ICF. Malawi Demographic and Health Survey 2015-16. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF; 2019. Available: http://www.measuredhs.com
14. Kaphagawani NC. *Risk factors for unwanted/unplanned teenage pregnancy in Zomba District, Malawi* (Doctoral dissertation).
15. Kimweri, A. Assessing the association between gender of the household head and teenage pregnancy in Tanzania. 2012
16. Odimegwu C and Mkwananzi S. Factors associated with teen pregnancy in sub-Saharan Africa: a multi-country cross-sectional study. African Journal of Reproductive Health. 2016; 20 (3):94-107.
17. Izugbara C. Household characteristics and unintended pregnancy among ever-married women in Nigeria. Social medicine. 2013 Jun 25; 8 (1):4-10.
18. East PL, Reyes BT and Horn EJ. Association between adolescent pregnancy and a family history of teenage births. Perspectives on sexual and reproductive health. 2007 Jun; 39 (2):108-15.
19. Doctor HV. Layers of socioeconomic vulnerability in Malawi in the context of the millennium development goals. ISRN Economics. 2013 Jan 31; 2013.
20. Amoateng, AY and Baruwa O. Changes in the timing of sexual intercourse in Ghana: Evidence from the demographic and health survey data, 1988-2014. *African Population Studies*. 2018; *32*(3). https://doi.org/10.11564/32-3-1350
21. Imamura M, Tucker J, Hannaford P, Da Silva MO, Astin M, Wyness L, Bloemenkamp KW, Jahn A, Karro H, Olsen J and Temmerman M. Factors associated with teenage pregnancy in the European Union countries: a systematic review. European journal of public health. 2007 Dec 1; 17 (6):630-6.