

Correlates of early sexual debut and its associated STI/HIV risk factors among sexually active youths in Malawi

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Abstract

This study explores the correlates of early sexual debut and risk factors of sexually transmitted infections (STIs) among the youth in Malawi. Data was obtained from the Malawi Demographic Health Survey 2010. Out of a sample of 2987 males and 9559 females aged 15–24 years, 1405 males and 5217 females were considered. Chi-square and multivariate analysis was performed and findings presented by gender. The results indicate that females aged 15–19 years (OR=4.18), who were Muslims (OR=1.42), with no education (OR=3.99), were significantly more likely to initiate sexual debut early. Meanwhile, males aged 15–19 years (OR=3.50), from the northern region (OR=2.35) and of the Chewa ethnic group (OR=1.45) were significantly more likely to initiate sexual debut early. Muslims males (OR=0.57), from the poorest (OR=0.69) households were significantly less likely to initiate sexual debut early. Females who initiate sex earlier form a distinct risk group in this study. Specific intervention is therefore needed for young females in their early teen years before they initiate sexual debut.

Introduction

Sexually transmitted infections (STIs), especially the human immunodeficiency virus (HIV), are life-threatening diseases (UNAIDS, 2014), and there is an urgent need for the introduction of preventive measures to curb its spread. An individual's attitude towards sexuality for the first time such as early coital debut, may set a precedent for future behaviours that increases the risk of HIV and other STIs (UNAIDS, 2010). The most recent policies on methods of limiting the spread of these infections has emphasized protecting young people from being infected (Poulin, 2010). The Human Immunodeficiency Virus (HIV), other STIs such as gonorrhoea, syphilis, herpes, Chlamydia, trichomoniasis, and unintended pregnancy are adverse consequences of risky sexual behaviours. Youth adopt risky sexual behaviours during their sexual life without adequate knowledge on how to protect themselves from the adverse consequences (Munthali et al., 2004).

The prevalence of HIV among persons aged 15 to 49 years in Malawi has been declining since 1999 from 16.4% to 11.8% in 2004 and 10.6% in 2010 (Malawi DHS, 2010). After the 2010 survey, a number of changes have been reported regarding the prevalence of HIV/AIDS among people aged 15 years and above with 850,000 reported by the Joint United Nations

programme on AIDS in 2013 (UNAIDS, 2013) and 930,000 reported in 2014 (UNAIDS, 2014). Malawi has come a long way in the fight against HIV/AIDS, and has managed to reduce the number of new infections from 130,000 recorded in 1994 to 32,000 in 2013. The number of AIDS-related deaths has also been reduced from 94,000 per year, as reported in 2004, to 48,000 deaths in 2013 (UNAIDS, 2013). However, the rate of new HIV infections is still high with a 3.6% prevalence rate among young people aged 15 and 24 years with the highest rate among girls (5.2%). More than a million Malawians are living with the virus, with the majority (310,000), being young people below the age of 24 years (Government of Malawi, 2015).

Studies from Malawi have shown that most young people initiate sex at an early age before they get married, others initiate sex as early as 10 years, or before the age of 17 years (Maluwa-Banda and Lunguzi, 2002), and about 50% of youths in Malawi initiate sexual intercourse before the age of 15 (UNFPA, 2001). The median age at first sex among young men and women in Malawi ranges from 18 for males to 17 years for females (Misiri, H. 2014). In Nigeria, early sexual debut is a major health concern, especially among girls (Cortez et al., 2015). While the median age at sexual debut for most women in Malawi is about 18 years, among adolescent girls it is lower at 15 years and slightly higher at 16 years among boys aged 15–19 years (Malawi DHS, 2010). However, the continuous decline in the median age at first sex among youths in a number of countries worldwide has raised concern, especially as it is associated with negative health outcomes and the overall effectiveness of ongoing STIs prevention efforts (Cavazos-Rehg et al., 2010; Zuma et al., 2010).

There is a growing conception that a lower socio-economic position is associated with an increased risk of sexual behaviours such as early sexual debut and older sexual partners. Individuals with insufficient food to survive, experience their first sex earlier than those who live in food secure households (Mkandawire et al., 2013). Moreover, the family structure is an important determinant of early sexual debut, especially with the girls. It has been evident that young girls are more likely to initiate sexual debut early if neither parent resides in the household, either due to death or otherwise, and the absence of the living biological father from the home is associated with a higher risk of sexual debut, regardless of the presence of the biological mother in the home (Pilgrim et al., 2014). Early sexual debut has been associated with multiple sexual partnerships among young people in the sub-Saharan region. In South Africa, males are significantly more likely than females to initiate sexual activity early, with multiple sexual partnerships more common among them than those who had late sexual debut (Zuma et al., 2014). Females who initiate sex earlier are more likely to have first sex with men who are not their boyfriends and less likely to use contraception, less likely to use a condom at first encounter, and less likely to use contraception consistently (Li et al., 2015).

The perception that educational level is associated with early sexual debut is a call for concern. A growing body of literature has reported that there is an association between school attendance and delays in sexual activity (Kayembe et al., 2008; Lloyd, 2010; Magnani

et al., 2002), and this is typically much stronger for girls than for boys. It has been evident that youths whose parents had a junior or senior high school education had a lower risk of experiencing early sexual debut when compared with those whose parents had elementary schooling or less (Guo et al., 2012).

A number of studies have reported that early sexual initiation is associated with unintended pregnancy (Li et al., 2015; Magnusson et al., 2012), the risk of acquiring sexually transmitted infections (STIs) including HIV/AIDS (Stryhn and Graugaard, 2014), and thus subsequent risk behaviours later in life, including having multiple sexual partners (Olesen et al., 2012), higher sexual risk-taking behaviours (Yode and LeGrand, 2012), and more negative attitudes towards condom use (Sandfort et al., 2008). This risk has often been attributed to the lack of adequate and correct knowledge about the transmission of STIs, including HIV/AIDS, its preventive measures, and the inability to successfully negotiate for safer sex during an adolescent's first sexual debut. The sexual and reproductive health of young people in sub-Saharan Africa remains a public health challenge. Their sexual lives seem to be overshadowed by reproductive health issues, unintended pregnancy, HIV and other STIs. As a result, many new cases of STIs are continuously reported among young people each year with a higher rate of unintended pregnancy among females (Sarkar et al., 2013).

Certain cultural practices may expose young males and females to sexually transmitted infections. In Malawi, it has been evident that older men are engaged in initiating young girls into sexual activities and wife inheritance (common among the Tumbuka ethnic groups), and the use of a male relative to cleanse a widow by having sex with her (a common practice among the Sena in Nsanje) (Munthali 2002). This creates a precedent for STIs to spread easily among young people, especially in cases where they engage in sexual encounters with older men. These practices need to be discouraged so as to control the transmission of sexually transmitted infections among young people. Traditionally, young girls are less knowledgeable about their sexuality, and have limited control over their bodies and sexual lives, especially when and who to marry, when to have sex, and whether or not to use a condom (Gao et al., 2012).

While a growing body of evidence indicates a high prevalence of early sexual debut in Malawi, limited studies has been reported on its correlates with STIs/HIV-related risk factors. Considering the information in this current research, this study aimed to fill gaps in the literature by testing the hypothesis that there is a potential association between early sexual debut and risk factors for STIs/ HIV acquisition. The aim of this study was to (1) describe early sexual debut among the youth in Malawi, (2) examine the risk factors for early sexual debut and (3) assess the association between early sexual debut and risk factors for STIs/HIV acquisition, including sexual risk factors.

Data

Data for the study was extracted from the Malawi Demographic and Health Survey findings (Malawi DHS, 2010). This was downloaded from www.measuredhs.com after receiving permission from ICF Macro International. This data was a cross-sectional

representative survey that was conducted in Malawi from June to November 2010 on different topics using a multistage cluster sample of 27,345 households (National Statistical Office, 2010).

Each district was subdivided into enumeration areas (EAs) referred to as clusters. The sample for the survey was conducted at district and EA levels, using a stratified, two-stage cluster design, and the primary sampling unit was the enumeration areas, and in each sampled enumeration area the households were the secondary sampling units. A total of 849 EAs and 27,345 households were sampled for the survey, and only men aged 15–54 years and women aged 15–49 years were eligible for the survey.

A standardized structure questionnaire was designed to include HIV modules and was administered to eligible members of the sampled households. These questionnaires were used during the previous surveys 2000 and 2004, and ethical clearance was obtained from the Malawi Health and Sciences Research Committee, the Institute Review Board of ICF Macro, and the Centre for Disease control and Prevention (CDC) in Atlanta, USA (Malawi DHS, 2010). A subsample of a third of the household was selected to conduct HIV testing, thus giving a total of 14,407 men and women aged 15–54 and 15–49 years respectively. Besides the HIV testing, individuals were asked to state their age at first intercourse during the last 12 months. Moreover, socio-demographic key indicators such as age, sex, and marital status, place of residence, region, religion, education level, and ethnicity were also part of the questions in the questionnaires.

Although the number of explanatory variables for both males and females were not the same, the study focuses on those who initiate sexual debut early (before age of 16 years). For the current study, early sexual debut was used to describe those who initiate sexual debut early, and this was derived from the variable age at first intercourse.

Method

The data was extracted and the relevant sample weighted according to the design of the 2010 Malawi DHS in order to obtain a representative sample for the study. Sexually active youths aged 15–24 years were used as the basis for analysis. The study uses age at first intercourse from the survey data, and respondents who initiate sexual debut before the age of 16 years were described as ‘early sexual debut’ where initiating sex before the age of 16 years were regarded as risky. This was considered as the dependent variable. Bivariate analysis was used to test for association between the dependent and independent or categorical variables identified as age, place of residence, religion, region, wealth, highest educational level, marital status, literacy and ethnicity. Only those who reported early sexual debut were presented in the study findings. A binary logistic regression technique was performed to examine the association between socio-economic and demographic characteristics at early sexual debut, and its association with youth risky sexual behaviours. The findings were presented by gender in order to observe the variation among respondents. The dependent variable was coded 1 if the youth initiated sexual debut early and 0 otherwise.

Study variables

Some selected variables were extracted from the Demographic Health Survey (DHS) on sexual behaviour: age at first intercourse, age group, marital status, religion, ethnicity, region, and place of residence. Age at first intercourse was redefined (before 16 years versus at or after 16 years). Other variables were defined as follows: age group was stratified into age groups spanning five years (15–19 and 20–24 years); place of residence was defined as urban or rural; education level was defined as no education, primary, secondary and higher; and regions were northern, central and southern. Wealth was stratified into poorest, poorer, middle and richest, marital status redefined as married, never married, and religion redefined as other Christian, Catholic, CCAP, Muslims, and others. The category ‘others’ included Anglican, Seventh Day Adventist /Baptist, and no religion. Literacy was defined as those who could read whole sentences, those who could not read at all, and those who could read part of a sentence. Ethnicity was redefined into Chewa, Lomwe, Ngoni, Tumbuka, Yao and others. The category others included Tonga, Sena, Nkhonde, Other; Lambya, Other; Ndali, Other; Mang’anja, and Other; Nyanja.

Statistical analysis

The extracted data for males and females were weighted so that the sample was representative of 15–24-year-old respondents in the 2010 Demographic Health Survey. Analysis was performed using the Statistical Package for Social Science (SPSS) version 23, which accounted for the sample strata, the primary sampling unit and population weights. A descriptive statistic of the youths’ early sexual debut, stratified by gender, was presented. Chi-square comparisons were conducted to identify the association between young people’s age at first intercourse and this was done based on socio-economic and demographic characteristics. A binary logistic regression model was then used without an offset to examine the relationship between age at first intercourse and the socio-economic and demographic characteristics. These models provided an estimate of the prevalence ratio for the relevant outcome. All analyses presented were stratified by gender regardless of the significance of any interactions. However, one model was created by gender. The model examined whether the difference in early sexual debut was associated with the youth at risk of contracting STIs. Variables that were significant in the regression model were considered as a contributing factor to early sexual debut among youths which was intended considered a high risk factor for STIs.

Ethical considerations

This study used secondary data from the Malawi Demographic and Health Survey. Prior to using these data, permission was obtained from Macro International, which allowed us to download the data free of charge on their website. Please note that all data are fully available without restriction.

Results

A summary of those who reported early sexual debut is presented in Table 1. As indicated, age group, region, education level, wealth, religion, marital status, ethnicity and condom use was statistically significant for all respondents in the study. Most males who reported early sexual

activity were aged 15–19 years (about 46%), from the northern region (43.2%), with primary education (about 35%). Moreover, 37.3% were from the richest households, and about 35% were from the CCAAP religion. About 39% were never married, did not use condoms (about 39%) and (40.1%) were from the Ngoni ethnic group. Younger females (15–19 years) were more likely to report early sexual debut (about 85%), and the majority of them (67.3%) were from the southern region, with primary education (65.3%). More than half of them were from the richest households (66.2%), who could read whole sentences (about 65%). Meanwhile, about 68% were Muslims, who were never married (about 85%), from the Lomwe (about 68%) ethnic group and did not use condoms (about 64%).

Table 2 presents the results of the logistic regression. As indicated, religion, region, education and wealth were the main factors associated with early sexual debut among females. The likelihood of early sexual debut was significantly higher among, females aged 15–19 years (OR=4.18), who were Muslims (OR=1.42), with no education (OR=3.99), primary education (OR=4.12), and who could read whole sentences (OR=1.22). Meanwhile, those in the northern (OR=0.79), and central (OR=0.66) regions, from the poorest households (OR=0.69), who were married (OR=0.17) were significantly less likely to initiate sexual debut early. Among males, region, education, ethnicity and wealth were the main factors associated with early sexual debut. As indicated, the likelihood of early sexual debut was higher among males aged 15–19 years (OR=3.50), from the northern region (OR=2.35) and from the Chewa ethnic group (OR=1.45). On the other hand, those who were Muslims (OR=0.57), from the poorest (OR=0.69), poorer (OR=0.67), middle (OR=0.55) and richer (OR=0.68) households, were significantly less likely to initiate sexual debut early.

Discussion

This study explores the correlates of early sexual debut and its associated risk for STIs among youths. Youth who initiate sex before the age of 16 years are more likely not to use condoms at first sex, and more likely to have had multiple and casual partners, thus increasing the risk of STIs (Harrison et al., 2005).

Table 1. Percentage of respondents engaged in early sexual debut (before 16 years) by background characteristics in Malawi 2010.

Background characteristics	Male			Female		
	Engaged in early sexual debut (n=679)	Weighted number of males (N=1405)	p-values	Engaged in early sexual debut (n=2138)	Weighted number of males (N=5217)	p-values
Age group			0.000			0.000
15–19	45.7	565		84.5	3854	
20–24	13.1	840		39.1	1363	
Residence			0.579			0.517
Urban	33.0	285		63.5	1039	
Rural	31.9	1120		62.7	4178	
Region			0.000			0.000
Northern	43.2	130		60.9	584	
Central	32.3	608		58.9	2128	
Southern	29.4	667		67.3	2504	
Education level			0.001			0.000
No education	26.6	46		51.0	218	
Primary	34.6	905		65.3	3744	
Secondary	27.7	424		59.6	1188	
Higher	23.4	30		47.7	68	
Wealth quintile			0.002			0.000
Poorest	30.4	238		60.3	914	
Poorer	28.8	286		61.5	960	
Middle	29.0	271		60.7	977	
Richer	32.0	273		64.8	1013	
Richest	37.3	337		66.2	1352	
Literacy			0.894			0.000
Read whole sentence	32.2	1007		64.5	4118	
Cannot read/No card/Blind	31.3	272		58.8	1000	
Read part of sentence	32.7	126		60.7	99	
Religion			0.002			0.001
Other Christian	32.2	481		60.9	1843	
Catholic	35.0	270		63.3	1144	
CCAP	34.5	266		62.9	995	
Muslim	23.7	223		67.9	731	
Others	32.1	166		62.9	505	
Marital status			0.000			0.000
Married	NA	497		39.7	1318	
Never married	38.7	908		84.8	3898	
Ethnicity			0.005			0.000
Chewa	34.3	443		58.8	1734	
Lomwe	28.7	241		67.9	889	
Ngoni	40.1	118		62.9	658	
Tumbuka	30.5	184		59.8	462	
Yao	27.7	214		67.5	728	
Others	31.6	205		65.3	747	
Condom use			0.000			0.000
No	38.9	523		63.9	4973	
Yes	0.0	881		50.8	243	

NA: Not available.

Source: Computed by authors.

Table 2. Regression results of respondents engaged in early sexual debut (before 16 years) by background characteristics in Malawi 2010.

Background characteristics	Female			Male		
	OR	95% CI for EXP(B)		OR	95% CI for EXP (B)	
		Lower	Upper		Lower	Upper
Age group						
15–19	4.18***	3.74	4.67	3.50***	2.83	4.33
20–24 ^(R)	1.00			1.00		
Residence						
Urban	1.05	0.90	1.23	1.00	0.79	1.28
Rural ^(R)	1.00			1.00		
Religion	**					
Other Christian	0.99	0.82	1.19	1.03	0.77	1.36
Catholic	0.94	0.77	1.14	1.13	0.83	1.52
CCAP	0.87	0.71	1.07	1.10	0.81	1.50
Muslim	1.42*	1.08	1.87	0.57*	0.35	0.93
Others ^(R)	1.00			1.00		
Region	***			***		
Northern	0.79*	0.64	0.99	2.35***	1.63	3.39
Central	0.66***	0.57	0.76	0.99	0.78	1.25
Southern ^(R)	1.00			1.00		
Education	***			*		
No education	3.99***	2.53	6.27	1.95	0.78	4.86
Primary	4.12***	2.79	6.07	1.31	0.67	2.57
Secondary	1.90**	1.31	2.77	0.94	0.49	1.81
Higher ^(R)	1.00			1.00		
Wealth	***			**		
Poorest	0.69***	0.57	0.84	0.69*	0.50	0.95
Poorer	0.96	0.79	1.16	0.67**	0.49	0.90
Middle	0.84	0.70	1.01	0.55***	0.41	0.74
Richer	0.96	0.80	1.14	0.68**	0.52	0.89
Richest ^(R)	1.00			1.00		
Literacy						
Read whole sentence	1.22*	1.01	1.48	1.03	0.75	1.40
Cannot read/No card/Blind/ Others	1.23	1.00	1.52	0.97	0.68	1.38
Read part of sentence ^(R)	1.00			1.00		
Marital status						
Married	0.17***	0.15	0.19	NA	0.00	0.10
Never married ^(R)	1.00			1.00		
Ethnicity				*		
Chewa	0.85	0.70	1.04	1.45*	1.05	2.02
Lomwe	1.05	0.86	1.28	0.96	0.69	1.33
Ngoni	0.90	0.73	1.12	1.03	0.69	1.53
Tumbuka	0.95	0.74	1.20	1.00	0.71	1.42
Yao	0.86	0.66	1.12	1.39	0.87	2.22
Others ^(R)	1.00			1.00		

CI: confidence interval; EXP(B): Exponential.

Source: Computed by authors, *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, (R) reference category.

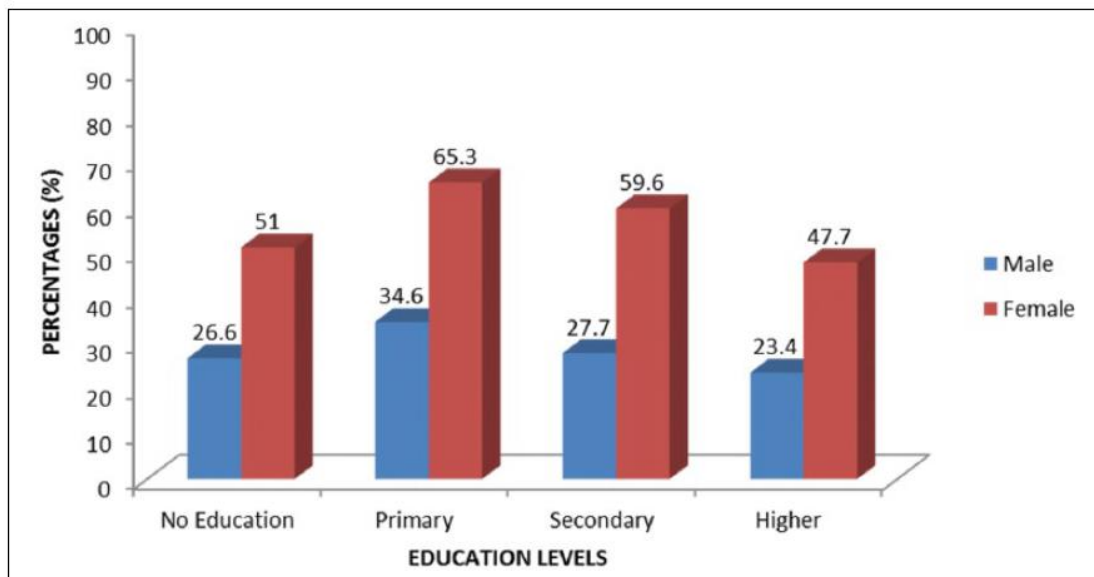


Figure 1. Percentage of respondents with early sexual debut by education level.

Females are more likely to initiate sexual activities earlier than males, leading to a high rate of STIs as a result of changing sexual behaviour, thus creating more opportunity for infections. A study by Peltzer (2010) found mixed results with more boys (38.1%) than girls 15.8% who experience sexual debut before the age of 15 years. It has been evident that those who initiate sexual activities earlier exhibit a constellation of risk factors for sexually transmitted infections (Misiri, H. 2014), and are more likely not to use condoms at first sex. Victims of early sexual debut are prone to poor sexual health outcomes, early family formation, poor economic security, incarceration and few middle school interventions (Erkut et al., 2012).

Education has been highly regarded as an important factor associated with early sexual debut among respondents in the study (Figure 1). The current study found that, females with no education were more likely to engage in early sexual activities than those with higher education. A similar study in South Korea found that low academic achievement, living with a step parent and perceived low level of household income were associated with early sexual debut (Kim and Lee, 2012). In another study, McGrath et al. (2009) found that education is a protective factor against early sexual activities, and that schooling had the effect of delaying sexual debut among South African youths. Similarly, Pettifor et al. (2008) found that South African girls are protected from the risk of HIV infection when they stay in school. More years of schooling is therefore associated with late initiation of sex, especially among females, and it thus reduces premarital and recent sexual intercourse. Another study from Ghana and Malawi found that girls in schools are more likely to avoid sexual intercourse in order to avoid pregnancy since it will indefinitely suspend and potentially end their schooling (Moore et al., 2007). Education therefore delays sexual debut.

Whether religion is a protective or risk factor for early sexual debut among males and females has been given considerable attention in the study. It has been evident that

pressure from peers within a religious social network may force individuals to engage in early sexual debut (Fatusi and Blum, 2008; McGrath et al., 2009). In another study, Coleman, et al. (2013) found that heterosexual messages were common among faith leaders, with high attitudes about sexuality and perceptions of religious messages about sex serving as a strong influence on sexual behaviour. Moreover, Agardh et al. (2011) found that religion was an important determinant of sexual behaviour among university students in Uganda, with Protestant female students more likely to have more lifetime partners than their male counterparts. The current study found that being a Muslim female predisposes young people to early sexual activities. However, the odds of engaging in early sexual debut among Muslim girls were higher than those in other religions. Thus, religious affiliation is significantly associated with age at first sex, and has been identified as a predictor of age at first sex.

However, it has been argued that some religious beliefs deter the youth from engaging in pre-marital sexual activities. Young females who belonged to the Baptist faith and males who belonged to a fundamentalist denomination were less likely to initiate sexual debut early (Freedman et al., 2013). It has been evident that information from most religious institutions is conservative and disseminates negative messages on sex (Jakobsen and Pellegrini, 2004). This, however, plays a role in the delay of sexual debut. Some youths believe that religious institutions are sources of health information and that waiting until marriage before having sex is the best decision to take. Messages from religious leaders emphasized the importance of marriage and family (Williams et al., 2012). Other researchers have reported that a higher level of religiousness reduces the risk of early sexual debut, and despite the negative sanctions attributed to sexual activity by religious institutions, there is still a higher rate of HIV diagnoses among young people (Hawes and Berkley-Patton, 2012). Moreover, poverty and lack of basic needs is a contributing factor towards early sexual initiation among young people, leading to risky sexual behaviour. Banda (2005) found that females are more vulnerable to infections because of their poor economic background. In a recent study, Pascoe et al. (2015) found that lower socio-economic position was associated with an increased risk of depression and risky sexual behaviour such as early sexual debut. In another study, Dupere et al. (2008) found that younger adolescent females who lived in poor neighbourhoods were more likely to report early sexual debut. Nattrass et al. (2012) found poverty and sexual behaviour to be an individual's risk in terms of gender. Poverty is therefore a contributing factor to early sexual activities, as individuals engage in these activities in order to fend for themselves.

Conclusion

Increased awareness and knowledge about the problems associated with early sexual debut in the teenage years might assist in reducing a range of potential future difficulties including unwanted pregnancies, health risks and sexually transmitted infections. It is therefore recommended that, more studies on this topic be performed, especially a qualitative study in order to investigate exactly why young people initiate sexual activities early.

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Authors' contributions

Conceived and designed the experiments: WCN SA. Performed the experiments: WCN SA. Analyzed the data: WCN SA. Contributed reagents/materials/analysis tools: WCN SA. Wrote the paper: WCN. Made substantial contributions to conception, acquisition and interpretation of data: WCN SA. Participated in drafting the article: WCN. Read and approved the final manuscript: WCN SA.

Declaration of Conflicting Interests

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