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RESEARCH ARTICLE

Determinants of Risky Sexual Behavioral Practices among Teen-girls in Malawi

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Abstract:

Background:

In Malawi, having multiple sexual partners and engaging in sexual intercourse without using condoms remain a sexual and reproductive health challenge among women. This has consequently increased morbidity and low productivity among women, especially in young women of the country. This paper examined the determinants of risky sexual behavioral practices among teen women in Malawi.

Methods:

The study used 2015-16 Malawi Demographic Health Survey with a weighted sample of 5263 women under 20 years. Both Bivariate and multivariate statistical analyses were used to estimate factors influencing risky sexual behavioral practices among teen women.

Results:

The study found the existence of differential determinants to influence women's conduct in having both multiple sexual partners and inability to use condom during subsequent sexual intercourses with partners other than spouses. For instance, education (complete primary, IRR=2.755, $p<0.001$ and complete secondary education, IRR=3.515, $p<0.001$); teen motherhood status (IRR = 0.295, $p<0.001$), unavailability of the health care services (IRR=1.043, $p<0.05$) among others positively determined having multiple sexual partners in Malawi among teen women. On the contrary, wealth status (medium, IRR=1.116, $p<0.001$; rich, IRR=1.194, $p<0.001$) reduced teen women's behavior of not using a condom with partners other than spouses during sexual intercourse.

Conclusion:

The study asserts that in Malawi, there is an urgent need for advocacy programmes aimed at reducing sexual and reproductive health challenges among girls at primary school levels and upwards. Equipping the girls, at a community level, with basic knowledge and understanding about the dangers of practicing risky sexual behavior is fundamental for the enhancement of their socio-economic support.

Keywords: Sexual intercourse, Education, Wealth, Risky behavior, Malawi, Socio-economic support.

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1. INTRODUCTION

For every additional sexual partner that an individual has, there is a high propensity of increasing the risk of exposure to sexually transmitted diseases, HIV and AIDS and the spread of pathogens [1]. The number of sexual partners quantifies the cumulative risks for sexually transmitted diseases [2]. For instance, sexually transmitted infectious diseases, such as gonorrhoea and syphilis, which could be accelerated by risky sexual behaviors among women having multiple sexual

partners other than spouses and without the use of condom during extra-marital sexual intercourse, affect the quality of life of the people; and these diseases burden the socioeconomic development of the country [3, 4].

The number of sexual partners other than a spouse that a woman has is a precise measure for assessing the risky sexual behavior [5], especially, if the woman is having unprotected sex with the extra-marital partner [1]. A clinical study that investigated the sexually transmitted infection cases, indicated that the number of sexual partners a patient had, correlated with the acquisition of not only bacterial sexual transmitted diseases (STD) [6], but also viral STD's [7]. In view of this health challenge, the Centre for Diseases Control posits safer

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sexual behavioral practices as a way of improving sexual and reproductive health among the youths [1]. However, this is poorly supported by the youth, as evidenced by the number of young women who are still having multiple sexual partners apart from their spouses and have sexual intercourse with such partners without using a condom [6, 8]. This, consequently, increases levels of health vulnerability among the women, which eventually affects the quality of the labor force negatively [9, 10].

In Malawi, young women below the age of 20 are more vulnerable to sexually related health risks attributed to persistent risky sexual practices [11]. This health challenge remains high among young women despite the government's effort to achieve improved sexual and reproductive health at the community level [12]. Factors perpetuating the notable risky sexual practices are not well known, at least in the case of Malawi. Additionally, the impact of the health policy on sexual and reproductive health is scantily researched, more especially, on the risky sexual behavioral practices affecting teen women under 20 years. On the contrary, studies that envisaged to examine risky sexual behavioral practices had little articulation of the determinants affecting the youthful women. For instance, in a related study, using the 2010 Demographic and Health Survey data, Wilson (2015) defined and estimated covariates of multiple sexual partners [13]. However, the study excluded an estimate of condom use, a major risk increasing the people's vulnerability. Powers *et al.* (2011) studied risky sexual behavior emphasizing on noting sexual partner trends and linkages to HIV and STI [14]. Other studies assessed HIV prevalence and sexual behaviour at older ages in rural Malawi [15]. These studies lacked comprehensive postulation of the determinants insinuating the risky sexual behavioral practices. In a closely related study, other scholars examined the Factors Influencing Risky Sexual Behaviours among Youths and Adult Men in Malawi [16]. Evidently, the study omitted the most vulnerable youthful women. All the previous studies left some gaps in addressing sexual and reproductive health challenges among youthful women. Therefore, this study quests to fill the gap by examining the factors associated with risky sexual behavior among the teen girls in Malawi using 2015-16 Demographic and Health Survey data.

2. MATERIALS AND METHODS

2.1. Sources of Data

The paper used the Malawi Demographic and Health Survey data (MDHS) 2015-16. The third part of the MDHS dataset is available on <https://dhsprogram.com/data/available-dataset.cfm>. Access to the data can be requested from archive@dhsprogram.com. As a nationally representative sample survey, the MDHS aimed at providing health data on fertility, maternal health, nutrition, sexual behaviors, HIV and AIDS, and family planning, among others. The Demographic and Health Survey was collected by the National Statistical Office (NSO) in collaboration with ICF and Macro and the data are available for access and use by the public upon request from ICF and Macro International.

2.2. Sampling Technique and Study Sample

The MDHS 2015-16 data used the sampling frame from the 2008 Malawi National Population Census. The census uses the standard enumeration areas (SEA) and has an average of 235 households. In total, about 850 SEAs comprising 173 urban and 755 rural SEA were selected using probability proportional to size to create a stratum from all 28 districts in Malawi. The sample used two-stage stratified sampling technique. The unit of measurements was the household and interviews were conducted on 24,562 women. This study uses a weighted sample of 5,263 women, aged under 20 years who had multiple sexual partners. The women were asked both if they had sex in the last 12 months preceding the survey and whether they had used a condom during sexual intercourse. It was found that about 1,546 (29.32%) had a risky sexual behavior of having sexual intercourse with a partner other than spouse without using condom.

2.3. Variables

The study estimated risky sexual behavior among women under the age of 20, which was measured using two variables, namely, having multiple sexual partners other than spouse, a count variable with a measure from 0,1,2, ..., and ability to have sex within the last 12 month preceding the survey with a partner other than spouse without using a condom, a binary variable which measure 1 if this condition was validated and 0 otherwise. The multiple sexual partner assumed an interval scale in both bivariate and multivariate analyses. Sexual encounter with a partner other than the spouse and without a condom in the last 12 months was treated as a binary variable. The individual, household and institutional independent variables used in the study included maternal education, teen motherhood status, knowledge of family planning, family planning use, tested for HIV, occupation, head of household, number of children, wealth status, access to media, place of residence, maternal services quality, and distance to health facility.

2.4. Analytical Procedures

The study was confined to a sample of 5273, which was the proportion of the girls under the age of 20 who indicated to have had multiple sexual partners in addition to their spouses. These girls were then checked if they had sex during the past 12 months preceding the DHS inquiry or not and whether during the sexual encounter, they had used condom or not. This created a mutually inclusive set of 1,546 (29.32%) girls who were defined as having displayed risky sexual behavior in having unprotected sex with a partner other than the spouse. Data were weighted to assume national representativeness of Malawi using the weight provided in the Malawi Demographic Health Survey.

In terms of the analytical procedure, the study used univariate analysis to provide the descriptive statistics of the respondents' socio-economic attributes. A bivariate analysis was conducted to explain the measure of association between the independent and dependent variables. The study employed two outcome variables: (1) having multiple sexual partners - a count variable and (2) risky sexual practice of not using

condom during sexual encounter with a partner other than the spouse. The study further used analysis of variance (ANOVA) and Pearson’s chi-square test to measure association between the socio-economic attributes of the respondents with the mean number of multiple sexual partners and risky sexual practices, respectively. Negative binomial regression and binary logistics regression were used to estimate determinants of girls’ decisions to have multiple sexual partners and this was reported through incidence risk ratios. Measurement of risky sexual practices with partners other than the spouses were reported using odds ratio. The model was certified fit for the analysis after conducting a multicollinearity test between each independent variable and the dependent variable; and the model fitness was judged on a low correlation effect of less than 40% ($r < 0.4$). As such, all variables had a significant association at the bivariate levels and were included in the multivariate models. Also, to note, the negative binomial regression was used to account for over dispersed zero in the outcome variable “multiple sexual partners”. This was validated after conducting a goodness of fit test after estimating an initial count model using Poisson regression. The chi-square overall model test in the Poisson model was significant,

indicating the existence of over-dispersed zeros in the model; this condition justified the choice of the negative binomial.

3. RESULTS

3.1. Background Characteristics of the Respondents

The study found that out of the sample of 5273 girls under the age of 20 who had multiple sexual partners, about 64.1% had been dropped out of school at the primary level, whereas only about 3.5% of them had completed secondary education or higher. In terms of their teen motherhood status, about one fifth of them (22.25%) had a child during the teen ages. Similarly, it was noted that almost one third (32.9%) of the girls were from female headed households. Regarding the wealth status of their households, there was a slight difference ranging between 18.28% and 23.44% from the poor and richest households, respectively. Furthermore, most of the girls (82.55%) were predominantly rural residents. On possession of radio or television, the study shows that more than half of the girls (65.99%) were from households that had neither radio nor television as modes for accessing health information. Table 1 presents more details.

Table 1. Background characteristics of the respondents.

	Frequency	Percent
Education Attainment		
No Education	136.58	2.60
Primary Education	3375.25	64.13
Complete Primary	329.25	6.26
Secondary Dropout	1238.54	23.53
Complete Secondary and Higher Education	183.26	3.48
Teen Motherhood Status		
No	4091.90	77.75
Yes	1170.99	22.25
KNFP		
No	335.24	6.37
Yes	4927.64	93.63
Sex Of Household Head		
Male	3533.29	67.14
Female	1729.59	32.86
Household Wealth		
Poor	1965.47	37.35
Middle	1047.03	19.89
Rich	2250.38	42.76
Place Of Residence		
Urban	918.33	17.45
Rural	4344.56	82.55
Number Of Living Children		
<3	4155.38	78.96
3 and Higher	1107.51	21.04
Media Exposure		
Neither Radio nor Television	3472.74	65.99
Either Radio or Television	1433.32	27.23
Both Radio and Television	356.82	6.78
Health Care Personnel		
Problem	3770.16	71.64

(Table 1) contd.....

	Frequency	Percent
No Problem	1492.72	28.36
Distance to Health Facility		
Problem	2841.28	53.99
No Problem	2421.60	46.01
Family Planning use		
No	810.75	15.41
Yes	4452.12	84.59
Tested for HIV and AIDS		
No	2690.44	51.12
Yes	2572.45	48.88
Occupation		
Unemployed	2919.55	55.47
Agricultural Employed	2001.54	38.03
Non-agricultural Employed	341.80	6.49
Variables	Risky Sexual practices	
	No	Yes
Education Attainment		
No Education	45.04(1.24)	91.54 (5.61) 242.39***
Incomplete Primary Education	2273.94(62.65)	1101.3(67.44)
Complete Primary	161.71(4.45)	167.54(10.26)
Incomplete Secondary	994.43(27.4)	244.12(14.95)
Complete Secondary and Higher	154.69(4.26)	28.57(1.75)
Teen Motherhood Status		
No	3332.52(91.81)	759.37(46.50) 1339.2***
Yes	297.3(8.19)	873.7(53.5)
Knowledge of Family Planning		
No	303.0 (9.12)	32.24(1.81) 76.9***
Yes	3326.82 (90.88)	1600.8(98.2)
Sex of Household Head		
Male	2373.1 (65.38)	1160.2 (71.04) 16.4***
Female	1256.73 (34.62)	472.86 (28.96)
Wealth Status		
Poor	1128.76 (31.1)	836.71 (51.24) 253.1***
Middle	714.80 (19.69)	332.23(20.34)
Rich	1786.26 (49.21)	464.12(28.42)
Place of Residence		
Urban	734.98 (20.25)	183.35(11.23) 63.7***
Rural	2894.84 (79.75)	1449.71(88.77)
Number of Living Children		
No	3343.61(92.11)	811.77 (49.7) 1221.4***
Yes	286.21(7.89)	821.29(50.29)
Media Exposure		
Neither TV nor radio	2347.81(64.68)	1124.9 (68.9) 36.1***
Either radio or television	985.27(27.14)	448.1(27.4)
Both radio and television	296.75(8.18)	60.1(3.68)
Family planning use		
No	314.07 (8.65)	496.69 (30.41) 511.3***
Yes	3315.8 (91.35)	1136.4 (69.59)
Tested of HIV and AIDS		
No	2312.6 (63.29)	377.84(23.14) 743.48***
Yes	1317.23(36.29)	1225.22 (76.86)
Occupation status		
Not employed	2196.99(60.53)	722.55(44.25) 121.13***
Non Agricultural employed	1225.25(5.72)	776.29(8.22)

(Table 1) contd.....

	Frequency	Percent
Agricultural employed	207.57(33.76)	134.22(47.54)

Table 2. Mean education attainment among the girls who have had multiple sexual partners.

	Mean MSP	Standard Deviation	F-Test
Education attainment			
no education	4.860	0.813	5.70***
Incomplete primary	4.624	1.285	
Complete primary	4.627	1.284	
Incomplete secondary	4.735	1.079	
Complete secondary and higher education	4.951	0.48002104	
Teen motherhood status			
No	4.238	1.7189174	2196.71***
Yes	1.401	2.1320741	
Knowledge of Family planning			
No	4.649	1.2328164	91.64***
Yes	3.540	2.1976397	
Place of residence			
Urban	4.795	0.95662259	42.61***
Rural	4.678	1.1980869	
Number of living children			
<3	4.419	1.5382531	451.66***
3 and higher	4.653	1.2528311	
Media exposure			
Neither radio nor television	4.650	1.2428678	46.44***
Either radio or television	4.740	1.0865696	
Both radio and television	4.871	0.76567014	
Tested of HIV and AIDS			
Yes	4.495	1.4268189	1027.72***
No	2.748	2.4037004	
Occupation			
Unemployed	3.895	1.9947668	64.15***
Agricultural employed	3.217	2.330618	
Non-agricultural employed	3.219	2.3085796	

3.2. Correlation between Multiple Sexual Partners and Risky Sexual Practices

The study examined the correlation between the dependent variables, namely, having multiple sexual partners and girls' risky sexual behavioral practices using analysis and variance and Pearson's chi-square.

As illustrated in Table 2, the ANOVA shows that mean education attainment among the girls who have had multiple sexual partners was as low as 4.6 years of schooling; and this was significant at 1%. In terms of the teen motherhood status, the mean of multiple sexual partners among girls who had a child or more during their teen-age years was 1.4 and was highly significant. Regarding knowledge of family planning, the mean number of multiple sexual partners among the girls was 3.5 and this was highly significant. Considering the girls who had tested HIV and AIDS status, their mean number of multiple sexual partners was significantly at 2.7 whereas girls who were unemployed had a significant mean multiple sexual partner as high as 3.9. Notably, the mean multiple sexual

partner among the girls who came from households with more than 4 children was as high as 5 and was significant. Furthermore, the mean MSP was significantly and slightly higher in urban areas than in the rural areas (4.8 against 4.7).

The results of the Pearson's chi-square test indicate higher and significant levels of correlation between the covariates and risky sexual behavioral practices among girls. Table 3 presents more detailed results.

3.3. Multivariable Analysis

Two separate multivariate models were estimated to determine factors affecting girls having multiple sexual partners and practicing risky sexual behaviors with partners other than the spouses.

3.4. Covariates of Multiple Sexual Partners Among Girls

The negative binomial regression estimator results indicate that maternal education was the consistent predictor with little effect in reducing the incident relative risk of girls having

multiple sexual partners. For instance, the study found that as the girls completed secondary school and higher, their incident risk ratio of anticipating having multiple sexual partners increased (IRR = 3.52, $p < 0.001$). The results show that among girls who were having children during their teen-ages, risky behavior of having multiple sexual partners significantly decreased (IRR = 0.29, $p < 0.001$). On the contrary, it was noted

that use of family planning among girls increased their incident risk ratio of having multiple sexual partners (IRR = 1.17, $p < 0.001$). On testing for HIV and AIDS, those girls who had tested were found to have low incident risk ratio of wanting to have multiple sexual partners compared with their counterparts who did not undergo the testing (IRR=0.8, $p < 0.001$).

Table 3. Higher and significant levels of correlation between the covariates and risky sexual behavioral practices among girls.

	Odds Ratio	95% Confidence Level
Education Attainment		
No education (Reference=R)		
Complete primary	0.152***	0.096 - 0.242
Complete primary	0.273***	0.150 - 0.496
Incomplete secondary	0.101***	0.061 - 0.166
Complete secondary and higher	0.088***	0.039 - 0.199
Teen motherhood status		
No (R)		
Yes	9.895***	3.757 - 26.061
Knowledge of Family Planning		
No (R)		
Yes	1.813**	1.248 - 2.632
Family Planning Use		
No (R)		
Yes	0.896	0.688 - 1.166
Tested of HIV and AIDS		
No(R)		
Yes	3.242***	2.581 - 4.073
Occupation		
unemployed(R)		
Agricultural Employed	1.191*	0.976 - 1.454
Non-agricultural employed	1.285	0.877 - 1.883
Sex of household head		
Male (R)		
Female	0.654***	0.536 - 0.798
Wealth status		
Poor (R)		
Medium	0.669**	0.498 - 0.900
Rich	0.471***	0.372 - 0.596
Place of residence		
Urban (R)		
Rural	1.070	0.819 - 1.396
Number of Living Children		
< 3(R)		
3+	0.550	0.202 - 1.496
Media exposure		
Neither TV nor Radio (R)		
Either TV or Radio	0.923	0.734 - 1.161
Both TV and Radio	0.564***	0.406 - 0.784
Availability of Health Care Professional		
No (R)		
Yes	0.941	0.753 - 1.176
Distance to health facility		
Problem (R)		
No problem	0.917	0.763 - 1.101

(Table 3) contd.....

	Odds Ratio	95% Confidence Level
Number of observations	5273	
Number of strata	56	
Number of Population Sampling Unit	847	
F (19,773)	48.73	
	IRR	95% Confidence Level
Educational attainment		
No education (R)		
Incomplete primary	3.245***	2.976 – 3.538
Complete primary	2.755***	2.469 – 3.073
Incomplete secondary	3.497***	3.191 – 3.833
Complete secondary and higher	3.515***	3.133 – 3.945
Teen motherhood status		
No (R)		
Yes	0.295***	0.227 – 0.384
Knowledge of family planning		
No (R)		
Yes	0.974**	0.924 – 1.026
Family planning use		
No (R)		
Yes	1.175***	1.108 – 1.245
Tested of HIV and AIDS		
No (R)		
Yes	0.800***	0.775– 0.826
Occupation status		
No employed(R)		
Non -agricultural employed	0.970*	0.939 – 1.003
Agricultural employed	0.983	0.922 – 1.048
Sex of household head		
Male (R)		
Female	1.130***	1.096 – 1.164
Wealth status		
Poor(R)		
Medium	1.116***	1.069 – 1.165
Rich	1.194***	1.149 – 1.241
Place of residence		
Urban (R)		
Rural	1.034*	0.996 – 1.074
Number of living Children		
< 3 (R)		
3+	1.547**	1.184 – 2.021
Media Exposure		
Neither TV nor radio(R)		
Either TV or Radio	0.990	0.957– 1.024
Both TV and Radio	1.067**	1.011 – 1.126
Availability of professional health workers		
problem(R)		
No problem	1.043**	1.007 – 1.079
Distance to health facility		
Problem (R)		
No problem	1.030*	0.998– 1.062

Hint: ***p< 0.01, **p< 0.05, *p<0.1

Regarding gender of the household head, female headed households tend to have girls with multiple sexual partners (IRR=1.12, p<0.001) compared with male headed households.

Similarly, girls from medium to rich families had an increased incident risk ratio of having multiple sexual partners by IRR = 1.12 and IRR = 1.19 both significant at p<0.001, respectively.

Furthermore, girls from the rural areas were associated with increased incident risk ratios of having multiple sexual partners compared to their urban resident counterparts (IRR = 1.03, $p < 0.001$).

Our analysis shows that girls from households with more children were more likely to increase the incident risk ratio of having multiple sexual partners (IRR=1.54, $p < 0.001$) relative to their counterparts from households with fewer children. Furthermore, it was noted that households that were exposed to both mass media (radio and television) were not adequately able to acquire more health information significant to change their behavior. This is noted in the increased incident risk ratio (IRR = 1.07, $p < 0.05$). It is notable that problems among the girls in accessing health care services for reproductive health education and its significance increased their incidence risk ratio in having multiple sexual partners (IRR=1.04, $p < 0.05$). Likewise, long distance to the health care facilities increased incident risk ratio of having multiple sexual partners compared to girls who lived near the health care facilities (IRR=1.03, $p < 0.1$).

3.5. Covariates of Sexual Risky Behaviors Among Girls

In the second multivariate model, an increase in the level of maternal education reduced significantly the likelihood of risk of having sex with the partner other than their spouse without using condom among the youthful girls. On the contrary, the girls who were mothers during their teenage had their behavior of having sex with the partners other than the spouses increased. Related to knowledge of family planning, knowledgeable girls tended to be more likely to have sex with partners other than their spouse without having condoms (OR=1.81, $p < 0.05$). On the contrary, the study also found that girls who tested for HIV and AIDS tended to continue their risky behavior of not using condom during sexual intercourse with extra-marital partners compared with those who did not get tested (OR=3.24, $p < 0.001$). The study also found that working in an agricultural sector influenced girls with multiple sexual partners to practice the risky sexual behavior of not using condom with partners other than spouses during sexual encounter significantly compared to those non-working counterparts (OR=1.19, $p < 0.1$).

Girls from the female headed households had lower likelihood of practicing risky sexual behavior significantly than their colleagues from male headed households (OR=0.65, $p < 0.01$). Considering wealth status of the households, girls from middle income families were less likely to practice risky sexual behavior significantly compared to their counterparts from poor households (OR=0.67, $p < 0.05$). Likewise, girls from the rich households were less likely to practice risky sexual behavior compared with those from poor households (OR=0.47, $p < 0.001$). Furthermore, our analysis shows that access to both radio and television at household level influenced the girls in listening to health programmes that, in turn, reduced the likelihood of practicing risky sexual behavior significantly than those from households with neither radio nor television (OR= 0.56, $p < 0.001$).

4. DISCUSSION

The study shows a string of association of the determinants affecting risky sexual behaviors, defined as, having multiple sexual partners and practicing sexual risky behaviors with partners other than the spouse. Evidence has shown variations in the effect of the different determinants on the multiple sexual partners and challenges of risky sexual behavioral practices. Our study results indicate a stronger and significant relationship between education, regardless of completion status, and the tendency of having multiple sexual partners among girls. The results concur with studies conducted in different regions in both developed and developing countries [3, 17]. Considering the importance of education on improved health among human populations and national socioeconomic development, this study therefore, calls for more holistically focused approaches towards sexual education while being mindful of the fact that education alone has limited impact on enlightening girls about the consequences of having multiple sexual partners.

Furthermore, the current study found that those girls who were mothers during their teen years had a reduced propensity of having multiple sexual partners relative to those who had no children. Our findings contradict the earlier research, which indicates that women's debut in early sexual activities result in increased tendency of having more than 2 multiple sexual partners [17, 18]. Erfrina *et al.* (2019) added that some socio-cultural challenges existing at family levels negatively affect younger women in acquiring health living [19]. This, consequently, exposes them to engage in immoral behavioural practices for survival. Under such situations, concerted community-based mitigation efforts would be paramount to empower younger women, either as single mothers or married, with survival skills to improve their health and early motherhood statuses.

The study has shown that knowledge of family planning among women does not change their risky sexual behavioral practices in Malawi. This supports the arguments of other researcher who posits that the use of family planning provides flexibility among women on sexual intercourse, thus, increasing the practice of having multiple sexual partners [20 - 22]. Unexpectedly, it was noted that women who had tested for HIV and AIDS increased the likelihood of having multiple sexual partners. Nevertheless, in East Africa, knowledge of HIV testing among women influenced their decision on multiple sexual partners [23], this controls women from engaging in risky sexual practices like having multiple sexual partners [24]. The current study therefore, reiterates the need for an extensive awareness campaign on sexuality and reproductive health targeting youthful women in order to minimize the practice of risky sexual behavior.

On gender of the household head, the study found that youthful women coming from female headed households were more likely to have multiple sexual partners relative to male headed households. Such finding echoes a study which argues on existent differentials in socio-demographic attributes between male and female headed households, stressing that female headed households are more vulnerable to engaging in multiple sexual partnerships' [25] than the male headed

households. This is partly because female led households have low moral tangible support to exercise preventive check to minimize risky sexual and reproductive health lifestyle [26]. Generally, there is less control over the youthful women on matters of sexual behaviour in female headed households because in the absence of viable economic skills among the girls in the household, as a sole bread winner, cumbered with responsibilities to fend for the household socioeconomically, dealing with the youths tends to be a daunting task for the woman heading a household.

Concerning household wealth, the study found that the higher the wealth statuses the higher the likelihood of having multiple sexual partners. This finding concurs with Uthma and others (2008) who posit that individuals who are economically stable increased their practice of having multiple sexual partners [27]. This is attributed to the use of disposable income for social satisfaction, including indulging in risky sexual behavioral practices [28]. Therefore, this study emphasizes on stiffer measures against the moral decadence displayed by the wealthy men on the vulnerable poor youthful women. As a preventive measure, health care service providers need to devise proper mechanisms including life skills training aimed at empowering young women socioeconomically and provision of the necessary facilities for the control of risky sexual behavioural practices among the youthful women.

On media exposure, the study found an increase in the number of sexual partners among the women under age 20 who had both radio and television. This development affected levels of assimilation of the messages, hence, dire effect on decision to have multiple sexual partners [29]. Indeed, one would expect exposure to multi-media to have positive influence on behavioral change regarding risky sexual practices. Nevertheless, as observed in a related study by Shapiro *et al.* (2003), "exposure to media becomes more effective if targeted programmes are consistently scheduled to inform society about the consequences of risky sexual practices toward one's health [16].

All in all, problem to unavailability of the health care facilities at community level, was found to increase indulgence of risky sexual practices. For instance, it is reiterated that distance to access the health care facilities disadvantages women to acquire not only health education, but also some sexual and reproductive health advisory information for enhanced sexual and reproductive health well-being [29, 30]. Indeed, long distance to institutions that support people's life tends to be a deterrent to socioeconomic development of the masses especially the weak and vulnerable members of society. Without any tangible incentive to the youthful women coupled with limited knowledge on reproductive health, long distance to health care facilities would remain one of the critical challenges to curb the malpractice of indulging with multiple sexual partners among the youthful women.

Around the world, the scholarly discourse had it that improved education is fundamental to enlighten women on issues related to reproductive health and subsequent change in their risky sexual practices [31, 32]. Contrary to the sentiments of the world scholars this study observes that regardless of the level of education among the teen mothers in Malawi, risky

sexual behavior remains a challenge. Probably, this should serve as a wakeup call on structuring of formal school education. The observed failure of education to influence behavioural change among teen mothers could be a reflection of a mismatch between content in the formal school education and the policy direction on reproductive health. This study's finding could mean inadequate coverage of reproductive health education in Malawi's formal education system and absence of peer-to-peer interaction among the teen mothers on issues related to sexual and reproductive health.

The study found that despite having taken HIV and AIDS test, risky sexual behaviour did not change among teen women in Malawi. A study by Gong in 2015 postulates that people's behavior developed over long a period remains intact if the behavioural change is weakly advocated [33]. Similarly, Paula and colleagues in 2013 supported the argument in Malawi, that despite being tested for HIV, men continued getting involved in risky sexual behavioral practices [34]. Having such men and women who are indifferent to behavioral change vis-à-vis HIV and AIDS creates a serious public health challenge; such a behavior exacerbates the risky sexual practices among women.

On the gender divide, the study noted that female headed households were unable to control the girls within the household and were more likely to practice risky sexual behavior relative to those from male headed households. Abajobir and others in 2017 argue the existence of different control systems at household levels which determine the behaviors of the children, more especially on sexual and reproductive health [35].

On wealth status and risky sexual practices, the study found that a majority of the girls from middle and rich households were less likely to indulge in risky sexual behavioral practices (non-use of condom) compared to those from poor households. This is so because the teen women from the middle and rich households tend to have a ready disposable income to enable them purchase condoms to use during sexual intercourse with the multiple partners. Previous scholars hypothesized and proved that poor households' girls are more vulnerable to the practice of risky behaviors due to struggle to meet their daily demands relative to those from middle and rich wealth status [2, 32, 36].

The study noted that teen women's access to media to positively changed their perspective on reproductive health and reduced risky sexual behavioral practices. However, this is contrary to findings of other scholars who expressed media exposure as an accelerator of risky sexual behavioral practices [37]. Additionally, use of internet media among adolescents was found to result in worst risky sexual behaviors among the teen children [37]. This implies that there need to reconsider best practices on dissemination of sexual and reproductive health information strategies through the media in order to ensure a meaningful and significant impact on behavioral change that can reduce the risky sexual behavioral practices among the teenage girls.

CONCLUSION

Using the 2015-16 Malawi Demographic Health Survey, the study assessed the determinants of risky sexual behavioral

practices among teen women in Malawi. A sample of 5263 women under 20 years of age was used for the analysis with bivariate and multivariate statistical models. The findings have shown that educational attainment, early motherhood status, knowledge of family planning, wealth status, unavailability of health care services within the community and media exposure positively explained women behavior of having multiple sexual partners during teen years. On the contrary, improved wealth statuses and education attained reduced risk of not using condoms with the partner other than the spouse during the sexual debut. On condom use with multiple sexual partners, the study found that education attainment, gender of household head, availability of health care facilities at the community level, access to reproductive health through multi-media and household wealth status significantly influenced teen girls' decision to use or not to use condom during extra-marital sexual intercourse.

Based on the findings, the study emphasizes the need to advocate for inclusive education programmes beyond the formal school curriculum to holistically address issues of sexuality and reproductive health, life skills learning and development for wealth creation in order to reduce risky sexual behavioral practices among young girls in Malawi. Equipping girls at the community level with basic knowledge and understanding about the dangers of indulging in risky sexual behavior and practices are fundamental for the enhancement of their socio-economic support.

AUTHORS CONTRIBUTION

Kennedy Machira:

Conceptualized the paper and performed data sourcing

Beston Maonga: Participated in analysis and interpretation of the study findings, discussed the results comprehensively and offered an internal review of the manuscript after receiving feedback from the journal editor.

Tobias Chirwa: Reviewed the manuscript for technical vetting and direction

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study used Demographic and Health Survey data 2015-16 which was acquired from NSO and ICF Macro. Issues of ethical approval were acquired by NSO and ICF Macro reputable bodies before data collection process was enacted.

HUMAN AND ANIMAL RIGHTS

Not applicable.

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

The permission to use the DHS data was acquired after uploading the proposal for this paper in a form on measure DHS website which is owned by ICF and Macro International. The ICF and Macro International Ethical and Review

committee granted and authenticated the proposal and gave the right to access the data on their website.

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CONFLICT OF INTEREST

The authors declare no competing interests

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