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Utilization of Family Planning Methods among Adolescents in Kalulushi District of Zambia: a cross-sectional study

Muwowo Annie[1], Michael Kanyanta[2] and M Kabinga-Makukula[2]

[1] School of Nursing Sciences, Institute of Distance Education, University of Zambia, Lusaka, Zambia; [2]Department of Department of Basic and Clinical Sciences, School of Nursing Sciences, University of Zambia, Lusaka, Zambia

Correspondence: Muwowo Annie, School of Nursing Sciences, Institute of Distance Education, University of Zambia, P.O. Box 50110, Lusaka, Zambia; Email: annishamuwowo@gmail.com ; Tel: +260977198873.

Abstract

Background: Adolescent pregnancy is one of the common reproductive health problems affecting adolescents in Zambia. It is associated with poor outcomes such as miscarriages, stillbirths, unsafe abortions, and mortality. Low utilisation of family planning (FP) among adolescents is one of the major causes of poor reproductive health outcomes.

Objective: To determine the utilisation of family planning methods among adolescents in Kalulushi District, Zambia.

Methods: This was a cross-sectional study conducted in Chibote and Chembe of Kalulushi District, Copperbelt Province, Zambia. Simple random sampling was used to recruit participants. Data was collected using structured questionnaire from adolescents aged 12 to 19 years. After collection, data were coded, entered and analyzed using the Statistical Package for Social Science (SPSS) version 26. Descriptive, Chi-square/fisher's exact test and multivariable binary logistic regression were conducted to assess the prevalence and factors associated with utilisation of family planning methods respectively. The 95% confidence interval and p-value<0.05 were considered statistical significance.

Results: The study involved 162 male and female adolescents with majority of adolescents being sexually active (88.3%), but only 19.1% reported utilising family planning methods even though they had adequate knowledge about family planning (82.1%). Common cultural beliefs against the use of family planning included; promotion of fornication (42.9%) and that it could lead to infertility (57.1%). However, none of the independent variables (age, gender, marital status, educational status, employment, distance to the nearest health facility, myths, and traditions about FP use, knowledge of family planning showed a significant association with the utilisation of

family planning methods. Although not significant, an increase in the odds of utilizing family planning was noted with higher age categories, being married, and an increase in education attainment, higher economic status, and high knowledge.

Conclusion: The study revealed low utilisation of family planning methods among adolescents in Kalulushi district despite the majority been sexually active. Thus, adolescent pregnancy preventive interventions should involve both male and female adolescents during the development and implementation of the interventions as most of the decisions come from both gender. The findings also call for interventions such as establishments of youth friendly services and community sensitisation to help improve the uptake of family planning among adolescents

Keywords: Family planning, Male and Female Adolescents, Utilisation and Zambia.

Background

Adolescent pregnancy is a serious reproductive health problem and it is estimated 21 million teenage girls become pregnant in developing countries each year, making adolescent pregnancy a global reproductive health concern (1). In lower-income countries, an estimated 21 million teenagers between the ages of 15 and 19 become pregnant annually in lower-income countries, with around half of these pregnancies being unplanned (2).

In sub-Saharan African countries, the fertility rate among adolescents is the highest globally, averaging 120 per 1000 (3). This high prevalence of fertility is concerning, as pregnancy and childbirth during adolescence is associated with the risks of serious complications for adolescent mothers including risk of eclampsia and infections as compared to older women (4, 5). Additionally, unplanned adolescent pregnancies also result in many pregnant girls dropping out of school early, which keeps them from obtaining the knowledge necessary to obtain well-paying jobs and have greater control over their life (6).

Evidence from around the world suggests that family planning is a promising strategy to prevent adolescent pregnancy, protect their health and development, and increase their access to education and reproductive opportunities (7, 8) . Effective use of family planning among adolescents would reduce unintended pregnancies, hence averting serious outcomes such as unplanned births, unsafe abortions, and maternal deaths (1). However, several studies indicate that the rate of utilisation of FP among adolescents is low especially in low in lower-income countries (9-11).

Different studies have documented factors associated with utilisation of family planning worldwide, including demographic and economic factors (12, 13) . Other research studies have shown that knowledge of contraceptive methods, inadequate access to contraceptive options also influence the uptake of family planning (14, 15). Additional evidence suggests that sociocultural beliefs and misconceptions about family planning also affect use of family planning (16, 17).

Zambia has made considerable efforts in family planning programs over the past 20years including the and establishment of youth-friendly corners to provide adolescents access to family planning and reproductive health services, as part of the National Health Strategic Plan to strengthen universal health coverage (Ministry of Health, 2020). Despite these efforts, the utilisation of family planning services remains very low despite high prevalence of adolescent pregnancies (18). Therefore this study aimed to utilization levels of family planning methods among adolescents in the Kalulushi district of Zambia.

Study methodology

Study design and setting

A quantitative cross-sectional study was conducted among male and female adolescents in Chibote and Chembe of Kalulushi District, Copperbelt Province of Zambia, from March 2024 to April 2024. As per the 2022 National Census conducted by the Zambia Statistics Agency, Kalulushi District boasts a population of 170,701, comprising 84,195 males and 86,506 females. Chibote and Chembe were chosen as study sites because of their high incidence of adolescent pregnancies in

the district, making them particularly relevant sites for studying factors associated with adolescent reproductive health.

Eligibility criteria

The study was conducted among male and female adolescents aged 12- 19 years residing in Chibote and Chembe community of Kalulushi District, Copperbelt Province in Zambia. All male and female adolescents who were residing in study sites and willing to participate in the study through the provision of informed written consent during the study period were included in the study. Male and female adolescents with hearing impairment, deaf, loss of vision, sick, and not mentally fit were excluded from participation in the study.

Sample size calculation

The sample size of the study was 162 participants. The sample size was estimated using the Cochrane formula (19). Using a 12% proportion of family planning utilisation among adolescents in Zambia (18), a 5% maximum acceptable error and 95% confidence interval were used for sample calculation.

Sampling method

A systematic sampling method was used to recruit a total of 162 participants. Chibote and Chembe community is divided into 18 zones according to Chairmen of the Neighbourhood Health Committees. There are 200 households in each zone and houses were listed as a sampling frame. Households were selected using systematic sampling. From the known number of households and

the sample size, sampling interval was calculated, i.e., dividing the sample size into the population sample, then start from any number between 1 and 10 then pick the starting household. Then following the sampling interval, you arrive at the K the household in the systematic sampling until a desired number of households is achieved.

Research instruments and definition of variables

Data were collected using a validated structured and pretested questionnaire via face-to-face interview. The data collection tool (questionnaire) was first prepared in English language, translated to local language and then back translated to English in order to ensure consistency. The tool was reviewed by research experts for content validation, and the internal reliability determined by Cronbach's alpha was 0.74.The questionnaire had four sections covering the study variables as follows: Section A (Socio-demographic characteristics), section B, (utilisation of herbal medicines) and section C (knowledge of herbal medicines). Pretested data collection questionnaire was used for data collection.

Study variables

Dependent variables

Utilization of family planning methods was the dependent variable of this study.

Independent variables

Sociodemographic factors (age, gender, education, employment, and marital status), knowledge levels and socio-cultural factors (e.g. religious and traditional beliefs) were independent variables.

Data collection procedure

Data were collected after receiving an ethical clearance letter and permission to conduct the study in Chibote and Chembe of Kalulushi District. Ethics clearance was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) before data collection (reference number, WU/1224/08/11). Permission to conduct the study was also obtained from the Provincial Health Office for Copperbelt Province and Kalulushi District Health Office. Research assistants were trained on the purpose of the study and the use of the data collection tool before the process of data collection. Since the topic under study was very sensitive. Data were collected individually without the presence of other adolescents in an empty and quiet room to ensure confidentiality and work trust. Informed consent was obtained before distributing a self-administered semi-structured questionnaire. Code numbers were used instead of names to ensure confidentiality and after completing filling out the questionnaire, the researcher collected the questionnaires and sealed them in an envelope.

Data management and analysis

Data coding, checking, and cleaning were done daily during the data collection process for validation and to ensure consistency. Frequencies, percentages, and mean scores were computed to describe socio-demographic data, knowledge, and use of family planning methods in the study population. Associations between categorical and outcome variables (family planning utilisation) were tested using a chi-square test. However, Fisher's exact test was used for variables with

expected frequencies less than five. The criterion of 95% confidence interval and p-value<0.05 were considered as statistical significance.

Multivariate logistic regression model analysis was conducted to explore the predictors of utilisation of family planning methods. All predictor variables that were statistically associated with family planning use using Chi-square were included in the multiple logistic regression model analysis. Univariate logistic regression analysis was conducted first. Each predictor variable was tested individually with the main outcome variable to give the Crude Odds Ratio (COR). Then multivariate logistic regression analysis was conducted in which predictor variables were combined in a test to provide the Adjusted Odds Ratio (AOR). Analysis was conducted using the Statistical Package of Social Sciences (SPSS) computer program version 26.

Results

Socio-demographic characteristics of the study participants

A total of 162 adolescents were approached for participation in the study, of which a response rate was 100.0%. Majority of the participants, 127 (78.4%) were female and most adolescents were in their middle 79 (48.8%) and late 68 (42%) adolescence age groups. Almost all adolescents were not married 159 (98.1%) with primary 68 (42%) and secondary 66 (40.7%) education level attainment. All participants lived with their parents, 158 (97.5%) were unemployed, and over half, 92 (56.8%) were from households with low socio-economic status. Under two-thirds, 105 (64.8%) of the adolescents reported coming from households with over five members (Table 1).

Table 1: Socio-demographic characteristics of the respondents (n = 162)

Characteristics	Category	Frequency (n)	Percentage (%)
Participants' sex	Male	35	21.6
	Female	127	78.4
Age category	Early	15	9.3
	Middle	79	48.8
	Late	68	42.0
Marital status	Single	159	98.1
	Married	3	1.9
Religious affiliation	Catholic	42	25.9
	SDA	32	19.8
	JW	9	5.6
	Pentecost	33	20.4
	Apostolic	21	13.0
	Others	25	15.4
Highest education attained	Primary	68	42.0
	Secondary	66	40.7
	Tertiary	22	13.6
	None	6	3.7
Living with parents	Yes	162	100.0
Occupation status	Unemployed	158	97.5
	Employed	4	2.5
Socio-economic status	High	9	5.6
	Middle	61	37.7
	Low	92	56.8

Household population	<3 Members	5	3.1
	3-5 Members	52	32.1
	>5 Members	105	64.8

Abbreviations: n number participants, % percent of participants, p Statistical Significance at<0.05 level, JW Jehovah's Witnesses and SD**A** Seventh Day Adventists

Utilization of family planning

Majority of adolescents were sexually active 143 (88.3%), but only 31 (19.1%) reported utilizing family planning methods. Common reasons for non-use of family planning included being unmarried 48 (36.9%), and having negative beliefs about contraceptives 41 (31.5%). Condoms 16 (51.6%), injectables 6 (19.4%), and oral contraceptives 9 (29%) were the commonly used types of family planning methods among users (Table2).

Table 2: Utilisation of family planning among participants (n = 162)

Characteristics	Category	Frequency (n)	Percentage (%)
Sexually active	Yes	143	88.3
	No	19	11.7
Utilisation of family planning methods	Yes	31	19.1
	No	131	80.9
Reason for not using any family planning	Unmarried	48	36.9
	Negative beliefs	41	31.5
	Inconvenience	13	10.0
	side effects	17	13.1
	Physiological	11	8.5
Type of family planning method used	Condoms	16	51.6
	Injectables	6	19.4
	Oral contraceptives	9	29.0

Knowledge about family planning

All respondents were aware of family planning, with mass media being the common source of awareness 77 (47.5%). Most adolescents had an understanding of the meaning of family planning

as the act of delaying pregnancy 58 (35.8%) or child spacing 92 (56.8%). Injectables 81 (50%) and oral contraceptives 43 (26.5%) were the common methods of family planning known. The majority of participants agreed that family planning was beneficial in preventing pregnancy 135 (83.3%). Overall, knowledge of family planning was high among the majority of study participants 133 (82.1%) (Table 3).

Table 3: Participants' knowledge on family planning (n=162)

Characteristics	Category	Frequency (n)	Percentage (%)
Ever heard about family planning	Yes	162	100.0
Source of information	Health Worker	45	27.8
	Mass media	77	47.5
	Family	5	3.1
	Peers	35	21.6
Meaning of family planning	Delaying pregnancy	58	35.8
	Child spacing	92	56.8
	Having no children	6	3.7
	Don't know	6	3.7
Family planning methods known	Injectables	81	50.0
	None	38	23.5
	Oral contraceptives	43	26.5
Whether family planning has benefits	Yes	135	83.3
	No	27	16.7
Benefits of family planning known	Has no benefits	27	16.7
	Prevents pregnancy	135	83.3
Overall knowledge on family planning	Low	12	7.4
	Average	17	10.5
	High	133	82.1

Accessibility of family planning services

Most (56.2%) of the participants indicated the availability of a nearby facility offering family planning services, whereas 43.8% did not know any such facility. The majority, 154 (95.1%) did not know whether the nearest health facility offered a variety of family planning methods. About two-thirds, 106 (65.4%) of the participants lived over 5km from the nearest health facility, with bicycles 78 (48.1%) and on-foot 70 (43.2%) being the common modes of transport. All participants regarded the hours the health facility opened as convenient (Table 4).

Table 4: Accessibility of family planning services (n = 162)

Characteristics	Category	Frequency (n)	Percentage (%)
Availability of nearby facility offering family planning	Don't Know	71	43.8
	Yes	91	56.2
Whether the facility offers variety of family planning methods	Don't Know	154	95.1
	Yes	8	4.9
Ever been denied family planning services	No	161	99.4
	Yes	1	0.6
What was done after being denied FP services	Not applicable	161	99.4
	Shunned services	1	0.6
Distance to nearest health facility	Over 5km	106	65.4
	Within 5km	56	34.6
Mode of transport to health facility	On foot	70	43.2
	Bicycle	78	48.1
	Vehicle	8	4.9
	Other	6	3.7
Convenience of hours the facility is open	No	1	0.6
	Yes	161	99.4

Cultural beliefs about family planning

Majority of participants, 148 (91.4%) reported having no myths or traditions preventing the use of family planning whereas, 14 (8.6%) reported having such. Among those who reported having

beliefs and traditions against the use of family planning, the beliefs that family planning promoted fornication 20 (42.9%) and that it could lead to infertility 27 (57.1%) were reported. Participants recommended parent/guardian engagement 56 (34.6%) and sensitization 97 (59.9%) as the best methods of promoting adolescent engagement in family planning (Table 5).

Table 5: Socio-cultural beliefs towards family planning (n = 162)

Characteristics	Category	Frequency (n)	Percentage (%)
Myths and traditions preventing FP use	*No*	83	63.8
	Yes	47	36.2
Types of myths and traditions	*Promotes fornication*	20	42.9
	Leads to infertility	27	57.1
Best way to engage adolescents in FP	*Don't Know*	9	5.6
	Involve parents	56	34.6
	Sensitization	97	59.9

Association between variables

Unadjusted and adjusted logistic regression showed that at both levels of analysis, all the variables in the model showed no significant effect on utilization of family planning methods among adolescents. Although not significant, an increase in the odds of utilizing family planning was noted with higher age categories, being married, and increase in education attainment, higher economic status, and high knowledge. On the other hand, a decreasing trend in odds of using family planning was observed among females and those who reported being sexually active. However, these trends were no statistically significant (Table 6 and 7).

Table 6. Association between utilisation of family planning and independent variables

Variables	Category	Utilisation of family planning		p-value
		Yes, N = 31 n (%)	No, N = 131 n (%)	
Age category	Early	2 (6.5)	13 (9.9)	0.916
	Middle	16 (51.6)	63 (48.1)	
	Late	13 (41.9)	55 (42.0)	
Participants' sex	Male	8 (25.8)	27 (20.6)	0.527
	Female	23 (74.2)	104 (79.4)	
Marital status	Single	30 (96.8)	129 (98.5)	0.474
	Married	1 (3.2)	2 (1.5)	
Highest education attained	Primary	13 (41.9)	55 (42.0)	0.955
	Secondary	12 (38.7)	54 (41.2)	
	Tertiary	5 (16.1)	17 (13.0)	
	None	1 (3.2)	5 (3.8)	
Occupation status	Unemployed	31 (100.0)	127 (96.9)	1.000
	Employed	0 (0.0)	4 (3.1)	
Socio-economic status	High	2 (6.5)	7 (5.3)	0.301
	Middle	15 (48.4)	46 (35.1)	
	Low	14 (45.2)	78 (59.5)	
Household population	<3 Members	1 (3.2)	4 (3.1)	0.586
	3-5 Members	12 (38.7)	40 (30.5)	
	>5 Members	18 (58.1)	87 (66.4)	
Sexually active	Yes	25 (80.6)	118 (90.1)	0.209
	No	6 (19.4)	13 (9.9)	
Availability of nearby family planning facility	Don’t Know	12 (38.7)	59 (45.0)	0.523
	Yes	19 (61.3)	72 (55.0)	
Availability of nearby FP facility	Don’t Know	31 (100.0)	123 (93.9)	0.355
	Yes	0 (0.0)	8 (6.1)	
Distance to nearest health facility	Over 5km	22 (71.0)	84 (64.1)	0.471
	Within 5km	9 (29.0)	47 (35.9)	
Myths and traditions preventing FP use	No	1 (33.3)	82 (64.6)	0.296
	Yes	2 (66.7)	45 (35.4)	
knowledge on family planning	Low	0 (0.0)	12 (9.2)	0.204
	Average	4 (12.9)	13 (9.9)	
	High	27 (87.1)	106 (80.9)	

Table 7: Unadjusted and adjusted logistic regression

Variables	*Category*	*Unadjusted estimates*			*Adjusted estimates*		
		cOR	**95% CI**	**p-value**	**aOR**	**95% CI**	**p-value**
Age category	Early	—	—		—	—	
	Middle	1.65	0.40, 11.2	0.536	3.29	0.61, 27.9	0.208
	Late	1.54	0.36, 10.6	0.600	4.09	0.55, 44.4	0.198
Participants' sex	Male	—	—		—	—	
	Female	0.75	0.31, 1.94	0.528	0.86	0.32, 2.42	0.762
Marital status	Single	—	—		—	—	
	Married	2.15	0.10, 23.2	0.537	2.26	0.09, 28.9	0.541
Highest education attained	None	—	—		—	—	
	Primary	1.18	0.17, 23.7	0.883	2.11	0.24, 47.1	0.545
	Secondary	1.11	0.16, 22.3	0.926	1.43	0.18, 30.4	0.766
	Tertiary	1.47	0.17, 31.6	0.749	1.82	0.18, 42.7	0.640
Socio-economic status	Low	—	—		—	—	
	High	1.59	0.22, 7.44	0.586	1.45	0.18, 7.98	0.692
	Middle	1.82	0.80, 4.14	0.151	2.14	0.87, 5.38	0.099
Sexually active	No	—	—		—	—	
	Yes	0.46	0.16, 1.41	0.150	0.40	0.12, 1.41	0.141
Distance to nearest health facility	Within 5km	—	—		—	—	
	Over 5km	1.37	0.60, 3.35	0.472	1.68	0.65, 4.66	0.297
Myths and traditions about FP use	No	—	—		—	—	
	Yes	2.61	0.75, 8.21	0.109	2.48	0.66, 8.72	0.161
knowledge on family planning	Low	—	—		—	—	
	High	1.59	0.56, 5.74	0.423	1.44	0.46, 5.63	0.564

cOR = Crude Odds Ratio, aOR = Adjusted Odds Ratio, CI = Confidence Interval., FP =Family Planning

Discussion

Data from this study showed that most of the study participants were in their middle age group and female were the predominant. The study population was almost homogeneous as far as demographic characteristics were concerned with several previous studies conducted in Lesotho (20) and Uganda (21).

Additionally, almost all adolescents were not married, unemployed, lived with their parents, and primary or secondary was the most common level of education attained. These demographic findings were consistent with previous studies in Nigeria (22) and Ghana (23). The finding suggest that these demographic factors may have an influence on the utilisation of family planning among adolescents.

Data from this study showed that the majority of the adolescents were sexually active but only 19.1% reported utilising family planning methods. The findings were similar to studies in Rwanda where utilisation of FP was 17% (24), and Ghana where (82.0%) did not use contraceptives despite having adequate knowledge about FP (25). However, this was comparatively lower than prevalence of FP utilisation reported in USA (69.5%) (26) and a study involving 25 sub-Saharan African countries where the overall prevalence of contraceptive use among adolescents was 25.4% (27). Additionally, the findings were higher than what was noted in Ethiopia (7.3%) (28) and Uganda (9.4%) (10) but almost similar to the Zambian Demographic and Health Surveys conducted from 1996 to 2014 where contraceptive use ranged from 7.6% to 10.9% (29). The possible explanation for the difference in the prevalence may be due to variations in accessibility, sample size, study population, and cultural issues regarding family planning in the different study

settings. Nevertheless, the low utilisation of family planning among adolescents reported in this study is of concern as it could contribute to increased unplanned pregnancies in the Kalulushi district.

The low utilisation of FP methods observed in this current study could be attributed to some religious beliefs which oppose the use of family planning especially among unmarried adolescents. Moreover, in this study majority of the participants were Christians and common reasons for the non-use of family planning were being unmarried and negative beliefs. The findings are justified by previous studies that have reported that some religions forbid the use of FP methods as they view children as a gift from God and any artificial process interrupting pregnancy or preventing the possibility of life is a religious offense (16, 30). This was also established from a previous study in Zambia where certain religions had a belief that contraception was tantamount to committing abortion which is a sinful act. Additionally, the provision of FP to unmarried adolescents was considered inappropriate as it was thought to promote promiscuity and sex before marriage in society (31). The findings suggest that religion and cultural beliefs are major barriers to the utilisation of family planning services.

Condoms, injectables, and oral contraceptives were the commonly used types of family planning methods among the study participants. This finding is similar to that of a study in Tamale Metropolis, Ghana which revealed that condoms, injectables, and oral contraceptive methods were the most common known methods of FP (32).

Findings from this study indicated most (82.1%) of the participants had high knowledge about family planning with the mass media being the most common sources of information, evidence

that social media is part of a new trend in public health education in Zambia. Also, respondents reported that health facilities were the least source of information, suggesting either that health workers are not giving sufficient information or that most adolescents do not seek reproductive health services in health facilities regularly. This study also corresponds with studies in Uganda (33) and Ethiopia where knowledge of FP methods was nearly universal (98.1%) and media was the main source of information for FP methods. This may imply that most adolescents learn about family planning via media rather than the health centers. The finding that the media was the most common source of FP information suggests the need to target media as an alternative approach for promoting FP use especially among adolescents. The findings also call for increased awareness efforts by healthcare providers to improve the uptake of family planning among adolescents.

Results from this study also indicated that most adolescents understood family planning as the means of child spacing and injectables and oral contraceptives were the common methods of family planning known. These findings were consistent with those from Tanzania where oral contraceptive pills, injectables, and condoms were common methods of family planning (34).

Access and utilisation of sexual and reproductive health is still a big challenge for adolescents, especially in sub-Saharan Africa (14). In this study, almost half of the participants did not know any nearby facilities offering family planning services, and about two-thirds of the participants lived over 5km from the nearest health facility, with bicycles being the common mode of transport. Similar findings were noted in Zambia. This finding has been reported in Bangladesh (35), Malawi (36), and Zambia (18). The findings call for increased nearby health services so that adolescents can easily access sexual and reproductive health services such as family planning.

The present study revealed that some participants had some negative cultural beliefs about family planning with some indicating that family planning promoted fornication and could lead to infertility. The findings were in concordance with those reported in Nepal (16), Ghana (37) and Uganda (38) where adolescents feared that family planning could lead to future infertility. Similar findings were reported in Nigeria where adolescents described the use of contraceptives in adolescence as a contributory factor to high rates of infertility among married couples. They opined that the use of contraceptives before adulthood among adolescents' girls, blocks the womb of the female and increases her chance of not getting pregnant or delay pregnancy in marriage (39, 40). This was also established in Mali where FP was perceived to be sign of fornication among adolescents (41). These misconceptions and negative beliefs may be due to ignorance and or misinformation from friends and other community members. This is was justified by the study in Guinea where participants reported that adolescents who used FP were viewed as individuals living a promiscuous life in society (42). It is imperative therefore to direct interventions to disabuse adolescents' minds of their negative perceptions and misconstrued ideas about the side effects of family planning. Outreach to schools and places of worship could be very useful for sensitising adolescents by health workers.

Additionally, participants in this study indicated that parent or guardians' engagement and sensitization were the best methods of promoting adolescent engagement in family planning. These findings are supported by several previous studies documenting the importance of parent and adolescent communication as a driver for the uptake of sexual and reproductive health services (43-45). For instance, a mixed methods study in Kampala, Uganda reviewed that some participants

felt they could not take up any FP methods because their mothers objected citing family planning to be associated with infertility and a way of promoting sexual promiscuity (46). Findings were also supported by a study in Malawi where adolescents viewed parents as mentors and preferred to get information from parents who use local languages compared to the use of medical words or professional terminologies. For example, words like family planning methods or contraceptives were considered difficult and according to them, these words meant that contraceptives are only for married couples (36). The findings indicate that sensitising or engaging parents on the importance of FP could help improve its uptake among adolescents.

In the current study, in both levels of analysis, no significant association between respondents' age, gender, marital status, educational status, employment and distance to the nearest health facility, myths, and traditions about FP use, knowledge of family planning and utilization of family planning methods was found. Similar findings were noted from a cross-sectional study in Ghana (25). These findings differed from studies in Nabdan district, Ghana (47) and Congo (11) which revealed that level of age, education, marital status and employment respondents were associated with contraceptive use. The finding of no association in this study could be due to a small sample size.

However, although not significant, an increase in the odds of utilizing family planning was noted with higher age, being married, and increased education attainment and high knowledge. However, these trends were not statistically significant. The findings mirror those of the study in Guinea where the odds ratios for the use of the FP method were higher with increasing age and education (48). This may be because as age increases, women become independent and are more likely to

make decisions about choosing a modern contraceptive method or not. In addition, educated women may have more access to information on contraceptive methods.

5.8. Limitations of the Study

This study was conducted from one catchment area of Kalulushi district on the Copperbelt Province. Therefore, it does not represent the entire population of Kalulushi district and the findings cannot be extrapolated to whole district and country. The collection of data involved face to face interviews with adolescents which could have affected their openness when answering questions. Another limitation of this study is that it relied on self-reported information from participants, and as such may suffer from recall bias. This study did not find any association between the sociodemographic and cultural factors, possibly due to a small sample size. Therefore, a similar study with a much large sample size should be carried in future to establish the determinants of family planning methods among adolescents.

Conclusion

This study found low utilisation of family planning methods among male and female adolescents despite majority being sexually active and having adequate knowledge about family planning. Common cultural beliefs against the use of family planning such as promotion of fornication and fear of infertility were noted. However, none of the independent variables showed a significant association with the utilisation of family planning methods among adolescents. Although not significant, an increase in the odds of utilizing family planning was noted with higher age

categories, being married, and an increase in education attainment, higher economic status, and high knowledge.

This finding provides very useful pieces of information to policymakers and other stakeholders working on promoting use of family planning to reduce teenage or unplanned adolescent pregnancies. It's paramount to integrate comprehensive sexuality education to be taught from a very young age as currently, adolescents initiate sex at an early age and to be tailored to involve both genders as the key players. The Government of the Republic of Zambia through the Ministry of Health (MoH) should consider addressing challenges that impede the utilisation of FP among adolescents as a measure of avoiding unsafe abortions and unplanned pregnancies. The MoH should also work with Ministry of Education and churches to establish Youth Friendly Services in schools and churches in order to improve the utilisation of FP among adolescents.

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Author's contributions

AM. Developed the research idea, participated in developing data collection tools, collected data, performed data analysis, and participated in manuscript writing. MK. Participated in designing the

questionnaire, reviewed the results of data analysis, and participated in manuscript writing. MKM. Approved the research idea and guided on research methodology, data analysis, and manuscript internal review. BM. All authors read and approved the submitted version of the manuscript, and they have agreed to be accountable for the accuracy or integrity of any part of the work.

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Availability of data and materials

The datasets are available from the corresponding author upon reasonable request. To request data access, one must write to the corresponding author, Annie Muwowo. The request for data must include contact information, project title, description of the analysis being proposed as well as the format expected. The requested data should only be used for purposes related to the original research. The principal investigators will review all data requests and provide notification if access has been granted or additional project information is needed before access can be granted.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) (REF#: UNZA-4816/2023). Written permission to conduct the study was obtained from Provincial Health Office for Copperbelt Province and Kalulushi District Health Office. Written informed consent was obtained from each participant before conducting this study.

Code numbers were used instead of names to ensure confidentiality. Participation was voluntary and participants had the right to withdraw from the study at any time.

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.

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