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Research Article

Determinants of Contraceptive Use Among Teenage Girls Aged (15-19) in Eastern Province, Zambia

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Abstract

Access to sexual and reproductive health information and services among the young people remains a highly contested issue in many traditional societies Zambia included. Access to youth-friendly health services such as contraceptives is vital for ensuring the well-being of adolescents. This study aimed to establish the determinants of contraceptive use among teenage girls aged 15 to 19 years in Eastern Province, Zambia. This was a mixed methods study that employed a sequential explanatory design. In the quantitative arm, the study utilized the 2018 Zambia Demographic and Health Survey (ZDHS) women's dataset for Eastern Province, focusing on 326 teenage girls aged 15-19 years. The ZDHS data collection was done using multiple cluster sampling method and through household survey. The qualitative arm involved 6 focus group discussions with parents, 4 interviews with teachers and 6 interviews with healthcare providers in Petauke district. Contraceptive prevalence rate, and socio-economic and demographic factors influencing contraceptive use were measured in the quantitative part. The perception on teenage contraceptive use among key influencers was assessed in the qualitative arm. The prevalence of contraceptive use among teenage girls in Eastern province was at16%. Age, marital status, parity, visiting a health facility, being visited by a health provider and hearing about family planning on radio were significantly associated with contraceptive use ($p< 0.05$). Moreover, teenage girls who had ever been married had higher odds of contraceptive use than unmarried ones (AOR 3.57, 95% CI, 1.59, 8.01, $p = 0.002$). Further, those who heard about family planning at the health facility (AOR 2.37, 95% CI, 1.08, 5.21, $p = 0.031$) and those who heard on radio (AOR 2.55, 95% CI, 1.05-6.19, $p = 0.038$) had higher odds of contraceptive use than those who did not. The qualitative results found that most parents and teachers opposed the use of contraceptive by teenagers, while health providers supported it. Barriers to contraceptive use included religious beliefs, personal beliefs of healthcare providers, myths and misconceptions, and the fear of social stigma by teenagers. Whether adolescents have access to contraceptives or not, the decision to use them is heavily influenced by parents, and to some extent, teachers and health providers. Therefore, it is important to implement comprehensive educational programs not only for teenagers, but also for parents, teachers and healthcare providers, dispelling myths about contraceptives.

Keywords

Influencers' Perceptions, Adolescents, Teenage Girls, Modern Contraceptive Use, Zambia

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1. Introduction

Despite global efforts and commitments made at the International Conference on Population and Development in 1994, sexual and reproductive health challenges persist, particularly in the developing world. [1] The Sustainable Development Goal 3.7 emphasises the importance of universal access to sexual and reproductive health rights. [2] However, contraceptive use, a crucial aspect of reproductive health, faces accessibility issues, especially among adolescents. Globally, adolescents have a 20% contraceptive prevalence rate, significantly lower than the 60% rate among women aged 30-34 years. Furthermore, adolescents have the lowest Proportion of Demand for Contraceptive Satisfied at 46%, in contrast to the higher percentages among older age groups, 65% for 20-24 years, 80% for 30-34 years, 82% for 35-39 years, and 83% for 40-44 years. [3]

The unmet need for contraceptives remains high in many developing countries, particularly in sub-Saharan Africa, where women and couples grapple with challenges in having control over their reproductive lives. [4] While global teenage pregnancy rates have generally declined, remaining below 45 births per 1,000 girls aged 15 to 19 in 2015 from around 90 births in 1960, the challenge persists in many developing countries. [5] Sub-Saharan Africa, in particular, has made the least progress, sustaining the highest adolescent birth rate (ABR) at 102 births per 1,000 girls, a slight reduction from the 1990 rate of 123 births per 1,000 girls. Exacerbated by a high child marriage rate of 29%, Zambia faces an even more significant challenge with an adolescent birth rate of 135 per 1,000 girls, surpassing the regional average. [6]

With the population of 43 percent below 15 years, the health of young people is a public health concern in Zambia. [7] Zambia a Christian nation, several contextual factors such as traditional marital norms and Christian religious values play a significant role in inhibiting the uptake of sexual and reproductive health services such as contraceptives, ordinarily opposing the global health view of fertility control which is rights-based, regardless of the user. [8] Despite the general increase in the percentage of women using contraceptives from 9% in 1992 to 50% in 2018, only 12% of teenage girls aged 15 to 19 use contraceptives, with 70% of sexually active teenage girls in this age group not using any form of contraceptive. [9] The model of youth friendly corner has not been effective in increasing contraceptive use due to factors such as inadequately trained health staff to handle the youths and a lack of resources or funding to support the involvement of peer educators. [10]

Zambia's low teenage contraceptive prevalence contributes to a 29% teenage pregnancy rate nationwide, with Southern and Eastern provinces having the highest rates at 43% and 40%, respectively in the 2018 ZDHS. [9] In 2018, Eastern Province reported 24,000 teenage pregnancy cases, and in the second quarter of 2019, 7,000 cases were recorded. [11] From January to September 2020, 1,700 cases were recorded, with Petauke having the highest at 391. [12] While many studies that have been conducted on the determinants of contraceptive use in the general population, very few have focused on teenagers, and more so Eastern Province. Therefore, this study aimed to identify the determinants of contraceptive use among teenage girls aged (15-19) in Eastern Province. Specifically, we used secondary data from the 2018 Zambia Demographic and Health Survey for the quantitative arm, to examine the contraceptive prevalence rate, as well as socio-economic and demographic factors influencing contraceptive use. On the other hand, the qualitative arm was employed to explore the perceptions of key influencers, such as parents, teachers, and health providers, regarding the use of contraceptives by teenage girls.

2. Methods

2.1. Study Design

This was a mixed methods study that employed a sequential explanatory design where the collection and analysis of quantitative data was followed by the collection and analysis of qualitative data. Qualitative findings helped in explaining some possible salient data that was obtained from quantitative results.

Quantitative Arm

The Quantitative arm utilized the 2018 Zambia Demographic and Health Survey (ZDHS), specifically the women's file, from which data sets for women aged 15 to 19 from the Eastern Province were extracted (n=326). The 2018 ZDHS was a nationally representative cross-sectional survey conducted by the Zambia Statistical Agency, and funded by the United States Agency for International Development (USAID), United Nations Population Fund (UNFPA), Global Fund and UKaid. The 2018 ZDHS used a two-stage stratified cluster sampling during which data was collected using standardised questionnaires.

2.2. Study Population

All women aged 15 to 49 who were either permanent residents of the selected households or visitors who stayed in the households the night before the 2018 Zambia Demographic and Health Survey were eligible to be interviewed. A total of 13, 683 women aged 15to 49 were interviewed. [9] We defined teenage girls as those 15-19 years old. The target population for this study included women aged 15-19 from the women's file of the 2018 Zambia Demographic and Health Survey (ZDHS) dataset.

2.3. Definitions

Some definitions were adopted from the 2018 ZDHS, while others were recategorized as necessary for our study.

2.3.1. Contraceptive Prevalence rate

Percentage of women who use any contraceptive method, including all women aged 15-49; married and unmarried sexually active women.

2.3.2. Modern Contraceptive Methods

Include male and female sterilisation, injectables, intrauterine devices (IUDs), contraceptive pills, implants, female and male condoms, the standard days method, the lactational amenorrhoea method, and emergency contraception.

2.3.3. Source of Modern Contraceptives

The place where the modern method currently being used was obtained the last time it was acquired. In this study we have categorised the source for contraceptives as Government Clinic/Pharmacy and Other.

2.4. Explanatory Variables

Independent Variables included age, marital status, parity, residence, religion educational level, wealth index, Barrier to getting medical help, availability of information about contraceptives and source of contraceptives.

2.5. Data Analysis

We utilized Stata (StataCorp V.15) for data analysis, employing univariate analysis for core frequencies of background characteristics among the study population. Cross tabulations established relationships between demographic and socio-economic variables, and contraceptive use in women aged 15 to 19. Chi-square tests determined significance levels of relationship between the dependent variable and independent variables at a 95% confidence level for categorical variables. Logistic regression, with odds ratios reported as the measure of effect, assessed the influence of demographic and socio-economic variables, on contraceptive use. Backward stepwise regression, incorporating all variables, was used in a multiple logistic regression model to assess individual effects. The second stage involved adopting an adjusted model. We used the svyset command to adjust for clustering, stratification and the sampling weights of individual women in all analyses.

Qualitative Arm

The qualitative arm employed primary data which was collected from Health Providers, Teachers and Parents from Petauke district.

2.6. Study Site and Population

The study was conducted in Eastern Province, one of Zambia's 10 provinces. The choice of Eastern Province as the study setting is underpinned by compelling high rates of teenage pregnancies. According to the 2018 Demographic and Health Survey, Eastern Province ranks as the second-highest province for teenage pregnancies in Zambia, with a prevalence of 40%, narrowly behind Southern Province which stands at 43%. [9] This alarming prevalence indicates a critical reproductive health concern in the region. Eastern province is generally rural, with agriculture as the main economic activity, and borders with Malawi to the east and Mozambique to the south. The province has 16 districts and one of the highest population densities in the country. Being dominantly rural, the province has one of the highest poverty rates in the country standing at 84.3 percent. [13] Poverty and lack of opportunity contribute to young people's early sexual debut and transactional sex, both leading to teenage pregnancy and related child marriage. [14] Moreover, cultural practices such as initiation ceremonies persist in the province and serve as key drivers of child marriage and teenage pregnancies. [15]

The study purposively selected four schools and three health facilities in Petauke town. Teachers and health workers were chosen for interviews. Parents aged 30 and above visiting health facilities for various services were purposively selected for focus group discussions, limited to eight members per group. The selection criteria for parents and guardians aged 30 and above assumed that individuals in this age range were likely to be parents or guardians and could provide valuable insights into the perceptions of parents regarding adolescent girls' use of contraceptives. Health personnel, including one Facility in charge and one Adolescent focal point person, were purposively selected for their engagement in Sexual and Reproductive Health services. Additionally, four guidance teachers (one from each school) were purposively chosen for interviews due to their influence on the decision making of teenage learners.

2.7. Data Collection

Data was collected using in-depth interviews (IDIs) and focus group discussions (FGDs). The in-depth interviews were conducted with key informants who included teachers and health workers, following a prepared guide. Furthermore, two focus group discussions (FGDs) were conducted at each health facility, with consenting parents, making a total of six FGDs. An audio recorder was used to collect verbatim information from individual respondents who consented, and a notebook was used to record highlights from the IDIs and FGDs. The study interviewed six health providers (two from each facility) and four guidance teachers from four schools (one from each school).

2.8. Data Analysis

In cases where the local language was used, verbatim records of the local language were later translated into English. This

study employed constant comparative analysis a qualitative data analysis method in which the gathered information was coded into emergent themes or codes. Additionally, a combined inductive and deductive coding approach was utilized to capture specific themes while allowing flexibility for new themes to emerge. During the data management phase, transcripts, field notes, and documents were input into NVIVO, a qualitative software designed for coding, and qualitative themes were derived using the constant comparative methods. Thematic analysis was employed, and subsequently, pertinent information was incorporated into the final report.

Ethics approval: Ethical approval to undertake this study was obtained from University of Zambia Biomedical Research Ethics in Zambia (Approval number: 3772-2023).

3. Results

The analysis involved examining data from 326 teenage girls aged 15-19, extracted from the women's data file of the 2018 Zambia Demographic and Health Survey (ZDHS) for Eastern Province. The prevalence of contraceptive use in Eastern province by background characteristics of the respondents is shown in table 1.

Table 1. *Prevalence of Contraceptive use in Eastern Province by background characteristics of teenagers age 15-19.*

Background Characteristics	Non-Users. n (%)	Users n (%)	P-Value
Age			
15	66 (94.3)	4 (5.7)	0.001
16	58 (93.6)	4 (6.4)	
17	48 (87.3)	7 (12.7)	
18	59 (75.6)	19 (24.4)	
19	43 (70.5)	18 (29.5)	
Current Marital Status			
Never Married	227 (91.9)	20 (8.1)	0.001
Married	47 (59.5)	32 (40.5)	
Total Children Ever Born			
0	221 (95.3)	11 (4.7)	
1	48 (58.5)	34 (51.5)	0.001
2	5 (41.7)	7 (58.3)	
Type of Residence			
Urban	80 (89.9)	9 (10.1)	0.078
Rural	194 (81.9)	43 (18.1)	
Wealth index			
Poorest	61 (75.3)	20 (24.7)	
Poor	65 (82.3)	14 (17.7)	
Middle	58 (87.9)	8 (12.1)	0.063
Richer	38 (86.4)	6 (13.6)	
Richest	52 (92.9)	4 (7.1)	
Education Attainment			
No Education	12 (80)	3 (20)	
Primary	153 (80.9)	36 (19.1)	0.243
Secondary	108 (89.3)	13 (10.7)	
Higher	1 (100)	0 (0.00)	

Background Characteristics	Non-Users. n (%)	Users n (%)	P-Value
Religion			
Catholic	59 (88.1)	8 (11.9)	
Protestant	210 (83)	43 (17)	0.603
Other	5 (83.3)	1 (16.7)	
Distance to Health Facility			
Considered Distance as a Big Problem	99 (87.6)	14 (12.4	0.201
Did Not Consider Distance as a big problem	175 (82.2)	38 (17.8)	
Told about Family Planning at Facility			
Not told	130 (86.7)	20 (13.3)	0.001
Told	36 (58.1)	26 (41.9)	
Visited by field Worker (Last 12 months)			
Not Visited	250 (85.6)	42 (14.4)	0.024
Visited	24 (70.6)	10 (29.4)	
Visited Health Facility (Last 12 Months)			
Not Visited	108 (94.7)	6 (5.3)	0.001
Visited	166 (78.3)	46 (21.7)	
Heard Family Planning on Radio Last Few Months			
Not Heard on Radio	239 (86.6)	37 (13.4)	0.03
Heard on Radio	35 (70)	15 (30)	
Heard Family Planning on TV Last Few Months			
Not Heard on TV	264 (84.9)	47 (15.1)	0.06
Heard on TV	10 (66.7)	5 (33.3)	
Heard Family Planning in Newspaper/Magazine Last Few Months			
Not Heard in Newspaper/Magazine	266 (84.7)	48 (15.3)	0.094
Heard in Newspaper/Magazine	8 (66.7)	4 (33.3)	

The prevalence of contraceptive use among teenagers, categorized by background characteristics with a significance level set at 0.05 is shown in table 1. Significant age-related differences were observed, with the highest contraceptive usage among 19-year-olds (29.5%) and the lowest among 15-year-olds (5.7%) (P = 0.001). Marital status showed a significant relationship, with 8.1% of never-married and 40.5% of married teenagers using contraceptives (P = 0.001). The number of children ever born was significantly related to contraceptive use. Specifically, 4.7% of those without children, 51.5% of those with one child and 58.3% for those with two children reported contraceptive use (P = 0.001). Although urban-rural disparities existed (10.1% vs. 18.1%), the difference was not statistically significant (P = 0.078). Information received, field worker visits, recent health facility visits, and exposure to family planning messages through radio and television showed significant associations with contraceptive use.

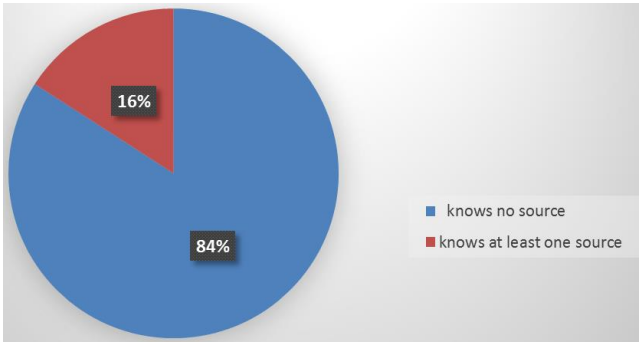

Figure 1. *Knowledge of Source for Any Method of Contraceptive.*

The knowledge of source for any contraceptive method is shown in figure 1. Most respondents (84.1%) reported not knowing any specific source for obtaining contraceptives, with only 15.9 reporting awareness of any method.

Figure 2 presents the distribution of contraceptive sources among teenage girls who use contraceptives. The majority of contraceptive users (85%) obtained contraceptives from government clinics or pharmacies, while a smaller proportion (15%) reported acquiring them from other sources.

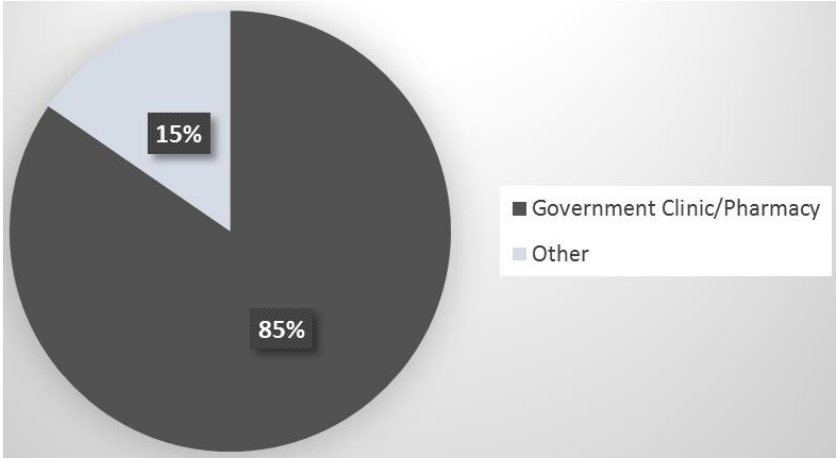

Figure 2. *Source of Supply for Contraceptive Users.*

Table 2. *Current Contraceptive Method.*

Current Contraceptive Method	n	(%)
Not Using	274	84.1
Pill	2	0.6
Injections	31	9.5
Male Condoms	15	4.6
implants/Norplant	4	1.2
Total	326	100

Current contraceptive use by method is displayed in table 2. The majority of respondents (84.1%) are not using any contraceptive method. Injections are the most prevalent (9.5%), followed by male condoms (4.6%). Smaller percentages reported using implants/Norplant (1.2%) or the pill (0.61%).

Table 3. *Demographic and Social-economic factors associated with contraceptive use.*

Logistic Regression: Demographic and Social-economic factors associated with contraceptive use **Currently using contraceptive**			
	OR	**(95%) CI**	**p-value**
Told about Family Planning at Health Facility			
No	1	(1.08-5.21)	0.031
Yes	2.372958		
Heard Family Planning on Radio Last Few Months			

Logistic Regression: Demographic and Social-economic factors associated with contraceptive use Currently using contraceptive			
	OR	**(95%) CI**	**p-value**
No	1	(1.05-6.19)	0.038
Yes	2.554048		
Marital Status			
Never married	1	(1.59-8.01)	0.002
Ever married	3.568948		
Education attainment			
No education/primary	1	(0.26-1.48)	0.286
Secondary/higher	0.624586		

Demographic and Social-economic factors associated with contraceptive use are shown in table 3. Teenagers informed about family planning at health facilities had significantly higher odds (2.4 times) of contraceptive use compared to those uninformed (AOR 2.37, 95% CI, 1.08, 5.21, p = 0.031). Similarly, individuals hearing about family planning on the radio had significantly higher odds (2.6 times) of contraceptive use than those who did not (AOR 2.55, 95% CI, 1.05-6.19, p = 0.038). Ever-married teenagers had significantly higher odds (3.6 times) of contraceptive use compared to never-married ones (AOR 3.57, 95% CI, 1.59, 8.01, p = 0.002), indicating a significant association with marital status. Regarding education, those with secondary or higher education had 38% lower odds of contraceptive use than those with primary education, although the association was not statistically significant (AOR 0.62, 95% CI, 0.26, 1.48 p = 0.286).

Qualitative Strand

Table 4. *Description of the Study Sample.*

Respondents	Planned	Actual
Female Parents 30 years and above	4 Focus Group Discussions	4 Focus Group Discussions
Male Parents 30 years and above	4 Focus Group Discussions	2 Focus Group Discussions
Guidance Teachers	4 In-depth Interviews	4 In-depth Interviews
Health Providers	6 In-depth Interviews	6 In-depth Interviews

*Note: Four (4) FGD were planned for men, however, due to challenges in securing a minimum number of men aged 30 and above to form a focus group discussion, only two focus group discussions were conducted in this group.

3.1. Perceptions and Understanding of Contraceptives

Generally, there is an understanding of contraceptive as a tool for pregnancy prevention, and condom as dual protection of both pregnancy and sexually transmitted diseases (STIs) among parents. Modern contraceptives are preferred due to their perceived reliability.

It's these same things for condoms, injections pills… we can't say that there are traditional medicines that prevent one from pregnancy, those are lies you find that they give you but you still fall pregnant. So, what we rely on and trust are these modern ones from the clinic (Women FGD 1, R6).

Condoms are good because they do not only protect a woman from falling pregnant, but also protect against diseases like HIV/AIDS, which is important for the safety of both partners. (Men FGD 1, R2).

Views on Teenage Contraceptive Use

Many parents held the belief that using contraceptives without having given birth previously can lead to severe fertility problems, potentially damaging the womb and

causing future conception challenges. Guidance teachers equally opposed the idea, and encouraged abstinence instead.

Someone who has never had a child and they use the contraceptives, you find that they kill the womb, and not have any child throughout their life. (Women FDG 2, R7).

In contrast, health providers view contraceptives use as necessary to mitigate teenage pregnancy.

So, in trying to prevent teenage pregnancies and unsafe abortions, I think that it is beneficial for teenagers to have or get contraceptives, to avoid them getting pregnant or dropping out of school because of pregnancy. (IDI, Facility In charge 3).

3.2. Appropriate Contraceptives Users

Even though some parents and teachers considered teenagers among people who can use contraceptives, there was a shared consensus that individuals who have already experienced childbirth, are married and are aged 18 and above are the most suitable candidates to use contraceptives.

Aah... I feel those can be used by the elders, specifically those who are 18 and are in marriage. Elderly individuals may need contraceptives for child spacing and to complete educational programs (IDI, Guidance Teacher, 2).

Contrary, health providers contended that all sexually active people including teenage girls can use contraceptives.

Contraceptives are supposed to be used by everyone who is sexually active, teenagers are also supposed to be using contraceptives. This will help us to reduce the numbers of teenage pregnancies in our communities (IDI, Adolescent Focal Point Person 1).

3.3. Parental Consent and Guidance

Varying views emerged among teachers and parents on the parental consent for teenage contraceptive use. Many believed that promoting contraceptives to teenagers could encourage promiscuity, while others saw it as an option to support a child's education.

No, I cannot allow them to use contraceptives, by allowing them it means allowing them to do bad things, like sleeping with boys anyhow, so I would not allow them so that they have fear (IDI, Guidant Teacher, 1).

If herself has chosen that she wants to learn/get educated and complete her education, it is to allow her to use contraceptives so that she can complete her education (Women FGD 1, R5).

Health providers emphasised the importance of granting consent to teenagers using contraceptives, even though they viewed abstinence as a valid option.

I would really encourage them to abstain or they use a condom. First, it's the teaching, I teach them. If I see this is an adolescent who is sexually active, I can encourage them to use condoms or use other types of contraceptives if it's that adolescent who feels they cannot use condoms. (IDI, Adolescent Focal Point Person 2).

3.4. Perceived Disadvantages and Concerns About Contraceptives

Parents and teachers expressed concerns that using contraceptives without prior childbirth experience might lead to future conception complications.

If they use tablets too much, they will not have any child in future, and when they grow up marriages will not be stable because of not having children (IDI, Guidance Teacher 1).

So, the bad part of a child who has never given birth before, when they use injections for a long time, some when they want to marry, they fail to conceive, but some do conceive, they just differ on the body (Men FGD 2, R2).

Health providers, however, perceived minimal disadvantages, and emphasised that complications are manageable and reversible with medical intervention. The only concern raised is the risk of diseases for no-condom contraceptives.

The disadvantages are minimal. Are they even there? I would say for adolescents who come, you find that for others, they wouldn't want to use condoms, the use of just other types of contraceptives may put them at risk of contracting HIV. Most of these young people would even shun away from condom use. So, I think that's one negative part and there is need to educate them (IDI, Adolescent Focal Point Person 2).

3.5. Barriers to Adolescent Contraceptive Use

Health providers identified barriers to adolescent contraceptive use, citing the influence of religious beliefs and personal beliefs of healthcare providers.

On the part of us health providers, it's the hindrance to giving out this service because of my own belief I'm imposing on this adolescent who has come. So, I have observed like in my experience with adolescents, they would be like awe when we go to this centre or may be when we go somewhere to access these services, they judge us saying "young girl what are contraceptives for? You know." (IDI, Adolescent Focal Point Person 2).

Conservative views promoting abstinence until marriage, prevalent myths about contraceptives (including concerns about infertility), and the social stigma associated with contraceptive access at healthcare facilities collectively discourage adolescents from seeking and using contraceptives.

So, the reason why most of the adolescents are not using the contraceptives is due to myths and misconceptions. In the community out there, they believe that when an adolescent who has never had a child before uses the contraceptives, that's the end, they will never bare children. Some adolescents believe if they will be seen at the health facility wanting to access the contraceptives, they will be labelled as a child who misbehaves, promiscuous… (IDI, Facility In charge 1).

Key Influencers' Knowledge of Government Policy on Teenage Girls' Contraceptive Use and a Call for Compre-

hensive Reproductive Health Policies in Schools.

Despite not mentioning a specific policy by name, health providers detailed how contraceptives are administered based on government guidelines.

In the government policy, there are services which we can offer to adolescents even without parental consent, but there are services that I can't offer to these adolescents without the consent of the parent (IDI, Facility In charge 2).

Teachers on the other hand, seem not to have a clear knowledge of a government policy on teenage contraceptive use, they only highlighted knowing about the school re-entry policy, which they condemned as having the potential to encourage promiscuity.

*The only policy is the one they encourage a girl to go back to school after giving birth, and it is called the re-entry policy. The same policy of re-entry has encouraged girls to be promiscuous because they know that they can still go back to school. So, I think it has brought more harm than good as they think they can leave the child with their mother and go back to school. (*IDI, Guidance Teacher 1).

Further, they bemoaned the lack of concrete policies guiding sexual reproductive health services in schools.

*Parliament has not made a policy, you know when something is law, it is followed, but as long as it is left open there will still be speculations. I don't know maybe through your research it may go that far so that in the end government may make a conclusive policy on the reproductive health in schools (*IDI, Guidance Teacher 3).

Parents, across all focus group discussions, expressed ignorance about existing government policies but stated that government only allow those aged above 18 to use contraceptives.

Young people should not use contraceptives, those are for old people, they are not yet at the age of 18 allowed by the government to use contraceptives (Men FGD 1, R2).

Empowering Adolescents through Informed Contraceptive Choices

The health providers strongly advocated for concerted efforts in the provision of sexual reproductive health services in order to reduce HIV cases and raise a responsible generation.

*It's a pity out there, adolescents have talked of issues of judgement. If we are going to fight teen pregnancies, we are going to fight actually no new HIV positive clients by 2030, we need to make these services available. Now if we are going to see this happening, these are the services that we really need to strengthen in our societies, and doing so will result in responsible and healthy future adults (*IDI, Adolescent Focal Point Person 2).

4. Discussion

The study found that older teenagers, those who were married and those with higher parity had higher prevelence of contraceptive use. Moreover, the odds of contraceptive use were 3.6 higher for the married than those who were not. Qualitative results corroborate these findings, indicating that teachers and parents perceived individuals aged above 18, the married, and those who have given birth before as the most suitable candidates for contraceptive use. These findings are consitent with previous studies which found easy access to contraceptive for girls who had given birth before and the influence of parity on contraceptive use. [16, 17]

We also examined socio-economic factors, including education, income, religion, and urban-rural residence, influencing contraceptive use among teenage girls, and no statistical significant relationship was found. This contradicts prevoius findings in Nepal and Zambia. [18, 19] While religion and residence lacked statistical significance, it aligns with results in Malawi where Catholic women were less likely to use contraceptives, and Zambia on rural-urban correlates of contraceptive utilization, which showed higher contraceptive use among rural adolescent girls compared to their urban counterparts. [20, 21]

Statistical significant relationship was established between family planning information sources and contraceptive use among teenage girls. Those informed at health facilities had a higher prevalence of contraceptive use (41.9%), and field worker visits also influenced usage (29.4%). Teenage girls who recently visited a health facility had higher contraceptive use (21.7%), with 2.4 times higher odds of use if informed about family planning at a health facility. Teenagers with Radio exposure had 2.6 times higher odds of contraceptive use than those without. The friendly stance on the use of contraceptives by health proviuders, as found by Qualitative reults, expplains the higher prevelenece of contraceptive use among teenagers who had interacted with health prooviders. These findings align closely with previous findings which highlighted the critical role of media exposure and interactions with family planning workers in promoting contraceptive use among teenagers. [22]

The study revealed that the majority of teenagers in Eastern Province are not using contraceptives, with injections being the most prevalent method among users, in contrast to previous findings in Ethiopia where pills were more commonly used. [23] This preference suggests a need to ensure availability of injection contraceptives. The prevalent use of government clinics or pharmacies as the primary source of contraceptives underscores teenagers' dependence on established healthcare systems, likely due to their accessibility, affordability, and trustworthiness. Enhancing service accessibility within these channels could promote further contraceptive usage. However, a significant number of teenagers lacks awareness of contraceptive sources which highlight the necessity for targeted educational programs to ensure informed decision-making about sexual and reproductive health. This finding is consistent with previous research which found pervasive gaps in contraceptive awareness among teenagers. [24]

Parents' concerns about teenage contraceptive use are rooted in cultural and societal beliefs, with worries about

potential harm to the womb and infertility reflecting a possible lack of accurate information. The fear that making contraceptives available may encourage early sexual activity, highlight a moral and ethical conflict within communities. While parents believe older teenagers are better equipped for informed decisions, this perspective overlooks the reality of early sexual activity in the communities. These findings align with prior research in Zambia which found prevalent parental fears and misconceptions about teenage contraceptive use. [17] The emphasis on education and abstinence by guidance teachers, embedded in traditional values, may overlook the realities faced by today's teenagers, whose access to electronic gadgets exposes them to explicit content, potentially contributing to early sexual debut. Despite the majority of teachers and parents emphasising abstinence, some consider contraceptives as an option to help teenagers continue their education. Health providers recognize the evolving needs of teenagers and view providing guidance on contraceptive options as a responsible and pragmatic approach to address teenagers' evolving sexual health needs.

In the study area there seem to be a strong emphasis on abstinence, driven by cultural and religious norms. Even though abstinence is important in preventing teenage pregnancies and STIs, recognizing that not all adolescents adhere to this approach is crucial. Some health providers, despite their professional obligation, were reported to display rude and judgmental behaviour, compounding existing barriers faced by adolescents. This aligns with previous findings by which found that unfriendly or judgmental behaviour from healthcare providers discouraged adolescents from seeking sexual and reproductive health services. [25] Concerns about contraceptives causing future infertility, perpetuated by conservative views and myths from parents, relatives, and neighbours, contribute to adolescents' reluctance to consider contraceptive options. Further, the fear of social stigma associated with being labelled as promiscuous or irresponsible acts as a significant deterrent for young individuals, hindering them from accessing necessary contraceptive services, even when sexually active or at risk of unintended pregnancies.

Health providers, while not specifying a particular policy, outlined guidelines for providing sexual reproductive health services to adolescents, including contraceptives. It's crucial for healthcare providers to be well-versed in these policies to ensure appropriate care while respecting adolescents' rights. However, the lack of awareness among parents and teachers about government policies on contraceptive use is concerning. Many teachers only recognized the school re-entry policy, which they condemned as having brought more harm than good. This sentiment is concerning and indicates a lack of clarity or misinterpretation of the policy's purpose, necessitating comprehensive training for teachers. The introduction of comprehensive sexuality education hasn't bridged the information gap in schools, with teachers highlighting the lack of explicit guidance on its delivery. They hope that the research findings can influence the formulation of clear policy guidelines for sexual reproductive health education in schools.

Healthcare providers play a critical role in empowering adolescents with well-informed contraceptive choices by addressing challenges such as societal stigma and misinformation. Recognizing that many adolescents engage in sexual activity without parental knowledge, the health providers' proactive approach aims to prevent STIs and teenage pregnancies. They also play a pivotal role in dispelling myths, promoting accessible healthcare, providing accurate information and tailored contraceptive options for informed decision-making in sexual and reproductive health.

5. Conclusion

In conclusion, this study reveals cultural and religious values as significant determinants and obstacles to contraceptive use among teenage girls, leading to a low prevalence among those below 18 and unmarried teenagers. The stigma surrounding contraceptive use, rooted in cultural and religious values, discourages adolescents from seeking these services, contributing to elevated risks of teenage pregnancies and abortions. The study emphasizes the influence of parents, teachers, and healthcare providers on teenagers' contraceptive decisions, with community attitudes often overriding young people's autonomy. Whether or not adolescents have access to contraceptives, the decision to use them is heavily influenced by parents, and to some extent, teachers and health providers. Therefore, it is important to implement comprehensive educational programs not only for teenagers, but also for parents, teachers and healthcare providers, dispelling myths about contraceptives. The findings also highlight the importance of family planning discussions in health facilities, as it is associated with increased contraceptive utilization among teenagers.

6. Limitations

Limitations for this study include, the use of secondary data for the quantitative arm which could not allow or new insights from teenage girls. The parents participants were drawn from the health facilities only which is limited in scope. Additionally, the study was limited to parents teachers and health providers, as such no perspectives were collected from traditional leaders and religious leaders who are important stakeholders. Despite the limitations the DHS data provided a representative sample for Eastern Province, and the parents teachers and health providers provided rich insights on the study.

7. Recommendations

Government and Non-Governmental Organisations (NGOs) to develop and implement comprehensive educational pro-

grams and awareness campaigns that target not only teenagers but also parents, teachers, and healthcare providers.

Government and relevant stakeholders to foster engagement with religious and community leaders to promote open and respectful discussions about adolescent sexuality and contraceptive use.

Given the positive impact observed in this study regarding health providers' visits to teenagers and their subsequent contraceptive use, it is crucial for government and partners to develop programs aimed at strengthening this aspect.

There is need for other researchers to consider conducting similar studies in the future, expanding the scope to include various perspectives from teenagers, religious and traditional leaders, and other stakeholders.

Abbreviations

ABR	Adolescent Birth Rate
IUDs	Intrauterine Devices
NGOS	Non-Governmental Organizations
NORHED	Norwegian Programme for Capacity Development in Higher Education and Research for Development
UNFPA	United Nations Fund for Population Activities
USAID	United States Agency for International Development
STIs	Sexually Transmitted Diseases
ZDHS	Zambia Demographic and Health Survey

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Author Contributions

KN, RNL and JB, contributed to the design of the study. KN collected the data and did the analysis and drafted the manuscript. All the authors critically reviewed the manuscripts, provided contributions and approved its final version.

Conflicts of Interest

The authors declare no conflicts of interests.

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