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Barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia: Formative qualitative study.

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Abstract

Objective: To assess barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia in 2021.

Design: A grounded theory approach of the qualitative study was conducted between

December 2020 and April 2021 in Gedeo Zone, South Ethiopia.

Setting: The study was conducted, in two urban schools and four rural schools, in Gedeo Zone, South Ethiopia.

Participants: A total of 42 in-depth interviews were conducted with-school girls, school counselors, Kebele Youth association coordinators, Zonal child, adolescent and Youth officer, health workers and Non-Governmental Organization workers.

Results: The findings of the study were organized into four major themes that explore contraceptive use barriers; these include; Individual related barriers such as knowledge, fear, perceptions, and psychosocial development. Community-related barriers, which encompass unpleasant rumors, family-related barriers, norms, Economic Vulnerability, and socio-cultural and religious beliefs. Health facility-related barriers such as the arrangement of health services, and health workers behavior. Finally, a weak multi-sectorial related barrier was identified.

Conclusions: Adolescents' contraceptive use was affected by a variety of barriers ranging from the individual level up to inter-sectorial level barriers. The findings suggested that there is a need to design health education programs, such as peer education programs, and conduct social and behavioral change communication interventions to create contraceptive demand and enhance utilization.

Keywords: Contraceptive; peer education; adolescent; schools; Ethiopia.

Strength and limitation of the study

We applied an elicitation study to identify silent belief for questionnaire formulation and record review to see the experience of adolescent contraceptive behavior.

The study exclude adolescent whose age is 10-14 Years.

The study excludes male students' contraceptive use behavior.

It exclusively considers adolescents who are still in school.

Because of the delicate nature of the subject, focus group discussions are not used.

Background

Global developmental goals and strategies have recognized the importance of adolescents' health and rights [1-3]. Universal access to sexual and reproductive health services and rights by 2030, including contraceptive utilization, is a priority global agenda for sustainable development[4]. Currently, the largest-ever group of young people in history becoming sexually active, and therefore need contraceptive utilization [5].On the other hand, adolescents' sexual and reproductive health (SRH) needs remain largely unmet globally[6]. Access to SRH information determines the burden of adolescent pregnancies and unwanted pregnancies [7]. Worldwide, about 15% of unsafe abortions occur among girls under the age of 20 years annually. Early pregnancy and childbearing typically denote the end of formal education, early marriage, and restrict opportunities for employment[8]. SRH issues, including unwanted pregnancies, remain a significant public concern in sub-Saharan Africa [9].

Approximately 85 percent of sexually active adolescent girls who do not want to become pregnant do not use modern contraception [10]. In most parts of the developing world, unmarried, sexually active adolescents who are not in a formal partnership require contraception, which is often unrecognized; additionally, this population faces stigma and social condemnation if they are forced to use it [11] [12].As a result, they easily exposed to undesirable health and socioeconomic consequences such as induced/unsafe abortion, high fertility, obstructed labor and its complications such as obstetric fistula, and hypertensive disorders of pregnancy [13] .

Studies showed that about forty percent of girls reported that they had difficulties in discussing sexual issues with their mother due to fear and shyness [13, 14]. The importance of reproductive health education at school has been acknowledged in the sustainable development goals agenda so as to ensure that the necessary knowledge and skills in this area acquired by all learns [15]. Schools are an appropriate setting in which to contribute to the development of healthy sexuality [16].

Since student spend a considerable amount of time with the school, it is easier to implement peer education as a part of teaching activity [11]. Peer education is often used to affect change at individual level by attempting to modify a person's knowledge, attitudes, beliefs, or behaviors. Mostly, information is available to an adolescent but it may be given in a manner that is

authoritarian, judgmental, or non-adapted to the young people's values, viewpoints and lifestyle[17]. One effective way of dealing with these issues is peer education, because it is a dialogue between equals. For effective implementation of peer education , the concerns, gaps and expectations, needs to be well understood[15]. However, there is no study done yet on this regard, therefore this study assesses barrier to contraceptive use as a baseline for designing and evaluating the effectiveness of school based peer-led education intervention in Gedeo Zone, South Ethiopia.

Methods and Materials

Study Setting and Period

The study was conducted in Gedeo Zone. Gedeo Zone is located in the Southern part of Ethiopia with a population of 1,651,000 and a total household of 336,804.This makes it the most densely populated Zone in the Southern Region, Ethiopia. Currently, hosting a large population density of over 1300 people per km². Dilla is the capital town for the Gedeo Zone and it is located 362 km from Addis Ababa, the capital city of Ethiopia. There are seven senior secondary schools in the Zone with a total of 24,445 students attending the schools during the time of the study [18]. The study was conducted from December 2, 2020–February 29, 2021.

Study Design

The researchers used a ground theory approach to better understand the barriers that tackle contraceptive demand and utilization behavior among high school students in Gedeo Zone. Grounded theory was chosen because it is the most effective method for developing important data and themes inductively based on systematically obtained and analyzed data [27].

Population and sampling

The study population was made up of carefully selected students (who could actively engage in the school) who attended the assigned schools during the study period. Students were recruited from a variety of grade and schools. Gender and residence (rural vs. urban) were also considered in the selection process. In addition, health care experts from a variety of fields (Health extension workers (HEWs), nurses, Public health officers, and Midwifes) and psychologists were included. Overall, the participants and data sources were chosen in stages to achieve the purpose of saturating ideas about contraceptive use barrier. Theoretical sampling (collecting and coding data at the same time to determine what data to collect next) was used to construct category and thematic.

Patient and Public Involvement

Patients and/or the public were not involved in this study.

Data collection methods and procedures

Data was gathered through in-depth interviews, and key informant interviews with students, and health care professionals. Prior to the start of data collection, the selected schools and health facilities were contacted to obtain permission to conduct the study. Only at the time of the interview were participants in the study contacted. All of the interviews and conversations took place in schools and health care settings, and no one else was present at the room during

interview except the participants and data collectors. The interview guide aided the interviews. All interviews (which lasted between 30 and 91 minutes) were recorded using a digital voice recorder, and notes were taken during each topic and interview. The saturation of ideas determined the size of the interviewee. In the current context, barer refer to anything that is regarded as obstacle that prohibit contraceptive utilization.

In-depth interviews with patients

In-depth interviews were conducted with a total of 14 students from the six schools included in the study. Students were sampled to ensure diversity in age (ranged from 15 to 19 years), sex (11 females and 3 males), and diverse grade level which included (Range from grade ninth to twelve), and from social and natural science stream. The interviews were conducted by investigators in Amharic language and transcribed verbatim to English. The interviews were conducted in a private setting to ensure the privacy and comfort of the students.

Key informant interviews-KII (in-depth interview with health staff)

To triangulate the findings of interviews from students, a total of 28 key informants (mostly health workers) were interviewed with purposively selected staff, at least three informants from each health facility. Consequently, diverse groups of health care providers including community health workers (CHWs), nurses, public health officers, midwifes and psychologist were included in the key informant interviews. To ensure the diversity of experience, health care providers were also purposively selected considering the durations of their experiences.

Data analysis

The data from the interviews were transcribed verbatim and then translated into English for analysis. ATLAS.ti 7.1.4 aided in the coding and further analysis of the data. Investigators read and reread the transcripts before assigning codes (open coding) and developing an initial coding structure. To ensure that the coding structure was relevant and appropriate, one coder performed iterative rounds of open coding on selected transcripts guided by the grounded theory approach, while the second coder reviewed and verified the emergent codes. Finally, the study team analyzed the coded transcripts and generated codes to come to an agreement on the coding system and code definitions that would be utilized to code all transcripts. The findings were categorized into themes and sub-themes based on important quotes. Then after students' barriers to use contraceptive was described using the key themes and sub-themes that arose. Peer debriefings with the research team were held to help with interpretation. For reporting qualitative

findings, this study adheres to the consolidated Criteria for Reporting Qualitative Research (COREQ) standard protocol[19].

Trustworthiness

In order to maintain the credibility of the study based on the Lincoln and Guba criteria, various strategies were used to ensure trustworthiness[20]. At the beginning, the data collection tool (interview guide) was pre-tested on two KII and one IDIs Specifically, KII was conducted with health personnel trained on Youth friendly service and IDIs was conducted with female preparatory student. To set up trustworthiness a studies assistant and the studies crew engaged in peer debriefing. Following a dialogue with corporations of principal investigators, the tool became modified. To diversify the study participants, the adolescent interviewees and key informants were recruited based on a socio-economic characteristic (gender, age, education level, and occupation) in order to get a broader range of perspectives from various participants.

A summary of significant themes was presented to study participants at the end of each data collecting period, and a discussion was held to avoid any confusing matters. To ensure member checking, the transcription and translation were given, as well as a synopsis of key themes and some perplexing concepts, so that they could check the interpretations and offer their comments, critiques, explanation, and confirmation. The study's final conclusion was shared with all study participants to ensure that their ideas were appropriately reflected. Prolonged engagement, which has been obtained by staying in the research area for an extended period, was done. The principal investigator verified the points mentioned in the IDIs and KIIs through this time. He observed and confirmed various concerns such as the public's impression of contraception, misconception about contraceptives, rumors about contraception, and health professionals' attitudes regarding adolescent contraception use, and existing Socio-cultural expectation and norms about contraceptive use of adolescent were observed. In order to ensure transferability, the entire research process, participant's different viewpoints and experiences, methods, interpretation of results, and contributions of research assistants were all thickly described. Purposive sampling and a reflective journal have also been used. Self, method, daily schedule, and personal reflection are all clearly documented. Participants who contribute to the findings, interpretations, and recommendations ensure dependability. The findings of this study have been audited and confirmed with the aid of advisors, colleagues and different individual who are

familiar with qualitative research. The findings have been correspondingly verified with the aid key informants like Health workers, school counselor, student and teachers. Furthermore, every procedure become documented and audio data and made to be had to look auditor researchers for cross-checking.

Ethical Consideration

Ethical approval of this study was obtained from the Institutional Review Board (IRB) of Jimma University (Ref. No. IHRPG938/5/11/2020), and a permission letter was obtained from the Zonal health bureau, Dilla town administrator, and school directors. Written informed consent and parental/guardians consent for participants were secured from all study participants. After informed consent was sought from each of the adolescents and their parents, the data was collected in a separate location to protect the privacy of the participants.

Result

Participants' demographic profile

There were a total of forty two participants involved in this study. Majority of the study participant was protestant in religion followed by orthodox Christian.

All invited participants successfully participated in this current study. In-depth interviews were conducted with 14 students (Range from grade ninth to twelve). The students' ages ranged from 15 to 19 years old (Average 17.2). In addition, 28 professionals (Most health professionals) with diverse professional and career backgrounds participated in the in-depth interview (10 CHWs, 4 Nurses, 4 public health officers, 7 midwifes, 1 health promoters assigned by Non-Governmental Organization clinic, and 2 psychologists).

Themes and Category related with the study

In this study, four themes were identified which are personal factors, Community related barriers, Health Service barriers and Multi-sectorial related factors [**Table 1**].

Major themes	Categories
Individual related barriers	Knowledge
	Fear
	Misconception
	Psychosocial development
Community related barriers	Unpleasant rumors
	Family pressure
	Social norms
	Economical vulnerability
	Socio-cultural and religious beliefs
Health Service barriers	Health service arrangement
	Health workers behavior
Multi-sectorial related factors	Weak multi-sectorial collaboration

Table 1. An emergent themes and categories of barriers to contraceptive use in the school set up, in the study contexts, Gedeo Zone, Ethiopia, November 2021. barriers to contraceptive use, namely Individual related barriers, community-related barriers, Health Service barriers , and Multi-sectorial related factors, that encompass several specific aspects within each main theme, including a barrier to Knowledge, fear, rumors, health worker behavior and weak Multi-sectorial collaboration. The details of the major contraceptive barrier with sub-categories were described below.

Individual related barriers

According to the current study, Individual related barriers were a specific background of the study population that can impact functioning contraceptive use either positively or negatively such as knowledge, fear, misconceptions, and psycho-social development.

Knowledge

In this study, one of the person-related barriers that influenced adolescents' contraceptive use was knowledge. The majority of key informant stated that students had limited knowledge of contraception due to a lack of opportunities to learn about reproductive health.

They also mentioned that some students, particularly those who live in rural areas, are unaware of the availability of contraceptive services.

Usually adolescents do not relate the sexual practice with a pregnancy they do not plan to use contraceptives proactively before pregnancy happen because of a lack of knowledge on contraceptive methods. - (KII, Health worker).

Fear related to contraceptive use

Under the individual-related barrier, one category was fear of contraception use. Fear was indicated by nearly all categories of study participants as a key barrier to utilizing contraception. As they mentioned, students are afraid of their family, friends, Health workers, and contraceptive side effects.

Fear of being judged by family and friends: students are afraid of being judged by their parents and friends if they take contraceptives like the Implanon or oral tablets. If they find out she uses contraception, they gossip about her and discriminates against her, according to the key informant participant. Furthermore, everyone regards that girl as a nasty girl. They also mentioned that, students are afraid of not just their parents and peers, but also their relationships, because they may end up in a quarrel with their partner if they refuse to use contraceptives like condoms, and they are obliged to accept risky traditional techniques like withdrawal.

When I use hormonal contraceptives like depo and Implanon, it causes menstrual irregularity and spotting, and I'm afraid that my parents will find out and question why my menstruation has become irregular. -19 year- old Student (IDI)

Fear of Health workers: Furthermore, particularly, key informant participant explained that students are afraid of health professionals when they go to the health care provider since most of them are unpleasant, judgmental, and may divulge information to their parents. They even deny having sex until a laboratory test confirms that they are pregnant because they are afraid of the health worker.

By the way, I've never seen an adolescent come straight to the health center and ask for contraceptives because they are afraid that even those that come to health facilities will have difficulties articulating and shaking to ask for contraceptive services. - (KII, Health worker).

Fear of side effects: Finally, both categories of study participants indicated that students are afraid about infertility if they use hormonal contraceptives. Furthermore, many are concerned that it would alter their body's appearance, making them too thin or too obese, as well as induce menstruation irregularities.

I understand that contraceptives protect me from unplanned pregnancy for the time being, but I am concerned that when I marry, I will not be able to have children. -17 year- old *Student* (IDI).

Misconceptions

The study indicated that, a variety of misunderstandings concerning contraceptive use were investigated. According to both categories of participants, adolescents are not allowed to take contraception until they are adults and married. A student who uses contraception is regarded as a deviant. Similarly, concepts such as considering only condoms and post-pill as appropriate contraceptives used before marriage; having sex with a wide interval period does not expose to pregnancy; connecting condoms only with the prevention of sexually transmitted diseases such as HIV/AIDS rather than as a contraceptive; pregnancy could not happen again to someone who had a history of terminating the pregnancy, and perceiving use of medical abortion and post-pill redundantly as a normal thing Furthermore, taking a hormonal contraception such as depo exposes them to infertility, and that once a long-acting contraceptive has been used, they believe it is impossible to remove it whenever they wish to have a child.

I don't use birth control. My reasoning is that, as a student and single woman, I believe no one has ever authorized me to use contraception. -17 year- old *Student* (IDI).

Another participant mentions that

I went two years without using contraception when I wasn't pregnant, but then I became pregnant without it. I believe that once I started using it, it would always protect me. -19 year-old *Student* (IDI)

Psychosocial development

One variable identified as an individual label barrier in the current investigation was psychosocial development and contraceptive use. Some key informants mentioned that, students at this age are impulsive and want to try everything. They lose control when craving sex and become pregnant without realizing it. These studies revealed that because adolescents do not have regular sexual interaction, they proceed to sex by mistake before planning to use

contraception. Unwanted pregnancy is a good indicator that this population should begin using contraception.

Furthermore, most adolescent victims of abduction and sexual assault, According to key informants, students are not unable to form a stable relationship owing to their mental development and age, and hence do not intend to use contraception prior to sexual intercourse.

Adolescent do not want to take contraceptive measures on a regular basis, but want to go to health institutions regularly for abortion or emergency contraception, and return to the cycle again and again. Furthermore, the key informant interviewer stated that teens do not want to attend contraception teaching. The reason for this was that they considered it was only an adult or married person's concern, or they gossiped and had fun during the school discussion on reproductive health, or they felt shame or humiliated at home because they feared their parents.

Adolescents at this age abuse sexually and have no intention of using contraception since they are exposed to sexual activity hastily or unknowingly. - (KII, Health worker).

Theme: Community related barriers

The second theme revealed in the current study was community-related barriers; under this theme, the categories identified were unpleasant rumors, Pressure from family, norms, religion, and economic vulnerability.

Unpleasant rumors

Both students and health professionals reported that there were many rumors in the community that prohibited contraceptive use, such as if an adolescent goes to a health center and they suspect she is going to get an abortion or contraceptive, then there may be a rumor that Mr. x's daughter is using contraceptive and everyone thinks she is a deviant, and on the other hand if one woman experiences weight loss after using contraceptive, she advocates for all women around her to not use that contraceptive. The same can be said about other rumors such as, 'If a woman inserts IUCD into her uterus, it bursts out and jumps to her brain, causing major damage.' The other rumor was about Implanon, which was 'when we take implanon, it disappears within the flash and inside the body'. The other rumor was about infertility, 'contraceptive use exposes adolescents to infertility in the future when they get married'.

Furthermore, the health professionals stated that because the public mind is already preoccupied with rumors, if they experience any problems after using contraception, they instantly associate it with contraception and request its removal or discontinue use.

When my mother and our next-door neighbor discuss about contraception, they almost always grumble about it. According to what I recall from their conversation, women who have contraception injected into their arms become sterile for the rest of their lives. -16 year- old *Student* (IDI).

Pressure from family

According to the current finding family put high pressure on adolescent to not use contraceptive even if they have intention to use. Reflections from all categories of participants indicated adolescent fear to take implanon and daily pill since it can be observable by family.

Adolescents are terrified of using Implanon and daily pills, because they will be noticed by their families. Moreover, they don't even want to take Clint's card home with them. Both students and health professionals claimed that most adolescents use depo due to family pressure because it is not feasible for anyone. With the exception of a few families, families are generally resistant, and they do not suspect that their children are exposed to sexual practices, so they do not discuss contraception or allow health professionals to teach them.

Furthermore, the health professionals explained that families believe that discussing contraception encourages their children to use contraception or implies that it allows them to conduct sex indirectly. Students ascertained that, the family has followed up to see if their menstruation has arrived or not, and if there is an irregularity, they have inquired as to why this is happening. As a result, they provide unnecessary negative reinforcement.

My mother never discusses contraception with me because she is unaware of it. I usually discuss contraception with my sisters, and my parents simply tell me to abstain. -17 year- old *Student* (IDI)

Another participant also mentioned that

Because they (adolescent) are afraid of their families, the majority of adolescents who receive contraception from our facility choose to leave their card with us rather than take it home. In some cases, we simply call to remind them when their schedule is due. - (KII, Health worker).

Social Norms

Another issue related to the community-level barrier to contraception use was the norm. According to the majority of health personal, adolescents seeking contraception face cultural challenges. It is embarrassing for them to use contraception because they are young, single, and live with family.

Both category of participant mentioned that, the community's attitude toward students who used contraception was negative. As a result, they forbid their children from being friends with girls who use contraception. Study participants also stated that because the community places a strong value and norm on maintaining virginity until marriage, students who become pregnant before marriage face severe stigma and discrimination from the community because they violate the culture and norm, and as a result, some victims commit suicide.

The community believes that students who live with their families and use contraception to be deviant or unique. -18 year- old *Student* (IDI)

Economical Vulnerability

As reflections from psychologist and health personnel participants indicated, some adolescents may not use contraception on purpose in order to become pregnant as a means of securing their relationship if their partner has a job with a good wage. Furthermore, adolescents whose parents are impoverished or deceased may engage in a variety of activities to generate income to support themselves and other family members. This condition may expose them to sexual abuse and unintentional sex without planning to use contraception.

I know an orphan female student who sells coffee on the street who was sexually molested and became pregnant, so she come to the health post and asked me to give her a post-partum tablet. -(KII, Health worker).

Socio-cultural and religious beliefs

Religious beliefs, according to both kind study participants, are a barrier to contraceptive use since practically everyone in the study area values socio-cultural and religious beliefs and advocates for abstinence before marriage and views contraception as a bad thing.

Adolescents who desire contraception before marriage are regarded as sinful and repulsive, according to both kind study participants. It assumed that every adolescent should be a role model for others, and using contraception at such a young age is a sign of a bad girl and a sin in God's eyes.

Everyone in the community looks up to one student who has a really good attitude and is regarded as a role model. She becomes pregnant unexpectedly, and she attempts suicide because she is too humiliated and ashamed to seek emergency contraception. -19 Years, female student).

Theme: Health facility-related barriers

The Health facility-related barriers divided into two categories: Weak health Service arrangement, and health worker behavior.

Weak health Service arrangement

The health care providers ascertained that, health centers lack a structured approach to serving students' sexual and reproductive health needs. Family planning is provided to all age groups within the maternity and child health department (MCH) without segmentation.

Moreover; adolescent have no any clue where they can find contraceptive after they arrive to health facilities. There is also a lack of a fluid pass-on framework that allows adolescent reproductive health services to be transferred easily from health posts, schools, and non-governmental organizations to focal Youth-friendly services (YFS) or health facilities.

Furthermore, according to the health personnel report, in most health centers, obtaining a card from the card room is required in order to obtain any health service, including family planning, which involves bureaucracy such as standing in a lengthy line in the corridor and so on.

In addition, healthcare facility personnel believe that the student is unfit for family planning services, so they confront the student in some way to avoid receiving the service that they demand. the number YFS available in the study area is extremely limited; it is not integrated with existing primary and referral care systems such as schools, and health posts; and it does not address the growing contraceptive demand of adolescents. Even, the few available YFS is not branded by a student as being YFS as well as it is not well communicated yet most adolescents do not know where it is located and what kind of service it delivers.

One of the most crucial services for addressing adolescent reproductive health is youth friendly service; however it is the most overlooked indicators for me. - (KII, Health worker).

Health workers behavior

Critical masses of health care personnel are not well equipped to serve adolescents, according to the adolescents and key informants. The study participants reported that health professionals' approaches are not uniform, that untrained professionals on YFS treat adolescents in an unfriendly manner, with judgmental and disapproving attitudes when they seek contraception, as a result, adolescents want to leave the health center as soon as they take contraception or without it. According to the youth and key informants, critical masses of health care personnel are not well equipped to serve adolescents.

Counseling should be friendly; if we treat students like family, they will open up and tell us everything about themselves without fear; additionally, a positive approach and counseling will increase contraceptive use compliance. - (KII, Health worker).

Another participant also mentioned that

We need more human resources because, despite working on 16 packages of health extension programs, we do not apply our efforts to adolescent reproductive health as boldly as we do to maternity, child, and immunization health. - (KII, Health worker).

Theme: Inter-sectorial collaboration

Significant number of respondents (health workers) in the current finding showed that lack of inter-sectorial collaboration as one major theme identified in this study. Adolescent reproductive health expose to weak multi-sectorial collaboration and low stakeholder involvement. Contraceptive usage services for adolescents are provided in a fragmented and non-standardized manner across organizations. Even if they serve the same group and have similar goals, they function separately.

Furthermore, the study participant stated that community health care facilities are not providing the necessary leadership and information management system to assist students in forming synergistic actions with other sectors such as school, sports, and youth affairs, youth and women associations, media, and nongovernmental organizations. Furthermore, school-based continuous education, in which health experts are invited and participate in peer educator training and delivery, has yet to be implemented. Similarly, student reproductive health is not addressed in school mini media.

There is a shaky framework connecting the Health Center with the school and other sectors to promote adolescent reproductive health. - (KII, Health worker).

Discussion

This study measured students' contraceptive usage barriers as a baseline for designing and evaluating effectiveness of peer-led education intervention in Gedeo Zone secondary School, South Ethiopia. Accordingly, the study showed that students have multiple barriers to contraceptive use, namely; Individual related barriers, community-related barriers, Health Service barriers, and Multi-sectorial related factors.

Low knowledge about contraceptive use was shown to be among the most significant barrier to its use in this study. Lower knowledge is one of the characteristics that restrict contraceptive use, according to other research from Ethiopia, Zimbabwe, and Tanzania [21],[22-27].

The lack of reproductive health education at school was the cause of students' lack of knowledge. This indicates that a health communication strategy should be developed and school-based awareness-raising actions should be implemented. Furthermore, student reproductive health interventions need to receive adequate attention in school mini media and other school clubs activities, the establishment and expansion of Peer education interventions through group discussion, question and answer competitions, as well as linking students with health facilities and YFS through peer educators can help students to gain a better understanding of contraceptive method and significantly improve their knowledge. According to current study, fear is one of the biggest obstacles to contraception for students. This was supported by a study conducted in rural Ghana[28]. Some students often deny having had sexual intercourse when asked by health professionals, which means that contraception may not be used. As a result, the intervention should include messages encouraging adolescents to make their own decisions about whether to be sexually active and which contraception to use.

Adolescents face serious challenges and negative enhancements from their important others [parents, religious leaders, health care workers] in both contraceptive use and discussion. This finding is similar to a study conducted in Zimbabwe and Nigeria[11] [12]. Teachers may also shy away from providing sexual and reproductive health content, as they themselves do not feel comfortable talking about and teaching the material[28]. Adolescent boys often see contraceptive use as the girl's responsibility[28]. Thus, adolescents' girls' peer-to-peer education, which is a discussion between equals, could be a way to break through this barrier. The student may feel more comfortable in discussing their feelings and sharing taboo topics with their peer educator

without fear, timidity, and embracing. In addition, in the current studies, one barrier to use contraceptives was psychosocial development. This finding is supported by studies conducted in Zimbabwe[22], as adolescents are immature and have reduced impulse control and are less able to plan and use contraceptives than adults.

Usually, this group is a neglected group. Even if they are exposed to sexual practice, which eventually lead to unintended pregnancy, miscarriage and many other problems, existing medical institutions do not consider them normal to use contraceptives [29]. Furthermore, their skills in contraceptive use, negotiation, and relationships are not fully developed[30]. The intervention in the form of a prototype audience, a group discussion by bringing up a specific scenario of a metaphor with a colleague, makes the stated gap smoother. In this study, students believe that contraception is only available to adults who are married, and that the only contraception available to adolescents is the post-pill and condom, which is similar to a study done in Zimbabwe[22].

As a result, adolescents who use contraceptives such as depo and long acting reversible contraceptive(LARCs) are seen as unique and deviant, and they associate those who use these contraceptives with promiscuity and straying, which is similar to research conducted in Thailand and Kenya [31, 32]. Furthermore, adolescents have a very negative attitude toward the use of contraception in general, and LARCs in particular, despite the fact that they are safe, effective, inexpensive, and reversible, require little to no maintenance, and have much higher compliance rates than other hormonal methods[33]. As a result, intervention in the form of drama and poetry should be designed to influence such attitudes. Furthermore, the student believes that Depo-Provera causes infertility as the study conducted in Guinea, Thailand, and Ethiopia [9, 31, 34] proves this finding, which is not true: yes, Depo-Provera thickens the uterus wall and may delay pregnancy, but it does not entirely eliminate the possibility of pregnancy. Students, on the other hand, prefer emergency tablets since they are easy to ingest and readily available; However, a case study in India [35] shows that frequent use of emergency contraception has significant negative health impact, including ectopic pregnancy. Similar to this, just as it is relatively easy to terminate a pregnancy after the initiation of medical abortion, this phenomenon has its own contribution as a barrier to contraceptive use.

As a result, we must address these misconceptions through drama, poetry, and key message preparation and reading to students during morning flag hour or before or after drama portrayal and other sessions. The current study discovered that there are numerous rumors that are already embedded in the community's mind and may act as a barrier to contraceptive use, which is consistent with research conducted in Kenya, Ghana, and India [9, 31, 36].

According to this study, rumors such as IUCD bursts and jumps to the brain and Depo-Provera causes' infertility are among others. It should be noted that not all methods are suitable for all adolescents. In addition, it implies that we should address each rumor in a different way, such as through drama, poetry, role play, and individual or group counseling.

Furthermore, similar to research conducted in Ethiopia, Guinea, and Bangladesh[9, 24, 37, 38], this study discovered that adolescents lack support and positive reinforcement from their families, health care providers, and teachers in order to use the contraceptive of their choice.

As a result, they require a one-of-a-kind approach, such as peer education, to support and resist such pressure from significant others.

In this study, there is a community norm, socio-cultural expectations, and contradictions that prohibit contraceptive use among the study population. Because the community has a strong value on preserving virginity until marriage, it is difficult to teach about contraception through community channels like community dialogue which similar to a study conducted in Nicaraguan and low-and middle-income countries [39, 40]. As a result, we must consider several alternatives to community-level intention, such as school intervention, which is free of religious leaders, community members, and parental pressure.

Finally, this study highlights the lack of adolescent contraceptive capacity building across many sectors, including health workers from health care facilities, school instructors and peer educators from schools and communities, supported by research from Guinea, northern Ethiopia, Ghana and Bangladesh [9, 24, 37, 38]. As a result, multi-sectorial collaboration and involvement can help to overcome this obstacle and increase uptake of contraceptive use.

Implications, The current study shows that adolescents should have services that are integrated with other sectors, such as schools and youth organizations, social welfare, and the media.

Furthermore, enhancing capacity building and working with an organization that works on this target population is very necessary. It is important to list and identify the major barrier to

contraceptives by adolescent and then devise a strategy to address this barrier through peer education.

Conclusion

Adolescents' contraceptive use was affected by a variety of barriers ranging from the individual level up to inter-sectorial level barriers. Many students don't use contraception, and as a result, they are vulnerable to unintended pregnancy, abortion, and a variety of other health issues that can lead to death. Moreover, there is no designed strategy that addresses adolescent contraceptive use at the school level; thus, the current study concludes that peer education is the best approach to address contraception demand and utilization behavior.

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Jimma University Institute of Health

Institutional Review Board

Ref.No: IHRPG/1938/20

Date: 5/12/2020

To: Mr. Yohannes Addisu

Subject: Ethical Approval of Research Protocol

The IRB of Institute of Health has reviewed your research project **"Effectiveness of Peer lead education intervention in generating contraceptive demand and utilization behavior among adolescent in Gedio Zone"**

Thus, this is to notify that this research protocol has presented to the IRB meets the ethical and scientific standards outlined in national and international guidelines. Hence, we are pleased to inform you that your research protocol is ethically cleared.

We strongly recommend that any significant deviation from the methodological details indicated in the approved protocol must be communicated to the IRB before it has been implemented.

With Regards!

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Barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia: Formative qualitative study.

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Abstract

Objective: To assess barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia in 2021.

Design: A ground theory approach of the qualitative study was conducted between December 2020 and April 2021 in Gedeo Zone, South Ethiopia.

Setting: The study was conducted, in two urban schools and four rural schools, in Gedeo Zone, Gedeo Zone is one of the 14 Zones in the Southern Nations, Nationalities and Peoples' Region of Ethiopia.

Participants: Data were collected through in-depth interviews with 24 students and key informant interviews with 28 health professionals and others.

Primary outcome: The primary outcome is the assessment of barriers to contraceptive use among high school students.

Results: The findings of the study were organized into four major themes that explore contraceptive use barriers; these include; Individual related barriers such as knowledge, fear, perceptions, and psychosocial development. Community-related barriers, encompass unpleasant rumors, family pressure, social and cultural norms, Economic Vulnerability, and religious beliefs. Health facility-related barriers such as the arrangement of health services, and health workers' behavior. Finally, a weak School and service integration was identified.

Conclusions: Adolescents' contraceptive use was affected by various level of barrier that ranges from the individual level up to the multi-sectoral level barrier. Students note a variety of barriers to the use of contraception and that, without contraception, sexual activity can lead to increased risk for unintended pregnancy and its associated health risks.

Strength and limitation of the study

We applied an elicitation study to identify silent beliefs for questionnaire formulation and record review to see the experience of adolescent contraceptive behavior.

The study excludes adolescents whose age is 10-14 Years.

The study excludes male students' contraceptive use behavior.

It exclusively considers adolescents who are still in school.

Because of the delicate nature of the subject, focus group discussions are not used.

Background

Global developmental goals and strategies have recognized the importance of adolescents' health and rights [1-3]. Universal access to sexual and reproductive health services and rights by 2030, including contraceptive utilization, is a priority global agenda for sustainable development[4]. Currently, the largest-ever group of young people in history becoming sexually active, and therefore need contraceptive utilization [5].On the other hand, adolescents' sexual and reproductive health (SRH) needs remain largely unmet globally[6]. Access to SRH information determines the burden of adolescent pregnancies and unwanted pregnancies [7]. Worldwide, about 15% of unsafe abortions occur among girls under the age of 20 years annually. Early pregnancy and childbearing typically denote the end of formal education, and early marriage, and restrict opportunities for employment[8]. SRH issues, including unwanted pregnancies, remain a significant public concern in sub-Saharan Africa [9].

Approximately 85 percent of sexually active adolescent girls who do not want to become pregnant do not use modern contraception [10]. In most parts of the developing world, unmarried, sexually active adolescents who are not in a formal partnership require contraception, which is often unrecognized; additionally, this population faces stigma and social condemnation if they are forced to use it [11] [12]. As a result, they are easily exposed to undesirable health and socioeconomic consequences such as induced/unsafe abortion, high fertility, obstructed labor, and its complications such as obstetric fistula, and hypertensive disorders of pregnancy [13].

Studies showed that about forty percent of girls reported that they had difficulties in discussing sexual issues with their mother due to fear and shyness [13, 14]. The importance of reproductive health education at school has been acknowledged in the sustainable development goals agenda to ensure that the necessary knowledge and skills in this area are acquired by all learners [15]. Schools are an appropriate setting in which to contribute to the development of healthy sexuality [16].

Access for adolescents to sexual and reproductive health services and comprehensive sex education that is of high quality, youth-friendly, and respects the right to confidentiality, privacy, and informed consent remains a challenge in many countries[5]. In such circumstances, designing programs in the school environment improves young people's decision-making and

negotiation skills, as well as self-esteem and reproductive health [17]. However, there is still insufficient evidence in this regard, so this study examines barriers to contraceptive use among high school students for program planning and interventions in Gedeo Zone, South Ethiopia.

Methods and Materials

Study Setting and Period

The study was conducted in Gedeo Zone. Gedeo Zone is located in the Southern Nations, Nationalities and Peoples' Region of Ethiopia with a population of 1,651,000 and a total household of 336,804. This makes it the most densely populated Zone in the Southern Region, of Ethiopia. Currently, hosting a large population density of over 1, 300 people per km². Dilla is the capital town of the Gedeo Zone and it is located 362 km from Addis Ababa, the capital city of Ethiopia. There are seven senior secondary schools in the Zone with a total of 24,445 students attending the schools during the time of the study [18]. The study was conducted from December 2, 2020–to February 29, 2021.

Study Design

The researchers used a ground theory approach. Grounded theory is a suitable methodology when the researcher is keen to know the basic psychosocial process which occurs over time and explains changes in a particular behavior[19]. The ground theory was chosen because it is suitable for guiding the development of important data and themes inductively based on systematically obtained and analyzed data [19, 20].

Study Population

The study population was made up of carefully selected students (who could actively engage in the school) who attended the assigned schools during the study period. Students were recruited from a variety of grades and schools. Gender and residence (rural vs. urban) were also considered in the selection process. In addition, health care experts from a variety of fields (Health extension workers (HEWs), nurses, Public health officers, and Midwives) and psychologists were included. Overall, the participants and data sources were chosen in stages to achieve the purpose of saturating ideas about the contraceptive use barrier. The study applied purposive sampling technques of data collection.

Patient and Public Involvement

There was no patient or public involvement in setting the research agenda.

Data collection methods and procedures

Data was gathered through in-depth interviews with students and key informant interviews with health professionals and others who know what is going on in the community and have unique knowledge of a topic. Before the start of data collection, the selected schools and health facilities were contacted to obtain permission to conduct the study. Only at the time of the interview were participants in the study contacted. All of the interviews and conversations took place in schools and health care settings, and no one else was present in the room during the interview except the participants and data collectors. The interview guide aided the interviews. All interviews (which lasted between 30 and 91 minutes) were recorded using a digital voice recorder, and notes were taken during each topic and interview. The saturation of ideas determined the size of the interviewee. In the current context, barer refers to anything that is regarded as an obstacle that prohibits contraceptive utilization.

In-depth interviews with Students

In-depth interviews were conducted with a total of 24 students from the six schools included in the study. Students were sampled to ensure diversity in age (ranged from 15 to 19 years), sex (11 females and 3 males), and diverse grade level which included (Range from grade ninth to twelve), and from social and natural science streams. The interviews were conducted by investigators in Amharic language and transcribed verbatim to English. The interviews were conducted in a private setting to ensure the privacy and comfort of the students.

Key informant interviews-KII (in-depth interview with health staff)

To triangulate the findings of interviews from students, a total of 28 key informants (mostly health workers) were interviewed with purposively selected staff, at least three informants from each health facility. Consequently, Psychologist and diverse groups of health care providers including community health workers (CHWs), nurses, public health officers, and midwives were included in the key informant interviews. To ensure the diversity of experience, key informants were also purposively selected considering the durations of their experiences. Moreover, about half of the key informants intreviwed were trained and certified in contraceptive services and/or youth health.

Data analysis

The data from the interviews were transcribed verbatim and then translated into English for analysis. ATLAS.ti 7.1.4 aided in the coding and further analysis of the data. Investigators read and reread the transcripts before assigning codes (open coding) and developing an initial coding structure. To ensure that the coding structure was relevant and appropriate, one coder performed

iterative rounds of open coding on selected transcripts guided by the grounded theory approach, while the second coder reviewed and verified the emergent codes. Finally, the study team analyzed the coded transcripts and generated codes to agree on the coding system and code definitions that would be utilized to code all transcripts. The findings were categorized into themes and sub-themes based on important quotes. Then after students' barriers to using contraceptive was described using the key themes and sub-themes that arose. Peer debriefing was held with the research team to find alternative explanations and to have formal or informal discussions with a peer to help interpret the data. For reporting qualitative findings, this study adheres to the consolidated Criteria for Reporting Qualitative Research (COREQ) standard protocol[21].

Data Validation

In order to maintain the credibility of the study based on the Lincoln and Guba criteria, various strategies were used to ensure data validation [22]. At the beginning, the data collection tool (interview guide) was pre-tested on two KII and one IDIs Specifically, KII was conducted with health personnel trained on Youth friendly service and IDIs was conducted with female preparatory student. To set up trustworthiness a studies assistant and the studies crew engaged in peer debriefing. Following a dialogue with corporations of principal investigators, the tool became modified. To diversify the study participants, the adolescent interviewees and key informants were recruited based on socio-economic characteristics (gender, age, education level, and occupation) to get a broader range of perspectives from various participants. A summary of significant themes was presented to study participants at the end of each data collecting period, and a discussion was held to avoid any confusing matters. To ensure member checking, the transcription and translation were given, as well as a synopsis of key themes and some perplexing concepts, so that they could check the interpretations and offer their comments, critiques, explanation, and confirmation. The study's final conclusion was shared with all study participants to ensure that their ideas were appropriately reflected. Prolonged engagement, which has been obtained by staying in the research area for an extended period, was done. The principal investigator verified the points mentioned in the IDIs and KIIs throughout this time. He observed and confirmed various concerns such as the public's impression of contraception, misconceptions about contraceptives, rumors about contraception, health professionals' attitudes regarding adolescent contraception use, and existing Socio-cultural expectations and norms

about contraceptive use of adolescents were observed. In order to ensure transferability, the entire research process, participants' different viewpoints and experiences, methods, interpretation of results, and contributions of research assistants were all thickly described. Participants who contribute to the findings, interpretations, and recommendations ensure dependability. The findings of this study have been audited and confirmed with the aid of advisors, colleagues, and different individuals who are familiar with qualitative research. The findings have been correspondingly verified with the aid key informants like Health workers, school counselors, students, and teachers. Furthermore, every procedure becomes documented, and audio data and made to be had to look auditor researchers for cross-checking.

Ethical Consideration

Ethical approval of this study was obtained from the Institutional Review Board (IRB) of Jimma University (Ref. No. IHRPG938/5/11/2020), and a permission letter was obtained from the Zonal health bureau, Dilla town administrator, and school directors. Written informed consent and parental/guardians consent for participants were secured from all study participants. After informed consent was sought from each of the adolescents and their parents, the data was collected in a separate location to protect the privacy of the participants.

Result

Participants' demographic profile

A total of 52 participants took part in this study. The majority of study participants' religion was Protestant, followed by Orthodox Christians. All invited participants have successfully participated in this study. In-depth interviews were conducted with 24 students (grades 9 to 12). The age of the students was between 15 and 19 years (mean 17.1) **(Table 1).** In addition, 28 professionals (mostly health professionals) from different professional backgrounds participated in the in-depth interview (10 CHWs, 4 nurses, 4 public health officials, 7 midwives, 1 health promoter commissioned by Non governmental organization (NGO) clinic, and 2 psychologists). Almost half of the key informants' were trained in contraceptive services and/or Youth health (**Table 2**).

Table 1: Characteristics of in-depth interview (IDI) study participants (IDI=24).

characteristics of respondents	Category	Frequency	Percent
Age	15	5	20.8
	16	3	12.6
	17	5	20.8
	18	6	25.0
	19	5	20.8
Sex	Female	18	75
	Male	6	25
Residence	Urban	10	41.7
	Rural	14	58.3
Marital status	Unmarried	19	79.2
	Marred	5	20.8
Education level	9th grade	6	25.0
	10th grade	7	29.2
	11th grade	5	20.8
	12th grade	6	25.0
Religion	Protestant	13	54.2

	Orthodox	8	33.3
	Muslim	2	8.3
	Catholic	1	4.2

Table 2: Characteristics of key informant interview (KII) study participants (KII=28).

characteristics of respondents	Category	Frequency	Percent
Age	23-29	7	25.0
	30-40	16	57.1
	41-50	5	17.9
Sex	Female	19	67.9
	Male	9	32.1
Residence	Urban	10	35.7
	Rural	18	64.3
Marital status	Marred	12	42.9
	Unmarried	16	57.1
Educational status	Certificate	1	3.5
	Diploma	12	42.9
	Degree and above	15	53.6
Religion	Protestant	14	50.0
	Orthodox	10	35.8
	Muslim	2	7.1
	Catholic	2	7.1
Profession	Community health workers	10	35.7
	Nurses	4	14.3
	Public health officers	4	14.3
	Midwifes	7	25.0
	Health Promoter	1	3.6
	Psychologists	2	7.1

Themes and Category related with the study

In this study, four themes were identified which are Individual related barriers, Community-related barriers, Health Service barriers, and School and Service integration barriers (Table 3).

Table 3 Themes and Categories

Themes	Categories
Individual related barriers	➢ Knowledge ➢ Fear ➢ Misconception ➢ Psychosocial development
Community-related barriers	➢ Unpleasant rumors ➢ Family pressure ➢ Social and Cultural Norms ➢ Economical vulnerability ➢ Religious Beliefs
Health Service barriers	➢ Health service arrangement ➢ Health workers behavior
School and Service Integration barrier	➢ Weak School and Service Integration

Individual related barriers

According to the current study, Individual related barriers were a specific background of the study population that can impact functioning contraceptive use either positively or negatively such as knowledge, fear, misconceptions, and psycho-social development.

Knowledge

In this study, one of the person-related barriers that influenced adolescents' contraceptive use was knowledge. The majority of key informants stated that students had limited knowledge of contraception due to a lack of opportunities to learn about reproductive health.

They also mentioned that some students, particularly those who live in rural areas, are unaware of the availability of contraceptive services.

We usually weigh adolescent knowledge during counseling and most lack knowledge about contraceptives. - (KII, Health worker).

Usually, adolescents do not relate the sexual practice with a pregnancy they do not plan to use contraceptives proactively before pregnancy happens because of a lack of knowledge on contraceptive methods. - (KII, Health worker).

Fear related to contraceptive use

Under the individual-related barrier, one category was fear of contraception use. Fear was indicated by nearly both categories of study participants as a key barrier to utilizing contraception. As they mentioned, students are afraid of their family, friends, health workers, and contraceptive side effects.

Fear of being judged by family and friends: Students are afraid of being judged by their parents and friends if they take contraceptives like the Implanon or oral tablets. If they find out she uses contraception, they gossip about her and discriminate against her, according to the key informant participant. They also mentioned that students are afraid of not just their parents and peers, but also their relationships, because they may end up in a quarrel with their partner if they refuse to use contraceptives like condoms, and they are obliged to accept risky traditional techniques like withdrawal.

When I use hormonal contraceptives like depo and Implanon, it causes menstrual irregularity and spotting, and I'm afraid that my parents will find out and question why my menstruation has become irregular. -19 year- old Student (IDI)

In case her friends know that she uses contraceptives, they label her as a naughty girl, so they discriminate against her and everyone thinks that she has a deviant character. -17 year- old Student (IDI)

Fear of Health Workers: Furthermore, particularly, key informant participants explained that students are afraid of health professionals when they go to the health care provider since most of them are unpleasant, judgmental, and may divulge information to their parents. They even deny having sex until a laboratory test confirms that they are pregnant because they are afraid of the health worker.

By the way, I've never seen an adolescent come straight to the health center and ask for contraceptives because they are afraid that even those that come to health facilities will have difficulties articulating and shaking to ask for contraceptive services. - (KII, Health worker).

In a situation where adolescents arrives at a healthcare facility and are confronted by staff they know or their family, the situation gets worse; they feel panic and usually flee without using the contraceptive they intend to take. -18 year- old *Student* (IDI).

Fear of side effects: Finally, both categories of study participants indicated that students are afraid of infertility if they use hormonal contraceptives. Furthermore, many are concerned that it would alter their body's appearance, making them too thin or too obese, as well as induce menstruation irregularities.

I understand that contraceptives protect me from unplanned pregnancy for the time being, but I am concerned that when I marry, I will not be able to have children. -17 year- old Student (IDI).

Misconceptions

The study showed that a variety of misunderstandings concerning contraceptive use were investigated. According to both categories of participants, adolescents are not allowed to take contraception until they are adults and married. A student who uses contraception is regarded as a deviant. Similarly, concepts such as considering only condoms and post-pill as appropriate contraceptives used before marriage; having sex with a wide interval period does not expose to pregnancy; connecting condoms only with the prevention of sexually transmitted diseases such as HIV/AIDS rather than as a contraceptive; pregnancy could not happen again to someone who had a history of terminating the pregnancy, and perceiving use of medical abortion and post-pill redundantly as a normal thing. Furthermore, taking hormonal contraception such as depo exposes them to infertility, and once a long-acting contraceptive has been used, they believe it is impossible to remove it whenever they wish to have a child.

I don't use birth control. I reason that, as a student and single woman, I believe no one has ever authorized me to use contraception. -17 year- old *Student* (IDI).

I went two years without using contraception when I wasn't pregnant, but then I became pregnant without it. I believe that once I started using it, it would always protect me. -19 year-old *Student* (IDI).

Psychosocial development

One category identified as an individual label barrier in the current investigation was psychosocial development and contraceptive use. According to key informants' responses,

adolescents do not have regular sexual interaction, and they proceed to sex by mistake before planning to use contraception. Unwanted pregnancy is a good indicator that this population should begin using contraception.

Furthermore, students are not unable to form a stable relationships owing to their mental development and age, and hence do not intend to use contraception before sexual intercourse.

Adolescents do not want to take contraceptive measures regularly, but want to go to health institutions regularly for abortion or emergency contraception, and return to the cycle again and again. Furthermore, the key informant interviewer stated that teens do not want to attend contraception teaching. The reason for this was that they considered it was only an adult or married person's concern, or they gossiped and had fun during the school discussion on reproductive health, or they felt shame or humiliated at home because they feared their parents.

Students at this age are impulsive and want to try everything. They lose control when craving sex and become pregnant without realizing it. - (KII, Health worker).

Adolescents at this age abuse sexually and have no intention of using contraception since they are exposed to sexual activity hastily or unknowingly. - (KII, Health worker).

Theme: Community-related barriers

The second theme revealed in the current study was community-related barriers; under this theme, the categories identified were unpleasant rumors, Pressure from family, social and cultural norms, economic vulnerability and, religious beliefs.

Unpleasant rumors

Both students and health professionals reported that there were many rumors in the community that prohibited contraceptive use, such as if an adolescent goes to a health center and they suspect she is going to get an abortion or contraceptive, then there may be a rumor that Mr. x's daughter is using contraceptive and everyone thinks she is a deviant, and on the other hand if one woman experiences weight loss after using contraceptive, she advocates for all women around her to not use that contraceptive. The same can be said about other rumors such as, 'If a woman inserts IUCD into her uterus, it bursts out and jumps to her brain, causing major damage.' The other rumor was about Implanon, which was 'when we take implanon, it disappears within the flash and inside the body'. The other rumor was about infertility, 'contraceptive use exposes adolescents to infertility in the future when they get married'. Furthermore, the health professionals stated that because the public mind is already preoccupied with rumors, if they

experience any problems after using contraception, they instantly associate it with contraception and request its removal or discontinue use.

When my mother and our next-door neighbor discuss about contraception, they almost always grumble about it. According to what I recall from their conversation, women who have contraception injected into their arms become sterile for the rest of their lives. -16 year- old *Student* (IDI).

Pressure from family

According to the current finding, the family put high pressure on adolescents to not use contraceptives even if they have the intention to use them. Reflections from both categories of participants showed that adolescents are terrified of using Implanon and daily pills because they will be noticed by their families. Moreover, they don't even want to take Clint's card home with them. Both students and health professionals claimed that most adolescents use depo due to family pressure because it is not feasible for anyone. Except for a few families, families are generally resistant, and they do not suspect that their children are exposed to sexual practices, so they do not discuss contraception or allow health professionals to teach them.

Furthermore, the health professionals explained that families believe that discussing contraception encourages their children to use contraception or implies that it allows them to conduct sex indirectly. Students ascertained that the family has followed up to see if their menstruation has arrived or not, and if there is an irregularity, they have inquired as to why this is happening. As a result, they provide unnecessary negative reinforcement.

Because they (adolescents) are afraid of their families, the majority of adolescents who receive contraception from our facility choose to leave their card with us rather than take it home. In some cases, we simply call to remind them when their schedule is due. - (KII, Health worker).

Social and Cultural Norms

Another issue related to the community-level barrier to contraception use was social and cultural norms. According to the majority of health personal respondents, adolescents seeking contraception face social and cultural challenges. It is embarrassing for them to use contraception because they are young, single, and live with family. The community's attitude toward students who used contraception was negative. As a result, they forbid their children from being friends with girls who use contraception. Study participants also stated that because the community places a strong value and norm on maintaining virginity until marriage, adolescents who become pregnant before marriage face severe stigma and discrimination from the community because they violate social and cultural norms, and as a result, some victims commit suicide.

The community believes that students who live with their families use contraception are deviant or unique. -15 year- old Student (IDI)

Adolescents who use contraceptives before marriage is considered indecent and experiences multiple sexual practices, therefore their chance of getting a husband in the future decreases because everybody perceives such adolescent as not pure. -19 year- old Student (IDI)

There is one student who has really good manners and is seen as a role model. She becomes pregnant unexpectedly, and she attempts suicide because she is too humiliated and ashamed to seek emergency contraception **-** *(KII, Health worker).*

Economical Vulnerability

As reflections from psychologists and health personnel participants indicated, some adolescents may not use contraception on purpose to become pregnant as a means of securing their relationship if their partner has a job with a good wage. Furthermore, adolescents whose parents are impoverished or deceased may engage in a variety of activities to generate income to support themselves and other family members. This condition may expose them to sexual abuse and unintentional sex without planning to use contraception.

I know an orphan female student who sells coffee on the street who was sexually molested and became pregnant, so she come to the health post and asked me to give her a post-partum tablet. **-** *(KII, Health worker).*

Religious Beliefs

Religious beliefs, according to both kinds of study participants, are a barrier to contraceptive use since practically everyone in the study area values religious beliefs and advocates for abstinence before marriage and views contraception as a bad thing. Adolescents who desire contraception before marriage are regarded as sinful and repulsive.

It is assumed that every adolescent should be a role model for others, and using contraception at such a young age is a sign of a bad girl and a sin in God's eyes.

Those adolescents who have married resist contraceptive use. The reason they mentioned was if God gives them a child why do they resist God's gift and use contraceptives to prevent pregnancy. **-** *(KII, Health worker).*

Theme: Health facility-related barriers

Health facility-related barriers are divided into two categories: Weak health service arrangement, and Health worker behavior.

Weak health service arrangement

The health care providers ascertained that, health centers lack a structured approach to serve students' sexual and reproductive health needs. Family planning is provided to all age groups within the maternity and child health department (MCH) without segmentation.

Moreover; adolescents have no clue where they can find contraceptives after they arrive at health facilities. There is also a lack of a fluid pass-on framework that allows adolescent reproductive health services to be transferred easily from health posts, schools, and non-governmental organizations to focal Youth-friendly services (YFS) or health facilities.

Furthermore, according to the health personnel report, in most health centers, obtaining a card from the card room is required to obtain any health service, including family planning, which involves bureaucracy such as standing in a lengthy line in the corridor and so on.

In addition, the number YFS available in the study area is extremely limited; it is not integrated with existing primary and referral care systems such as schools, health centers, and health posts; and it does not address the growing contraceptive demand of adolescents. Even, the few available YFS is not branded by a student as being YFS as well as it is not well communicated yet as a result most adolescents do not know where it is located and what kind of service it delivers.

There is no separate room for family planning in the health center and health post, but it is given in the health department for mother and child, moreover, most health workers do not take special training for the care of adolescents. In an urban setting health post and Kebele (public department) deliver service in the same building these things cause serious discomfort to young people who are thinking about using contraception- (KII, Health worker).

Youth-friendly service is not equally visible and it is the most ignored area through program deliberation and allocation of resources; Even if adolescent and reproductive health is one package among health extension programs it is not get as much attention as mother and child health program - (KII, Health worker).

Health Workers behavior

According to key informants report, critical masses of health care personnel are not well equipped to serve adolescents. The untrained professionals on YFS treat adolescents in an unfriendly manner, with judgmental and disapproving attitudes when they seek contraception, as a result, adolescents want to leave the health center as soon as they take contraception or without it. Moreover, the healthcare workers believe that the student is unfit for family planning services, so they confront the student in some way to avoid receiving the service that they demand in a health facility.

Counseling should be friendly; if we treat students like family, they will open up and tell us everything about themselves without fear; additionally, a positive approach and counseling will increase contraceptive use compliance. - (KII, Health worker).

We need more human resources because, despite working on 16 packages of health extension programs, we do not apply our efforts to adolescent reproductive health as boldly as we do to maternity, child, and immunization health. - (KII, Health worker).

Theme: School and Service Integration

The significant number of respondents (health workers) in the current finding showed that weak School and Service Integration was one major theme identified in this study. Contraceptive usage services for adolescents are provided in a fragmented and non-standardized manner across organizations. Even if they serve the same group, they function separately.

Furthermore, community health care facilities are not providing the necessary leadership and information management system to assist students in forming synergistic actions with other sectors such as schools, sports, and youth affairs, youth and women associations, media, and nongovernmental organizations. In addition, school-based continuous education, in which health experts are invited and participate, has not yet been implemented. Similarly, student reproductive health topic is not addressed in the school setup.

There is a shaky framework connecting the Health Center with the school and other sectors to promote adolescent reproductive health. - (KII, Health worker).

Discussion

This study measured students' contraceptive usage barriers as a baseline for program planning and interventions in Gedeo Zone Secondary School, South Ethiopia. Accordingly, the study showed that students have multiple barriers to contraceptive use, namely; Individual related barriers, Community-related barriers, Health Service barriers, and School and Service integration barriers**.** Low knowledge was perceived as a notable barrier to contraceptive use which is similar according to research from Ethiopia, Zimbabwe, and Tanzania [23-25]. The lack of reproductive health education at school was the cause of students' lack of knowledge. This indicates that a health communication strategy should be developed and school-based awareness-raising actions should be implemented. Furthermore, student reproductive health interventions need to receive adequate attention in the school curriculum and other school club activities, linking students with health facilities and YFS can help students to gain a better understanding of the contraceptive method and significantly improve their knowledge.

According to the current study, fear is one of the biggest obstacles to contraception use for adolescents. This was supported by a study conducted in rural Ghana[26]. As a result, the

intervention should include messages encouraging adolescents to make free discussion on SRH topic including contraceptive use. Moreover, adolescents face serious challenges and negative enhancements from their important others [parents, religious leaders, health care workers] in both contraceptive use and discussion. This finding is similar to a study conducted in Zimbabwe and Nigeria[11] [12]. Teachers may also shy away from providing sexual and reproductive health content, as they do not feel comfortable talking about and teaching the material[26]. On top of this, adolescent boys often see contraceptive use as the girl's responsibility[26]. Thus, providing comprehensive sex education at school with trained personnel is needed in addition, service integration with school is facilitating contraceptive utilization by the student.

In the current study, one barrier to the use of contraceptives was psychosocial development. This finding is supported by studies conducted in Zimbabwe[27], as adolescents are immature and have reduced impulse control, and are less able to plan and use contraceptives than adults. Usually, this group is a neglected group. Even if they are exposed to sexual practices, which eventually lead to unintended pregnancy, miscarriage, and many other problems, existing medical institutions do not consider them normal to use contraceptives [28]. Furthermore, their skills in contraceptive use, negotiation, and relationships are not fully developed[29]. The intervention in the form of a prototype audience, a group discussion by bringing up a specific scenario of a metaphor in the classroom**,** makes the stated gap smoother. In this study, students believe that contraception is only available to adults who are married and that the only contraception available to adolescents is the post-pill and condom, which is similar to a study done in Zimbabwe[27]. As a result, adolescents who use contraceptives other than the above are seen as unique and deviant and associated the user with promiscuity and straying, as similar to research conducted in Thailand and Kenya [30, 31]. Students prefer post-pill tablets since they are easy to ingest and readily available; however, a case study in India [32] shows that frequent use of emergency contraception has a significant negative health impact, including ectopic pregnancy. Similar to this, just as it is relatively easy to terminate a pregnancy after the initiation of medical abortion, this phenomenon has its contribution as a barrier to contraceptive use. Thus, we must address these misconceptions through drama, poetry, and key message preparation and reading to students during morning flag hour or before or after drama portrayal and other sessions.

The current study discovered that numerous rumors are already embedded in the community's mind and may act as a barrier to contraceptive use, which is consistent with research conducted in Kenya, Ghana, and India [9, 30, 33]. It should be noted that not all methods are suitable for all adolescents. In addition, it implies that we should address each rumor in a different way, such as through drama, poetry, role play, and individual or group counseling.

Furthermore, there is a community norm, socio-cultural expectations, and contradictions that prohibit contraceptive use among the study population. Since the community has a strong value on preserving virginity until marriage, it is difficult to teach about contraception through community channels like community dialogue which is similar to a study conducted in Nicaraguan and low-and middle-income countries [34, 35]. As a result, we must consider several alternatives to community-level intervention, such as school, which is free of religious leaders, community members, and parental pressure.

Finally, this study highlights the lack of adolescent contraceptive capacity building across many sectors, including health care facilities, schools, sports, and youth affairs, youth and women associations, media, and non-governmental organizations as a study supported by research from Guinea, northern Ethiopia, Ghana, and Bangladesh [9, 36-38]. As a result, Multi-Sectorial integration and involvement can help to overcome the obstacle and increase the uptake of contraceptive use.

Limitation, The main limitation of the current study was that it did not consider adolescents outside of the school setting moreover, focus group discussions techniques of data collection was not applied due to the sensitive nature of the topic studied.

Implications, The current study shows that adolescents should have SRH services that are integrated with other sectors, such as schools and youth organizations, social welfare, and the media. Furthermore, enhancing capacity building and working with an organization that works on this target population is very necessary. It is important to list and identify the major barrier to contraceptives by adolescents and then devise a strategy to address these barriers through multiple methods and approaches as indicated above.

Conclusion

Adolescents' contraceptive use was affected by the various levels of barriers that ranges from the individual level up to the multi-sectorial level barriers. Students note a variety of barriers to the

use of contraception and that, without contraception, sexual activity can lead to increased risk for unintended pregnancy and its associated health risks. Moreover, there is a need for SRH integration at the school level and work on the barrier that influences contraceptive use across all levels of influence.

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SRQR Reporting checklist for qualitative study.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below. SRQR reporting guidelines: O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

		Reporting Item	Page Number
Title			
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	1
Abstract			
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	2
Introduction			
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	4
Purpose or research question	#4	Purpose of the study and specific objectives or questions	5
Methods			
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	5
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	5
Context	#7	Setting / site and salient contextual factors; rationale	5
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	6
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	8
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	5
Data collection	#11	Description of instruments (e.g. interview guides,	6

instruments and technologies		questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	5
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	5
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	6,7
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	6
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	7
Results/findings			
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	9-13
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	14-18
Discussion			
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	19-21
Limitations	#19	Trustworthiness and limitations of findings	21
Other			
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	21
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	21

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Barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia: Formative qualitative study

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Abstract

Objective: To assess barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia, in 2021.

Design: A grounded theory approach to the qualitative study was conducted between December 2020 and April 2021 in Gedeo Zone, South Ethiopia.

Setting: The study was conducted, in two urban and four rural schools, in Gedeo Zone; Gedeo Zone is one of the 14 Zones in the Southern Nations, Nationalities, and Peoples' Region of Ethiopia.

Participants: A total of 52 in-depth interviews were conducted with students, school counselors, Kebele Youth association coordinators, Zonal child, Adolescent, and Youth officers, health workers, and Non-Governmental Organization workers.

Results: The study's findings were organized into four major themes that explore contraceptive use barriers these include; Individual related barriers such as knowledge, fear, perceptions, and psychosocial development. Community-related barriers encompass fear of rumors, family pressure, social and cultural norms, economic vulnerability, and religious beliefs. Health service-related barriers include the lack of adolescent-responsive health services and health workers' behavior. Finally, Weak school and service integration was identified.

Conclusions: Adolescents' contraceptive use was affected by various barriers ranging from individual to multi-sectorial levels. Students note various barriers to using contraception and that, without contraception, sexual activity can lead to an increased risk for unintended pregnancy and its associated health risks.

Keywords: Contraceptive barrier; Adolescents; Students; School; Ethiopia

Strengths and limitations of the study

We applied an elicitation study to identify silent beliefs for questionnaire formulation and record review to see the experience of adolescent contraceptive behavior.

The study excludes adolescents whose age is 10-14 Years.

The study excludes male students' contraceptive use behavior.

It exclusively considers adolescents who are still in school.

Because of the delicate nature of the subject, focus group discussions were not used.

Background

Global developmental goals and strategies have recognized the importance of adolescents' health and rights [1-3].Universal access to sexual and reproductive health services and rights by 2030, including contraceptive utilization, is a priority global agenda for sustainable development [4]. .Currently, the largest-ever group of young people in history is becoming sexually active and therefore needs contraceptive utilization services [5].On the other hand, adolescents' sexual and reproductive health (SRH) needs remain primarily unmet globally[6].Access to SRH information determines the burden of adolescent pregnancies and unwanted pregnancies [7].Worldwide, about 15% of unsafe abortions occur annually among girls under the age of 20 years. Early pregnancy and childbearing typically denote the end of formal education and early marriage and restrict opportunities for employment[8]. SRH issues, including unwanted pregnancies, remain a significant public health concern in sub-Saharan Africa [9].

Approximately 85 percent of sexually active adolescent girls who do not want to become pregnant do not use modern contraception [10]. However, in most parts of the developing world, unmarried, sexually active adolescents who are not in a formal partnership require contraception, which is often unrecognized; additionally, this population faces stigma and social condemnation if forced to use it [11] [12]. As a result, they are easily exposed to undesirable health and socioeconomic consequences such as unsafe abortion, high fertility, obstructed labor, complications such as obstetric fistula, and hypertensive disorders of pregnancy [13].

Studies showed that about forty percent of girls reported difficulties discussing sexual issues with their mothers due to fear and shyness [13, 14]. The importance of education on reproductive health in schools has been recognized in the sustainable development goals agenda to ensure that the necessary knowledge and skills in this area are acquired by all learners [15]. Schools are an appropriate setting in which to contribute to the development of healthy sexuality [16].

Access for adolescents to sexual and reproductive health services and comprehensive sex education that is high quality, youth-friendly, and respects the right to confidentiality, privacy, and informed consent remains a challenge in many countries[5]. In such circumstances, designing programs in the school environment improves young people's decision-making and negotiation skills, self-esteem, and reproductive health [17]. However, there is still insufficient

evidence in this regard. Thus this study examines barriers to contraceptive use among high school students for program planning and interventions in Gedeo Zone, South Ethiopia.

Method and Material

Study Setting and Period

The study was conducted in Gedeo Zone. Gedeo Zone is located in the Southern Nations, Nationalities, and Peoples' Region of Ethiopia, with a population of 1,651,000 and a total household of 336,804. This makes it the most densely populated Zone in the Southern Region of Ethiopia. Currently, the Zone hosts a large population density of over 1300 people per km². Dilla is the capital town of the Gedeo Zone, and it is located 362 km from Addis Ababa, the capital city of Ethiopia. Twenty-six senior secondary schools are in the Zone, with 24,445 students attending the schools during the study period [18]. The study was conducted from December 2, 2020–to February 29, 2021.

Study Design

In this study, data were obtained from various sources based on the ground theory approach involving key informant interviews with health workers and in-depth interviews with students. Grounded theory is a suitable methodology when the researcher is keen to know the basic psychosocial process which occurs over time and explains changes in a particular behavior[19]. Furthermore, the ground theory was chosen because it is suitable for guiding the development of essential data and themes inductively based on systematically obtained and analyzed data [19, 20].

Study Population

The study population comprised carefully selected students (who could actively engage in the school) who attended the assigned schools during the study period. Students were recruited from a variety of grades and schools. Gender and residence (rural vs. urban) were also considered in the selection process. In addition, healthcare experts from various fields (Health extension workers (HEWs), nurses, Public health officers, and Midwives) and clinical psychologists were included. Overall, the participants and data sources were chosen in stages to achieve the purpose of saturating ideas about the contraceptive use barrier. The study applied a purposive sampling technique for data collection.

Patient and Public Involvement

Patients and/or the public were not involved in this study.

Data collection methods and procedures

Data was gathered through in-depth interviews with students and key informant interviews with health professionals and others who know what is going on in the community and have unique knowledge of a topic. Before data collection, the selected schools and health facilities were contacted to obtain permission to conduct the study. Only at the time of the interview were participants in the study reached. Therefore, all of the interviews and conversations took place in schools and healthcare settings, and no one else was present in the room during the interview except the participants and data collectors. The interview guide aided the interviews. All interviews (between 30 and 91 minutes) were recorded using a digital voice recorder, and notes were taken during each interview. The number of interviews was dictated by category/theme saturation, which occurred when the research team observed similar responses from multiple respondents. In the context of this study, a barrier refers to anything that is regarded as an obstacle that prohibits contraceptive utilization.

In-depth Interviews with Students

In-depth interviews were conducted with a total of 24 students from the six schools included in the study. Students were sampled to ensure diversity in age (ranging from 15 to 19 years), sex (11 females and three males), and various grade level, which included (Range from grade ninth to twelve) and from social and natural science streams. The interviews were conducted by investigators in Amharic language and transcribed verbatim into English. The interviews were conducted in a private setting to ensure the privacy and comfort of the respondent.

Key Informant Interviews-KII (In-depth Interviews with health staff)

To triangulate the findings of interviews from students, a total of 28 key informants (mostly health workers) were interviewed with purposively selected staff, at least three informants from each health facility. Consequently, Clinical Psychologists and diverse healthcare providers, including community health workers (CHWs), nurses, public health officers, and midwives, were included in the key informant interviews. Key informants were also purposively selected to ensure the diversity of experience. Moreover, about half of the key informants interviewed were trained and certified in contraceptive services or youth health. All were employed in the same catchment area as the study respondent.

Patient and Public Involvement

No patient involved

Data analysis

The data from the interviews were transcribed verbatim and then translated into English for analysis. ATLAS.ti 7.1.4 aided in the coding and further analysis of the data. Investigators read and reread the transcripts before assigning codes (open coding) and developing an initial coding structure. One coder performed iterative rounds of open coding on selected transcripts guided by the grounded theory approach to ensure that the coding structure was relevant and appropriate. In contrast, the second coder reviewed and verified the emergent codes. Finally, the study team analyzed the coded transcripts and generated codes to agree on the coding system and code definitions used to code all transcripts. The findings were categorized into themes and sub-themes based on important quotes. Then students' barriers to contraceptives were described using the key themes and sub-themes. Peer debriefing was held with the research team to find alternative explanations and to have formal or informal discussions with a peer to help interpret the data. For reporting qualitative findings, this study adheres to the consolidated Criteria for Reporting Qualitative Research (COREQ) standard protocol[21].

Data Validation

Lincoln and Guba's criteria were used to maintain data validation [22]. In the beginning, the data collection tool (interview guide) was pre-tested on two KII and one IDIs Specifically, KII was conducted with health personnel trained on Youth friendly service, and IDIs was conducted with female preparatory student. In addition, a studies assistant and the studies crew engaged in peer debriefing to establish trustworthiness. Following a dialogue with corporations of principal investigators, the tool was modified. To diversify the study participants, the adolescent interviewees and key informants were recruited based on socio-demographic characteristics (gender, age, education level, and occupation) to get a broader range of perspectives from various participants. A summary of significant themes was presented to study participants at the end of each data-collecting period, and a discussion was held to avoid confusing matters. To ensure member checking, the transcription and translation were given, as well as a synopsis of key themes and some perplexing concepts, so that they could check the interpretations and offer their comments, critiques, explanation, and confirmation. The study's conclusion was shared with all participants to ensure that their ideas were appropriately reflected. Prolonged engagement,

which has been achieved by staying in the research area for an extended period, was done. The principal investigator verified the points mentioned in the IDIs and KIIs throughout this time. In addition, he observed and confirmed various concerns, such as the public's impression of contraception, misconceptions about contraceptives, rumors about contraception, health professionals' attitudes regarding adolescent contraception use, and existing Sociocultural expectations and norms about contraceptive use of adolescents were observed. To ensure transferability, the entire research process, participants' different viewpoints and experiences, methods, interpretation of results, and contributions of research assistants were all thickly described. Participants who contribute to the findings, interpretations, and recommendations ensure dependability. The findings of this study have been audited and confirmed with the aid of advisors, colleagues, and different individuals familiar with qualitative research. The findings have been correspondingly verified with the aid key informants like Health workers, school counselors, students, and teachers. Furthermore, every procedure became documented, and audio data and made to be had to look auditor researchers for cross-checking.

Ethical Consideration

Ethical approval of this study was obtained from the Institutional Review Board (IRB) of Jimma University (Ref. No. IHRPG938/5/11/2020), and a permission letter was obtained from the Zonal health bureau, Dilla town administrator, and school directors. In addition, written informed consent and parental/guardians consent for participants were secured from all study participants. After informed consent was sought from the adolescents and their parents, the data was collected in a separate location to protect the participants' privacy.

Result

Participants' demographic profile

A total of 52 participants took part in this study. The majority of study participants' religion was Protestant, followed by Orthodox Christians. All invited participants successfully participated in this study. In-depth interviews were conducted with 24 students (grades 9 to 12). The students' ages were between 15 and 19 years (mean 17.1) **(Table 1).** In addition, 28 health professionals from different professional backgrounds participated in the in-depth interview (Ten CHWs, Four nurses, four public health officials, seven midwives, one health promoter commissioned by a Non-governmental organization (NGO) clinic, and Two Clinical psychologists). Almost half of the key informants' were trained in contraceptive services or Youth health (**Table 2**).

Table 1: Socio-demographic characteristics of in-depth interview respondents, Gedeo Zone, Southern Nations, Nationalities and Peoples' Region, Ethiopia (N= 24 students)

characteristics of respondents	Category	Frequency	Percent
Age	15	5	20.8
	16	3	12.6
	17	5	20.8
	18	6	25.0
	19	5	20.8
Sex	Female	18	75
	Male	6	25
Residence	Urban	10	41.7
	Rural	14	58.3

Marital status	Unmarried	19	79.2
	Married	5	20.8
Education level	9th grade	6	25.0
	10th grade	7	29.2
	11th grade	5	20.8
	12th grade	6	25.0
Religion	Protestant	13	54.2
	Orthodox	8	33.3
	Muslim	2	8.3
	Catholic	1	4.2

Table 2: Socio-demographic characteristics key informant interview respondents, Gedeo Zone, Southern Nations, Nationalities and Peoples' Region, Ethiopia (N= 28 health workers)

characteristics of respondents	Category	Frequency	Percent
Age	23-29	7	25.0
	30-40	16	57.1
	41-50	5	17.9
Sex	Female	19	67.9
	Male	9	32.1
Residence	Urban	10	35.7

	Rural	18	64.3
Marital status	Unmarried	16	57.1
	Married	12	42.9
Educational status	Certificate	1	3.5
	Diploma	12	42.9
	Degree and above	15	53.6
Religion	Protestant	14	50.0
	Orthodox	10	35.8
	Muslim	2	7.1
	Catholic	2	7.1
Profession	Community health workers	10	35.7
	Nurses	4	14.3
	Public health officers	4	14.3
	Midwives	7	25.0
	Health Promoter	1	3.6
	Psychologists	2	7.1

Themes and Category related to the study

In this study, four themes were identified: Individual-related barriers, Community-related barriers, Health Service barriers, and School and Service integration barriers (**Table 3**).

Major themes	Categories
Individual related barriers	lack of knowledge
	Fear
	Misconception
	Psychosocial development
Community-related barriers	Fear of rumors
	Family pressure
	Social and cultural norms
	Economical vulnerability
	Religious Beliefs
Health Service barriers	Lack of adolescent-responsive health services
	Health workers behavior
School and Service Integration barrier	Weak School and Service Integration

Table 3. Emergent themes and categories of barriers to contraceptive use in the school set up, in the study contexts, Gedeo Zone, Southern Nations, Nationalities and Peoples' Region, Ethiopia, November 2021.

Barriers to contraceptive use, namely Individual related barriers, Community-related barriers, Health Service barriers, and School and Service Integration barriers, encompass several specific aspects within each main theme details of the significant contraceptive barrier with sub-categories are described below.

Individual related barriers

According to the findings of this study, Individual related barriers were a specific background of the study population that can impact functioning contraceptive use either positively or negatively, such as lack of knowledge, fear, misconceptions, and psycho-social development.

Lack of Knowledge

In this study, one of the person-related barriers that influenced adolescents' contraceptive use was a lack of knowledge. Most key informants stated that students had limited knowledge of contraception due to a lack of opportunities to learn about reproductive health.

They also mentioned that some students, particularly those who live in rural areas, are unaware of the availability of contraceptive services.

We usually weigh adolescent knowledge during counseling, and most lack knowledge about contraceptives. - (KII, Health worker).

Usually, adolescents do not relate sexual practice to pregnancy. In addition, they do not plan to use contraceptives proactively before pregnancy because they lack knowledge of contraceptive methods. - (KII, Health worker).

Fear related to contraceptive use

Under the individual-related barrier, one category was fear of contraception use. Fear was noted by nearly all student and health worker respondents as a critical barrier to utilizing contraception. In addition, as they mentioned, students fear their family, friends, health workers, and contraceptive side effects.

Fear of being judged by family and friends: Students fear being judged by their parents and friends if they take contraceptives like the Implanon or oral tablets. According to the key informant participant, if they find out she uses contraception, they gossip about her and discriminate against her. They also mentioned that students are afraid of their parents, peers, and relationships because they may quarrel with their partners if they refuse to use contraceptives like condoms. They are obliged to accept risky traditional techniques like withdrawal.

When I use hormonal contraceptives like depo and Implanon, it causes menstrual irregularity and spotting. I am afraid my parents will find out and question why my menstruation has become irregular. -19 year- old Student (IDI)

If her friends know that she uses contraceptives, they label her a naughty girl, so they discriminate against her, and everyone thinks she has an eccentric character. -17 year- old Student (IDI)

Fear of Health Workers: Furthermore, mainly, key informant participants explained that students are afraid of health professionals when they go to the health care provider since most of them are unpleasant, judgmental, and may divulge information to their parents. They even deny having sex until a laboratory test confirms that they are pregnant because they fear health workers.

By the way, I have never seen an adolescent come straight to the health center and ask for contraceptives because they are afraid that even those that come to health facilities will have difficulties articulating and shaking to ask for contraceptive services. - (KII, Health worker).

In a situation where adolescents arrive at a healthcare facility and are confronted by staff they know or their family, the situation gets worse; they feel panic and usually flee without using the contraceptive they intend to take. -18 year- old *Student* (IDI).

Fear of side effects: Finally, both categories of study participants indicated that students are afraid of infertility if they use hormonal contraceptives. Furthermore, many are concerned that contraceptives would alter their body's appearance, making them too thin or too obese, and inducing menstruation irregularities.

I understand that contraceptives protect me from unplanned pregnancy for the time being, but I am concerned that when I marry, I will not be able to have children. -17 year- old Student (IDI).

Misconceptions

The study showed that a variety of misunderstandings concerning contraceptive use were investigated. According to both categories of participants, adolescents are not allowed to take contraception until they are married adults. In addition, a student who uses contraception is regarded as a deviant. Similarly, concepts such as considering only condoms and post-pill as appropriate contraceptives used before marriage; having sex with a wide interval period does not expose to pregnancy; connecting condoms only with the prevention of sexually transmitted diseases such as HIV/AIDS rather than as a contraceptive; pregnancy could not happen again to someone who had a history of terminating the pregnancy, and perceiving use of medical abortion and post-pill redundantly as a normal thing was investigated. Furthermore, taking hormonal contraception such as depo exposes them to infertility. Once a long-acting contraceptive has been used, they believe it is impossible to remove it whenever they wish to have a child.

I do not use birth control. As a student and single woman, I believe no one has ever authorized me to use contraception. -17 year- old *Student* (IDI).

I went two years without using contraception when I was not pregnant, but then I became pregnant without it. I believe that it would always protect me once I started using it. -19 year-old *Student* (IDI).

Psychosocial development

One category identified as an individual label barrier in the current study was psychosocial development and contraceptive use. According to key informants' responses, adolescents do not have regular sexual interaction and proceed to sex by mistake before planning to use contraception. Unwanted pregnancy is a good indicator that this population should begin using contraception.

Furthermore, students cannot form a stable relationships owing to their mental development and age and hence do not intend to use contraception before sexual intercourse.

Adolescents do not want to take contraceptive measures regularly but want to go to health institutions regularly for abortion or emergency contraception and return to the cycle again and again. Furthermore, the key informant interviewee stated that teens do not want to attend contraception training. The reason for this was that they considered it was only an adult or married person's concern. As a result, they gossiped and had fun during the school discussion on reproductive health or felt shame or humiliated at home because they feared their parents.

Students at this age are impulsive and want to try everything. They lose control when they have sex and become pregnant without realizing it. - (KII, Health worker).

Adolescents at this age are abused sexually and have no intention of using contraception since they are exposed to sexual activity hastily or unknowingly. - (KII, Health worker).

Theme: Community-related barriers

The second theme in the current study was community-related barriers; under this theme, the categories identified were unpleasant rumors, Pressure from family, social and cultural norms, economic vulnerability, and religious beliefs.

Fear of rumors

Both students and health professionals reported many rumors in the community that prohibited contraceptive use, such as if an adolescent went to a health center. They suspect she will get an

abortion or contraceptive, and there may be a rumor that Mr. x's daughter is using the contraceptive. Everyone thinks she is a deviant; on the other hand, if one woman experiences weight loss after using contraceptives, she persuades all women around her not to use that contraceptive. Furthermore, the health professionals stated that because the public mind is already preoccupied with rumors, if they experience any problems after using contraception, they instantly associate it with contraception and request its removal or discontinuation use.

In the community, there are many rumors about long-acting contraceptives. For example, if a woman inserts IUCD into her uterus, it bursts out and jumps to her brain, causing significant damage. On the other hand, if someone inserts Implanon, it disappears within the flash inside the body. - (KII, Health worker).

When my mother and our next-door neighbor discuss contraception, they almost always grumble about it. But, according to what I recall from their conversation, women who have contraception injected into their arms become sterile for the rest of their lives. -16 year- old *Student* (IDI).

Pressure from family

According to the current finding, the family pressure adolescents not to use contraceptives even if they intend to use them. Reflections from both categories of participants showed that adolescents are terrified of using Implanon and daily pills because their families will notice them. Moreover, they do not want to take Clint's cards home.

Both students and health professionals claimed that most adolescents use depo due to family pressure because it is not feasible for anyone. Except for a few cases, families are generally resistant. They do not suspect their children are exposed to sexual practices, so they do not discuss contraception or allow health professionals to teach them.

Furthermore, the health professionals explained that families believe that discussing contraception encourages their children to use contraception or implies that it allows them to practice sex indirectly. Students ascertained that the family has followed up to see if their menstruation has arrived or not, and if there is an irregularity, they have inquired as to why this is happening. As a result, they provide unnecessary negative reinforcement.

Because they (adolescents) are afraid of their families, most adolescents who receive contraception from our facility choose to leave their card with us rather than take them home. Sometimes, we call to remind them when their schedule is due. - (KII, Health worker).

Social and cultural norms

Another issue related to the community-level barrier to contraception use was social and cultural norms. According to most health personnel respondents, adolescents seeking contraception face social and cultural challenges. It is embarrassing for them to use contraception because they are young, single, and live with family.

The community believes that students who live with their families and use contraception are deviant or unique. -15 year- old Student (IDI)

Adolescents who use contraceptives before marriage is considered indecent and experiences multiple sexual practices therefore their chance of getting a husband in the future decreases because everybody perceives such adolescents as not pure. -19 year- old Student (IDI)

One student has excellent manners and is seen as a role model. However, she becomes pregnant unexpectedly and attempts suicide because she is too humiliated and ashamed to seek emergency contraception- (KII, Health worker).

Economical Vulnerability

As reflections from psychologists and health personnel participants indicated, some adolescents may not use contraception on purpose to become pregnant as a means of securing their relationship if their partner has a job with a good wage. Furthermore, adolescents whose parents are impoverished or deceased may engage in various activities to generate income to support themselves and other family members. This condition may expose them to sexual abuse and unintentional sex without planning to use contraception.

I know an orphan female student who sells coffee on the street who was sexually molested and became pregnant, so she came to the health post and asked me to give her a post-partum tablet. - (KII, Health worker).

Religious Beliefs

Religious beliefs, according to both kinds of study participants, are a barrier to contraceptive use since practically everyone in the study area values religious beliefs and advocates for abstinence before marriage and views contraception as a bad thing. Adolescents who desire contraception before marriage regarded as sinful and repulsive.

It is assumed that every adolescent should be a role model for others, and using contraception at such a young age is a sign of a bad girl and a sin in God's eyes.

Those adolescents who have married resist contraceptive use. They mentioned that if God gives them a child, why do they resist God's gift and use contraceptives to prevent pregnancy? (KII, Health worker).

Theme: Health Service -related barriers

Health Service related barriers are divided into two categories: Lack of adolescent-responsive health services and Health worker behavior.

Lack of adolescent-responsive health services

The health care providers ascertained that health centers lack a structured approach to serve students' sexual and reproductive health needs. Family planning is provided to all age groups within the maternity and child health department (MCH) without segmentation.

Moreover, adolescents have no clue where they can find contraceptives after they arrive at health facilities. There is also a lack of a fluid pass-on framework that allows adolescent reproductive health services through a referral from health posts, schools, and non-governmental organizations to focal Youth-friendly services (YFS) or health facilities.

Furthermore, according to the health personnel report, in most health centers, obtaining a card from the card room is required to get any health service, including family planning, which involves bureaucracy, such as standing in a lengthy line in the corridor.

In addition, the number of YFS available in the study area is minimal; it is not integrated with existing primary and referral care systems such as schools, health centers, and health posts; and it does not address the growing contraceptive demand of adolescents. A student does not mention even the few available YFS as YFS, which needs better communication. As a result, most adolescents need to learn where it is located and what kind of service it delivers.

There is no separate room for family planning in the health center and health post for adolescents, but it is given in the health department for mother and child; moreover, most health workers do not take special training for the care of adolescents. Moreover, in an urban setting, health posts and Kebele (public department) deliver service in the same building; these things cause serious discomfort to young people thinking about using contraception. - (KII, Health worker).

Youth-friendly service is not equally visible, and it is the most ignored area through program deliberation and allocation of resources; Even if adolescent and reproductive health is one package among health extension programs, it gets less attention than the mother and child health program. - (KII, Health worker).

Health Workers behavior

According to key informants' reports, critical masses of healthcare personnel are not well equipped to serve adolescents. The untrained professionals at YFS treat adolescents in an unfriendly manner, with judgmental and disapproving attitudes when they seek contraception. Consequently, adolescents want to leave the health center as soon as they take contraception or without it. Moreover, the healthcare workers believe that the student is unfit for family planning services, so they somehow confront the student to avoid receiving the service they demand in a health facility.

Counseling should be friendly; if we treat students like family, they will open up and tell us everything about themselves without fear; additionally, a positive approach and counseling will increase contraceptive use compliance. - (KII, Health worker).

We need more human resources because, despite working on 16 packages of health extension programs, we do not apply our efforts to adolescent reproductive health as boldly as we do to maternity, child, and immunization service. - (KII, Health worker).

Theme: School and Service Integration

The significant number of respondents (health workers) in the current study revealed that weak School and Service Integration was one major category identified in this study. Contraceptive usage services for adolescents are provided in a fragmented and non-standardized manner across organizations. Even if they serve the same group, they function separately.

Furthermore, community healthcare facilities need to provide the necessary leadership and information management system to assist students in forming synergistic actions with other sectors such as schools, sports and youth affairs, youth and women associations, media, and nongovernmental organizations. In addition, school-based continuous education, in which health experts are invited and participate, is yet to be implemented. Similarly, student reproductive health topic is not addressed in the school setup.

A shaky framework connects the Health Center with the school and other sectors to promote adolescent reproductive health. - (KII, Health worker).

Discussion

This study explored students' contraceptive usage barriers as a baseline for program planning and interventions in Gedeo Zone Secondary School, South Ethiopia. Accordingly, the study showed that students have multiple barriers to contraceptive use, namely Individual related barriers, Community-related barriers, Health Service barriers, and School and Service integration barriers**.** According to research from Ethiopia, Zimbabwe, and Tanzania, poor knowledge was perceived as a significant barrier to contraceptive use [23-25]. Furthermore, the lack of reproductive health education at school was the cause of students' lack of knowledge. This indicates that a health communication strategy should be developed, and school-based awareness-raising actions should be implemented.

Furthermore, student reproductive health interventions need to receive adequate attention in the school curriculum and other school club activities; linking students with health facilities and YFS can help students better understand contraceptive methods and significantly improve their knowledge.

According to the current study, fear is one of adolescents' most prominent obstacles to contraception use. This was supported by a study conducted in rural Ghana[26]. As a result, the intervention should include messages encouraging adolescents to have free discussions on SRH topics, including contraceptive use.

Moreover, adolescents' face tough challenges and destructive enhancements from their important others [parents, religious leaders, health care workers] in both contraceptive use and discussion. This finding is similar to a study conducted in Zimbabwe and Nigeria[11] [12].

Teachers may also avoid providing sexual and reproductive health content as they do not feel uncomfortable discussing and teaching the material. On top of this, adolescent boys often see contraceptive use as the girl's responsibility[26]. Thus, providing comprehensive sex education at school with trained personnel is needed; in addition, service integration with the school facilitates contraceptive utilization by the student. In the current study, psychosocial development was one barrier to using contraceptives. This finding is supported by a study conducted in Zimbabwe[27], as adolescents are immature, have reduced impulse control, and are less able to plan and use contraceptives than adults. Usually, this group is a neglected group. Even if they are exposed to sexual practices, which eventually lead to unintended pregnancy,

miscarriage, and many other problems, medical institutions do not consider them eligible to use contraceptives [28].

Furthermore, adolescents' contraceptive use, negotiation, and relationship skills are not fully developed[29]. The intervention in the form of a prototype audience and a group discussion by bringing up a specific scenario of a metaphor in the classroom makes the stated gap smoother. In this study, students believe that contraception is only available to adults who are married and that the only contraception available to adolescents is the post-pill and condom, similar to a study done in Zimbabwe[27].

As a result, adolescents who use contraceptives other than the above are seen as unique and deviant and associated the user with promiscuity and straying, similar to research conducted in Thailand and Kenya [30, 31]. Students prefer post-pill tablets since they are easy to ingest and readily available; however, a case study in India [32] shows that frequent emergency contraception has a significant negative health impact, including ectopic pregnancy. Similar to this, just as it is relatively easy to terminate a pregnancy after the initiation of medical abortion, this phenomenon has contributed as a barrier to contraceptive use. Thus, we must address these misconceptions through drama, poetry, and key message preparation and reading to students during morning flag hour or before or after drama portrayal and other sessions.

The current study discovered that numerous rumors are already embedded in the community's mind and may act as a barrier to contraceptive use, consistent with research conducted in Kenya, Ghana, and India [9, 30, 33]. However, it should be noted that only some methods are suitable for all adolescents. In addition, it implies that we should address each rumor through drama, poetry, role play, and individual or group counseling.

Furthermore, community norms, socio-cultural expectations, and contradictions prohibit contraceptive use among the study population. Since the community has a considerable value on preserving virginity until marriage, it is challenging to teach about contraception through community channels like community dialogue, similar to a study conducted in Nicaraguan and low-and middle-income countries [34, 35]. As a result, we must consider several alternatives to community-level intervention, such as school, which is relatively under lower influence from religious leaders, community members, and parental pressure.

Finally, this study highlights the lack of adolescent contraceptive capacity building across many sectors, including health care facilities, schools, sports, and youth affairs, youth and women associations, media, and non-governmental organizations as a study supported by research from Guinea, northern Ethiopia, Ghana, and Bangladesh [9, 36-38]. As a result, Multi-Sectorial integration and involvement can help to overcome the obstacle and increase the uptake of contraceptive use.

Limitation, The main limitation of the current study was that it did not consider adolescents outside of the school setting; moreover, focus group discussions were not applied due to the sensitive nature of the studied topic.

Implications, The current study shows that adolescents should have SRH services integrated with other sectors, such as schools and youth organizations, social welfare, and the media. Furthermore, enhancing capacity building and working with an organization that works on this target population is very necessary. It is crucial to list and identify the significant barrier to contraceptives by adolescents and devise a strategy to address these barriers through multiple methods and approaches as indicated above.

Conclusion

Adolescents' contraceptive use was affected by various barriers ranging from the individual level up to the multi-sectorial level. Students note various barriers to using contraception and that, without contraception, sexual activity can lead to an increased risk for unintended pregnancy and its associated health risks. Moreover, there is a need for SRH integration at the school level and work on the barrier that influences contraceptive use across all levels of influence.

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Barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia: Formative qualitative study

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Abstract

Objective: To assess barriers to contraceptive use among high school students in Gedeo Zone, South Ethiopia, in 2021.

Design: A grounded theory approach to the qualitative study was conducted between December 2020 and April 2021 in Gedeo Zone, South Ethiopia.

Setting: The study was conducted, in two urban and four rural schools, in Gedeo Zone; Gedeo Zone is one of the 14 Zones in the Southern Nations, Nationalities, and Peoples' Region of Ethiopia.

Participants: The study involved 24 in-depth interviews with students and 28 key informants. The interviews were conducted with students, school counselors, Kebele Youth association coordinators, Zonal child, Adolescent, and Youth officers, health workers, and Non-Governmental Organization workers.

Results: The study's findings were organized into four major themes that explore contraceptive use barriers; these include; Individual related barriers such as knowledge, fear, and psychosocial development. Community-related barriers encompass fear of rumors, family pressure, social and cultural norms, economic vulnerability, and religious beliefs. Third, health service-related barriers include the lack of adolescent-responsive health services, health workers' behavior, and fear of health workers. Finally, the school and service integration barrier was identified.

Conclusions: Adolescents' contraceptive use was affected by various barriers ranging from individual to multi-sectorial levels. Students note various barriers to using contraception and that, without contraception, sexual activity can lead to an increased risk for unintended pregnancy and its associated health risks.

Keywords: Contraceptive barrier; Adolescents; Students; School; Ethiopia

Strengths and limitations of the study

As a formative study, the study was conducted with the assumption of subsequent intervention to improve contraceptive use.

It exclusively considers adolescents who are still in school.

Background

Global developmental goals and strategies have recognized the importance of adolescents' health and rights [1-3]. One of the targets for Goal 3 of the United Nations Sustainable Development Goal (SDG) by 2030 is to ensure universal access to sexual and reproductive healthcare services, including modern contraceptive use, information and education, and the integration of reproductive health into national strategies and programs[4]. Currently, the largest-ever group of young people in history is becoming sexually active and therefore needs contraceptive utilization services [5]. On the other hand, adolescents' sexual and reproductive health (SRH) needs remain primarily unmet globally[6].

Access to SRH information determines the burden of adolescent pregnancies and unwanted pregnancies [7]. Worldwide, about 15% of unsafe abortions occur annually among girls under the age of 20 years. Early pregnancy and childbearing typically denote the end of formal education, expose the student to early marriage and restrict employment opportunities [8]. SRH issues, including unwanted pregnancies, remain a significant public health concern in sub-Saharan Africa [9].

Approximately 85 percent of sexually active adolescent girls who do not want to become pregnant do not use modern contraception [10]. Moreover, in most parts of the developing world, unmarried, sexually active adolescents who are not in a formal partnership require contraception, which is often unrecognized by their community; additionally, this population faces stigma and social condemnation if forced to use it [11] [12]. As a result, they are easily exposed to undesirable health and socioeconomic consequences such unsafe abortion, high fertility, obstructed labor, complications such as obstetric fistula, and hypertensive disorders of pregnancy [13].

The importance of education on reproductive health in schools has been recognized in the sustainable development goals agenda to ensure that the necessary knowledge and skills in this area are acquired by all learners [14]. Schools are an appropriate setting in which to contribute to the development of healthy sexuality [15]. Studies showed that about forty percent of girls reported difficulties discussing sexual issues with their mothers due to fear and shyness [13, 16].

This problem calls for the use of effective strategies that engage and empower adolescent girls in the school setting about contraceptive use as they spend a significant amount of their time in a school setting parallel to this government of Ethiopia committed to improving the health status of Ethiopian adolescent and students by increasing modern contraceptive prevalence rates (mCPR) among those aged 15 -19 years[17] [18].

Access for adolescents to sexual and reproductive health services and comprehensive sex education that is high quality, youth-friendly, and respects the right to confidentiality, privacy, and informed consent remains a challenge in many countries[5]. In such circumstances, designing programs in the school environment improves young people's decision-making and negotiation skills, self-esteem, and reproductive health [19]. However, there is still insufficient evidence in this regard. Thus this study examines barriers to contraceptive use among high school students for program planning and interventions in Gedeo Zone, South Ethiopia.

Method and Material

Study Setting and Period

The study was conducted in Gedeo Zone. Gedeo Zone is located in the Southern Nations, Nationalities, and Peoples' Region of Ethiopia, with a population of 1,651,000 and a total household of 336,804. This makes it the most densely populated Zone in the Southern Region of Ethiopia. Currently, the Zone hosts a large population density of over 1300 people per km². Dilla is the capital town of the Gedeo Zone, and it is located 362 km from Addis Ababa, the capital city of Ethiopia. Twenty-six senior secondary schools are in the Zone, with 24,445 students attending the schools during the study period [20]. The study was conducted from December 2, 2020–to February 29, 2021.

Study Design

In this study, data were obtained from various sources based on the ground theory approach involving key informant interviews with health workers and in-depth interviews with students. Grounded theory is a suitable methodology when the researcher is keen to know the basic psychosocial process which occurs over time and explains changes in a particular behavior[21]. The ground theory was chosen because it is suitable for guiding the development of essential data and themes inductively based on systematically obtained and analyzed data [21, 22].

Study Population

The study population was made up of carefully selected students (who could actively engage in the school) who attended the assigned schools during the study period. Students were recruited from a variety of grades and schools. Gender and residence (rural vs. urban) were also considered in the selection process. In addition, healthcare experts from various fields (Health extension workers (HEWs), nurses, Public health officers, and Midwives) and clinical psychologists were included. Overall, the participants and data sources were chosen in stages to achieve the purpose of saturating ideas about the contraceptive use barrier. The study applied a purposive sampling technique for data collection.

Data collection methods and procedures

Data was gathered through in-depth interviews with students and key informant interviews with health professionals and others who are active in the community and have unique knowledge of a topic. Before data collection, the selected schools and health facilities were contacted to obtain permission to conduct the study. The participants in the study were contacted on the day of the interview. All the interviews and conversations took place in schools and healthcare settings, and no one else was present in the room during the interview except the participants and data collectors. The interview guide aided the interviews. The interview guides questions differ for in-depth interview and key informant interview. The content of the Interview guide question for the in-depth interview explore contraceptive knowledge, perception, communication pattern, and barrier to contraceptive use; on the other hand content of the key informant interview guide question explore the service pattern to students' contraceptive use, availability of Youth friendly service (YFS) with trained staffing, link of YFS with school and other sectors like a child, Adolescent, and Youth officers and barrier to contraceptive use. The interview guide holds an average of six main questions and subsequent one or more probing questions for each main question that help to explore and dig out the topic under study. An elicitation study was used for interview guide question formulation and questions from previous similar literature with some modifications[23, 24]. All interviews (between 30 and 91 minutes) were recorded using a digital voice recorder, and notes were taken during each interview. The number of interviews was dictated by category/theme saturation, which occurred when the research team observed similar responses from multiple respondents. In the context of this study, a barrier refers to anything that is regarded as an obstacle that prohibits contraceptive utilization.

In-depth Interviews with Students

In-depth interviews were conducted with a total of 24 students from the six schools included in the study. Students were sampled to ensure diversity in age (ranging from 15 to 19 years), sex (11 females and three males), and various grade level, which included (Range from grade ninth to twelve) and from social and natural science streams. Investigators conducted the interviews in Amharic language and transcribed them verbatim. The interviews were conducted in a private setting to ensure the privacy and comfort of the respondent.

Key Informant Interviews-KII (In-depth Interviews with health staff)

To triangulate the findings of interviews from students, a total of 28 health workers, of which 19 were women and the rest 9 were men interviewed with purposively selected staff, at least three informants from each health facility. Consequently, Clinical Psychologists and diverse healthcare providers, including community health workers (CHWs), nurses, public health officers, and midwives, were included in the key informant interviews. Key informants were also purposively selected to ensure the diversity of experience. Moreover, about half of the key informants interviewed were trained and certified in contraceptive services or youth health. All were employed in the same catchment area as the study respondent.

Data analysis

The data from the interviews were transcribed verbatim and then translated into English for analysis. ATLAS.ti 7.1.4 aided in the coding and further analysis of the data. First, investigators read and reread the transcripts before assigning codes (open coding) and developing an initial coding structure. Then one coder performed iterative rounds of open coding on selected transcripts guided by the grounded theory approach to ensure that the coding structure was relevant and appropriate. In contrast, the second coder reviewed and verified the emergent codes. Finally, the study team analyzed the coded transcripts and generated codes to agree on the coding system and code definitions used to code all transcripts. The findings were organized into themes, categories, and subcategories based on important quotes. Finally, peer debriefing was held with the research team to find alternative explanations and to have formal or informal discussions with a peer to help interpret the data. For reporting qualitative findings, this study adheres to the Consolidated Criteria for Reporting Qualitative Research (COREQ) standard protocol[25].

Data Validation

Lincoln and Guba's criteria were used to maintain data validation [26]. In the beginning, the data collection tool (interview guide) was pre-tested on two KII and one IDIs Specifically, KII was conducted with health personnel trained on Youth friendly service, and IDIs was conducted with female secondary high school student. A studies assistant and the studies crew engaged in peer debriefing to establish trustworthiness. Following a dialogue with corporations of principal investigators, the tool was modified. To diversify the study participants, the adolescent interviewees and key informants were recruited based on socio-demographic characteristics (gender, age, education level, and occupation) to get a broader range of perspectives from various participants. A summary of significant themes was presented to study participants at the end of each data-collecting day, and a discussion was held to avoid confusing matters. To ensure member checking, the transcription and translation were given, as well as a synopsis of key themes and some perplexing concepts, so that they could check the interpretations and offer their comments, critiques, explanation, and confirmation. The study's final conclusion was shared with all participants to ensure that their ideas were appropriately reflected. Prolonged engagement, which has been achieved by staying in the research area for an extended period, was done. The principal investigator verified the points mentioned in the IDIs and KIIs throughout this time. In addition, we observed and confirmed various concerns, such as the public's impression of contraception, misconceptions about contraceptives, rumors about contraception, health professionals' attitudes regarding adolescent contraception use, and existing sociocultural expectations and norms about contraceptive use of adolescents were observed. To ensure transferability, the entire research process, participants' different viewpoints and experiences, methods, interpretation of results, and contributions of research assistants were all thickly described. Participants who contribute to the findings, interpretations, and recommendations ensure dependability. The findings of this study have been audited and confirmed with the aid of advisors, colleagues, and different individuals familiar with qualitative research. The findings have been correspondingly verified with the aid key informants like Health workers, school counselors, and students . Furthermore, every procedure became documented, and audio data and made to be had to look auditor researchers for cross-checking.

Ethical Consideration

Ethical approval of this study was obtained from the Institutional Review Board (IRB) of Jimma University (Ref. No. IHRPG938/5/11/2020), and a permission letter was obtained from the Zonal health bureau, Dilla town administrator, and school directors. In addition, written informed consent and parental/guardians consent for participants were secured from all study participants. After informed consent was sought from the adolescents and their parents, the data was collected in a separate location to protect the participants' privacy.

Result

Participants' demographic profile

This study involved 24 in-depth interviews with students (grades 9 to 12) and 28 key informants with health workers. The majority of study participants' religion was Protestant, followed by Orthodox Christians in both in-depth interviews and key informants respondents. The students' ages were between 15 and 19 years (mean 17.1). Health professionals from various backgrounds participated in the key informant interview (Ten CHWs, Four nurses, four Public health officers, seven midwives, one health promoter commissioned by a Non-governmental organization (NGO) clinic, and Two Clinical psychologists). Almost half of the key informants' were trained in contraceptive services or Youth health (**Table1, 2**).

Table 1: Socio-demographic characteristics of in-depth interview respondents, Gedeo Zone, Southern Nations, Nationalities and Peoples' Region, Ethiopia (N= 24 students)

characteristics of respondents	Category	Frequency	Percent
Age	15	5	20.8
	16	3	12.6
	17	5	20.8
	18	6	25.0
	19	5	20.8
Sex	Female	18	75

	Male	6	25
Residence	Urban	10	41.7
	Rural	14	58.3
Marital status	Unmarried	19	79.2
	Married	5	20.8
Education level	9th grade	6	25.0
	10th grade	7	29.2
	11th grade	5	20.8
	12th grade	6	25.0
Religion	Protestant	13	54.2
	Orthodox	8	33.3
	Muslim	2	8.3
	Catholic	1	4.2

Table 2: Socio-demographic characteristics key informant interview respondents, Gedeo Zone, Southern Nations, Nationalities and Peoples' Region, Ethiopia (N= 28 health workers)

characteristics of respondents	Category	Frequency	Percent
Age	23-29	7	25.0
	30-40	16	57.1
	41-50	5	17.9

Sex	Female	19	67.9
	Male	9	32.1
Residence	Urban	10	35.7
	Rural	18	64.3
Marital status	Unmarried	16	57.1
	Married	12	42.9
Educational status	Certificate	1	3.5
	Diploma	12	42.9
	Degree and above	15	53.6
Religion	Protestant	14	50.0
	Orthodox	10	35.8
	Muslim	2	7.1
	Catholic	2	7.1
Profession	Community health workers	10	35.7
	Nurses	4	14.3
	Public health officers	4	14.3
	Midwives	7	25.0
	Health Promoter	1	3.6
	Psychologists	2	7.1

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Themes and Category related to the study

In this study, four themes were identified: Individual-related barriers, Community-related barriers, Health Service barriers, and School and Service integration barriers (**Table 3**).

Major themes	Categories	Subcategories
Individual-related barriers	lack of knowledge	
	Fear	Fear of side effect
		Fear of being judged by family and friends.
	Psychosocial development	
Community-related barriers	Fear of rumors	
	Family pressure	
	Social and cultural norms	
	Economical vulnerability	
	Religious beliefs	
Health service barriers	Lack of adolescent-responsive health services	
	Health workers behavior	
	Fear of health workers	
School and service integration barrier	Weak school and service Integration	

Table 3. Emergent themes and categories of barriers to contraceptive use in the school set up, in the study contexts, Gedeo Zone, Southern Nations, Nationalities and Peoples' Region, Ethiopia, November 2021.

Barriers to contraceptive use, namely Individual related barriers, Community-related barriers, Health service barriers, and School and service Integration barriers, were identified. Furthermore, details of the significant contraceptive barrier with categories and subcategories are described below.

Individual related barriers

The first theme in the current study was Individual-related barriers; under this theme, the categories identified were lack of knowledge, fear, and psycho-social development.

Lack of Knowledge

In this study, one of the person-related barriers that influenced adolescents' contraceptive use was a lack of knowledge. Most key informants stated that students had limited knowledge of contraception due to a lack of opportunities to learn about reproductive health.

They also mentioned that some students, particularly those who live in rural areas, are unaware of the availability of contraceptive services.

We usually weigh adolescent knowledge during counseling, and most lack knowledge about contraceptives. - (KII, Health worker).

Usually, adolescents do not relate sexual practice to pregnancy. In addition, they do not plan to use contraceptives proactively before pregnancy because they lack knowledge of contraceptive methods. - (KII, Health worker).

Moreover, the current study showed that various misconceptions concerning contraceptives were widely explored in this study. For example, according to both categories of participants, a student who uses contraception is regarded as a deviant.

Similarly, concepts such as considering only condoms and post-pill as appropriate contraceptives used before marriage; having sex with a wide interval period does not expose to pregnancy; connecting condoms only with the prevention of sexually transmitted diseases such as HIV/AIDS rather than as a contraceptive; pregnancy could not happen again to someone who had a history of terminating the pregnancy, and perceiving use of medical abortion and post-pill redundantly as a normal thing was investigated. Furthermore, once a long-acting contraceptive has been used, they believe it is impossible to remove it whenever they wish to have a child.

I do not use birth control. As a student and single woman, I believe no one has ever authorized me to use contraception. -17 year- old Student (IDI).

I went two years without using contraception when I was not pregnant, but then I became pregnant without it. I believe that it would always protect me once I started using it. -19 year- old Student (IDI).

Fear

Fear was noted by nearly all student and health worker respondents as a critical barrier to utilizing contraception. Fear was one category under the individual-related barrier that further subcategories into two fear of side effects and fear of being judged by family and friends.

Fear of side effects: Both categories of study participants indicated that students are afraid of infertility if they use hormonal contraceptives. Furthermore, many are concerned that contraceptives would alter their body's appearance, making them too thin or too obese, and inducing menstruation irregularities.

I understand that contraceptives protect me from unplanned pregnancy for the time being, but I am concerned that when I marry, I will not be able to have children. -17 year- old Student (IDI).

Fear of being judged by family and friends: Students fear being judged by their parents and friends if they take contraceptives like Implanon or oral tablets. According to the key informant participant, if they find out she uses contraception, they gossip about her and discriminate against her. They also mentioned that students are afraid of their parents, peers, and relationships because they may quarrel with their partners if they refuse to use contraceptives like condoms. They are obliged to accept risky traditional techniques like withdrawal.

When I use hormonal contraceptives like depo and Implanon, it causes menstrual irregularity and spotting. I am afraid my parents will find out and question why my menstruation has become irregular. -19 year- old Student (IDI)

If her friends know that she uses contraceptives, they label her a naughty girl, so they discriminate against her, and everyone thinks she has an eccentric character. -17 year- old Student (IDI)

Psychosocial development

One category identified as an individual label barrier in the current study was psychosocial development and contraceptive use. According to key informants' responses, students do not have regular sexual interaction and proceed to sex by mistake before planning to use contraception. Unwanted pregnancy is a good indicator that this group should begin using contraception.

Furthermore, students cannot form stable relationships owing to their mental development and age and do not intend to use contraception before sexual intercourse.

Adolescents do not want to take contraceptive measures regularly but want to go to health institutions regularly for abortion or emergency contraception and return to the cycle again and again. Furthermore, the key informant interviewee stated that teens do not want to attend contraception discussions. The reason for this was that they considered it was only an adult or married person's concern. As a result, they gossiped and had fun during the school discussion on reproductive health or felt shame or humiliated at home because they feared their parents.

Students at this age are impulsive and want to try everything. They lose control when they have sex and become pregnant without realizing it. - (KII, Health worker).

Adolescents at this age are abused sexually and have no intention of using contraception since they are exposed to sexual activity hastily or unknowingly. - (KII, Health worker).

Theme: Community-related barriers

The second theme in the current study was community-related barriers; under this theme, the categories identified were Fear rumors, Pressure from family, Social and cultural norms, Economic vulnerability, and Religious beliefs.

Fear of rumors

Both students and health professionals reported many rumors in the community that prohibited contraceptive use. Respondents worried that if they went to a health center, the community would suspect that they were there for abortion or contraceptive services.

Furthermore, the health professionals stated that because the public mind is already preoccupied with rumors, if they experience any problems after using contraception, they instantly associate it with contraception and request its removal or discontinue use.

In the community, there are many rumors about long-acting contraceptives. For example, if a woman inserts IUCD into her uterus, it bursts out and jumps to her brain, causing significant

damage. On the other hand, if someone inserts Implanon, it disappears within the flash inside the body. - (KII, Health worker).

When my mother and our next-door neighbor discuss contraception, they almost always grumble about it. But, according to what I recall from their conversation, women who have contraception injected into their arms become sterile for the rest of their lives. -16 year- old *Student* (IDI).

Pressure from family

According to current findings, the family pressure adolescents not to use contraceptives even if they want to use them. It is embarrassing for adolescents to use contraception because they are young, single, and live with family. Reflections from both categories of participants showed that adolescents are terrified of using Implanon and daily pills because their families will notice them. Moreover, they do not want to take Clint's cards home.

Both students and health professionals claimed that most adolescents use depo due to family pressure because it is not visible to anyone. Except for a few cases, families are generally resistant. They do not suspect their children are exposed to sexual practices, so they do not discuss contraception with their children or allow health professionals to teach them.

Furthermore, the health professionals explained that families believe that discussing contraception encourages their children to use contraception or implies that it allows them to practice sex indirectly. Students ascertained that the family had followed up to see if their menstruation had arrived. If there is an irregularity, they have inquired why this is happening. As a result, they provide unnecessary negative reinforcement.

Because they (adolescents) are afraid of their families, most adolescents who receive contraception from our facility choose to leave their cards with us rather than take them home. Sometimes, we call to remind them when their schedule is due. - (KII, Health worker).

Social and cultural norms

Another categories related to the community-level barrier to contraception use was social and cultural norms. According to most health personnel respondents, adolescents seeking contraception face social and cultural challenges.

The community believes that students who live with their families and use contraception are deviant or unique. -15 year- old Student (IDI)

Adolescents who use contraceptives before marriage is considered indecent and experiences multiple sexual practices. Therefore their chance of getting a husband decreases because everybody perceives such adolescents as not pure. -19 year- old Student (IDI)

One student has excellent manners and is seen as a role model. However, she becomes pregnant unexpectedly, and she attempts suicide because she is too humiliated and ashamed to seek emergency contraception **-** *(KII, Health worker).*

Economical Vulnerability

Other categories under community-level barrier was economical vulnerability, As reflections from clinical psychologists and other health personnel participants indicated, some adolescents may not use contraception to become pregnant to secure their relationship if their partner has a job with a good wage. Furthermore, adolescents whose parents are impoverished or deceased may engage in various activities to generate income to support themselves and other family members. This condition may expose them to sexual abuse and unintentional sex without planning to use contraception.

I know an orphan female student who sells coffee on the street who was sexually molested and became pregnant, so she came to the health post and asked me to give her a post-partum tablet. **-** *(KII, Health worker).*

Religious Beliefs

Religious beliefs, according to both kinds of study participants, are a barrier to contraceptive use since practically everyone in the study area values religious beliefs and advocates for abstinence before marriage and views contraception as a bad thing. Moreover, adolescents who desire contraception before marriage are regarded as sinful and repulsive.

It is assumed that every adolescent should be a role model for others, and using contraception at such a young age is a sign of a bad girl and a sin in God's eyes.

Those adolescents who have married resist contraceptive use. They mentioned that if God gives them a child, why do they resist God's gift and use contraceptives to prevent pregnancy? (KII, Health worker).

Theme: Health Service -related barriers

Health Service related barriers are divided into three categories: Lack of adolescent-responsive health services, Health worker behavior, and fear of health workers.

Lack of adolescent-responsive health service

The health care providers ascertained that health centers lack a structured approach to serve students' sexual and reproductive health needs. Family planning is provided to all age groups within the maternity and child health department (MCH) without segmentation.

Moreover, adolescents do not know where to find contraceptives after they arrive at health facilities. There is also a lack of a clear and fluid system that allows adolescent reproductive health services through referrals from health posts, schools, and non-governmental organizations to focal Youth-friendly services (YFS) or health facilities.

Furthermore, according to the health personnel report, in most health centers, obtaining a card from the card room is required to get any health service, including family planning, which involves bureaucracy, such as standing in a lengthy line in the corridor.

In addition, the number of YFS available in the study area is minimal; it is not integrated with existing primary and referral care systems such as schools, health centers, and health posts; and it does not address the growing contraceptive demand of adolescents. A student does not mention even the few available YFS as YFS, which needs better communication. As a result, most adolescents need to learn where it is located and what kind of service it delivers.

There is no separate room for family planning in the health center and health post for adolescents, but it is given in the health department for mother and child; most health workers do not take special training for the care of adolescents. Moreover, in an urban setting, health posts and Kebele (public department) deliver service in the same building; these things cause serious discomfort to young people thinking about using contraception. - (KII, Health worker).

Youth-friendly service is not equally visible, and it is the most ignored area through program deliberation and allocation of resources; Even if adolescent and reproductive health is one package among health extension programs, it gets less attention than the mother and child health program. - (KII, Health worker).

Health Workers behavior

According to key informants' reports, critical masses of healthcare personnel are not well equipped to serve adolescents. In addition, the healthcare workers believe that the student is not eligible for contraceptive services, so they somehow confront the student to avoid receiving the service they demand in a health facility.

Counseling should be friendly; if we treat students like family, they will open up and tell us everything about themselves without fear; additionally, a positive approach and counseling will increase contraceptive use compliance. - (KII, Health worker).

We need more human resources because, despite working on 16 packages of health extension programs, we do not apply our efforts to adolescent reproductive health as boldly as we do to maternity, child, and immunization service. - (KII, Health worker).

Fear of Health Workers

Both students and health professionals' reported that students fear health professionals since most are unpleasant and judgmental and may divulge information to their parents. Consequently, adolescents want to leave the health center as soon as they take contraception or without it. They even deny having sex until a laboratory test confirms that they are pregnant because they fear health workers.

By the way, I have never seen an adolescent come straight to the health center and ask for contraceptives because they are afraid that even those that come to health facilities will have difficulties articulating and shaking to ask for contraceptive services. - (KII, Health worker).

In a situation where adolescents arrive at a healthcare facility and are confronted by staff they know or their family, the situation gets worse; they feel panic and usually flee without using the contraceptive they intend to take. -18 year- old *Student* (IDI).

Theme: School and Service Integration

Finally, the significant number of respondents (health workers) in the current study revealed that weak School and Service Integration was one major category identified under School and Service Integration barrier**.** Contraceptive usage services for adolescents are provided in a fragmented and non-standardized manner across organizations. Even if they serve the same group, they function separately.

Furthermore, community healthcare facilities need to provide the necessary leadership and information management system to assist students in forming synergistic actions with other sectors such as schools, sports and youth affairs, youth and women associations, media, and nongovernmental organizations. In addition, school-based continuous education, in which health experts are invited and participate, is yet to be implemented. Similarly, student reproductive health topic is not addressed in the school setup.

A shaky framework connects the Health Center with the school and other sectors to promote adolescent reproductive health. - (KII, Health worker).

Discussion

This study explored students' contraceptive usage barriers as a baseline for program planning and interventions in Gedeo Zone Secondary School, South Ethiopia. Accordingly, the study showed that students have multiple barriers to contraceptive use, namely Individual related barriers, Community-related barriers, Health Service barriers, and School and Service integration barriers**.** According to research from Ethiopia, Zimbabwe, and Tanzania, poor knowledge was perceived as a significant barrier to contraceptive use [24, 27, 28]. Furthermore, the lack of reproductive health education at school was the cause of students' lack of knowledge. This indicates that a health communication strategy should be developed, and school-based awareness-raising actions should be implemented.

Furthermore, student reproductive health interventions need to receive adequate attention in the school curriculum and other school club activities; linking students with health facilities and YFS can help students better understand contraceptive methods; significantly improve their knowledge and misconception.

According to the current study, fear is one of the adolescents' most prominent obstacles to contraception use. This was supported by a study conducted in rural Ghana[29]. As a result, the intervention should include messages encouraging adolescents to have free discussions on SRH topics, including contraceptive use. Adolescents face difficulty discussing modern contraceptives with their parents. This finding is similar to a study conducted in Zimbabwe and Nigeria[11] [12].

Teachers may also avoid providing sexual and reproductive health content as they do not feel uncomfortable discussing and teaching the material. Thus, enhancing the capacity of teachers,

and parents is very important. On top of this, adolescent boys often see contraceptive use as the girl's responsibility[29]. Thus, providing comprehensive sex education at school with trained personnel is needed; in addition, service integration with the school facilitates contraceptive utilization by the student. In the current study, psychosocial development was one barrier to using contraceptives. This finding is supported by a study conducted in Zimbabwe[30], as adolescents are immature, have reduced impulse control, and are less able to plan and use contraceptives than adults. Usually, this group is a neglected group. Even if they are exposed to sexual practices, which eventually lead to unintended pregnancy, miscarriage, and many other problems, medical institutions do not consider them eligible to use contraceptives [31]. Furthermore, adolescents' contraceptive use, negotiation, and relationship skills are not fully developed[32]. The intervention in the form of a prototype audience and a group discussion by bringing up a specific scenario of a metaphor in the classroom makes the stated gap smoother.

In this study, students believe that contraception is only available to adults who are married and that the only contraception available to adolescents is the post-pill and condom, similar to a study done in Zimbabwe[30]. As a result, adolescents who use contraceptives other than the above are seen as unique and deviant and associated the user with promiscuity and straying, similar to research conducted in Thailand and Kenya [33, 34]. Students prefer post-pill tablets since they are easy to ingest and readily available; however, a case study in India [35] shows that frequent emergency contraception has a significant negative health impact, including ectopic pregnancy. Similar to this, just as it is relatively easy to terminate a pregnancy after the initiation of medical abortion, this phenomenon has contributed as a barrier to contraceptive use. Thus, we must address these misconceptions through drama, poetry, and key message preparation and reading to students during morning flag hour or before or after drama portrayal and other sessions.

The current study discovered that numerous rumors are already embedded in the community's mind and may act as a barrier to contraceptive use, consistent with research conducted in Kenya, Ghana, and India [9, 33, 36]. However, it should be noted that only some methods are suitable for all adolescents. In addition, it implies that we should address each rumor through drama, poetry, role play, and individual or group counseling.

Furthermore, community norms, socio-cultural expectations, and contradictions prohibit contraceptive use among the study population. Since the community has a considerable value on

preserving virginity until marriage, it is challenging to teach about contraception through community channels like community dialogue, similar to a study conducted in Nicaraguan and low-and middle-income countries [37, 38]. As a result, we must consider several alternatives to community-level intervention, such as school, which is relatively under lower influence from religious leaders, community members, and parental pressure.

Finally, this study highlights the lack of adolescent contraceptive capacity building across many sectors, including health care facilities, schools, sports, and youth affairs, youth and women associations, media, and non-governmental organizations as a study supported by research from Guinea, northern Ethiopia, Ghana, and Bangladesh [9, 39-41]. As a result, Multi-Sectorial integration and involvement can help to overcome the obstacle and increase the uptake of contraceptive use.

Limitation, The limitation of the current study was that it did not consider adolescents outside of the school setting, and focus group discussions were not applied due to the sensitive nature of the studied topic. In addition, only a small sample of boys was included in this study since they showed less interest in the interview and were interrupted.

Implications, The current study shows that adolescents should have SRH services integrated with other sectors, such as schools and youth organizations, social welfare, and the media. Furthermore, enhancing the capacity building of health workers, teachers, and parents and working with an organization that works on this target population is very necessary. Finally, it is crucial to list and identify the significant barrier to contraceptives by adolescents and devise a strategy to address these barriers through multiple methods and approaches as indicated above.

Conclusion

Adolescents' contraceptive use was affected by various barriers ranging from the individual level up to the multi-sectorial level. Students note various barriers to using contraception and that, without contraception, sexual activity can lead to an increased risk for unintended pregnancy and its associated health risks. Moreover, there is a need for SRH integration at the school level and work on the barrier that influences contraceptive use across all levels of influence.

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