



College of Health Science

Department of Public Health

**Knowledge of Fertile Window and Associated Factors Among
Female Students of Secondary School Wera Jarso District, North
Shewa Zone, Oromia, Ethiopia**

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Master's Degree in Reproductive Health**

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Fitche, Ethiopia

**Knowledge of Fertile Window and Associated Factors Among Female
Students of Secondary School Wera Jarso District, North Shewa
Zone, Oromia, Ethiopia**

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Abbreviations and Acronyms

AOD	Adjusted Odds Ratio
CI	Confidence Interval
CDC	Centers for Disease Control and Prevention
EDHS	Ethiopian Demographic and Health Survey
DHS	Demographic and Health Surveys
FGD	Focus group discussion
FMOH	Federal Ministry of Health
PI	Principal investigator
SSA	Sub-Saharan Africa
SPSS	Statistical Package for Social Science
WHO	World Health Organization

Abstract

Background: - Knowledge of the fertility period is one of the techniques used to delay pregnancy. Although it is a highly effective method, most female students who lack correct knowledge about it end up with unintended pregnancies and undergo unsafe abortions, which is a leading factor for maternal death and school dropout. Most studies focus on adult women or general populations, neglecting the unique perspectives and needs of younger females. This gap highlights the necessity for research that specifically targets adolescents, who may experience different challenges and barriers.

Objective: To assess knowledge of fertile windows and associated factors among female students of Secondary Schools in Wera Jarso District, North Shewa Zone, Oromia, Ethiopia, 2024.

Method: An institution-based cross-sectional study was conducted from March 01 to April 01, 2024, among 417 randomly selected female secondary school students in Wera Jarso District. The self-administered questionnaire for the quantitative component of the study was supplemented qualitatively in a focus group discussion. The multivariable logistic regression model included variables with a P value < 0.25 in the bivariate analysis. The degree of association was expressed using adjusted odds ratios (AORs) with a 95% confidence interval (CI) at a P value < 0.05 .

Results: Out of 422 study participants, 417 participated in this study, with a response rate of 98.6%. The magnitude of fertile window knowledge was 24.9% (95% CI: 20.9, 29.0). Having 17-19 years of age (AOR = 2.1, 95% CI = 6.1, 17.1), having ever had sex [AOR = 3.0, 95% CI (1.4, 4.7)], having a chance of pregnancy [AOR = 3.2, 95% CI (1.2, 8.8)], and having positive attitudes towards knowledge of fertility periods [AOR = 5.0, 95% CI (2.6, 9.4)] were significantly associated with knowledge of the fertility window.

Conclusion: The magnitude of knowledge about fertility windows is low among female secondary school students. Being in the age group between 17 and 19 years, ever having sex, facing pregnancy, ever using contraceptives, and having positive attitudes toward knowledge of the fertile window were found to be predictors of fertile period knowledge. The implementation of comprehensive sexual and reproductive health programs with a focus on fertility awareness is recommended for female secondary school students. **Keywords:** Knowledge, Fertile Period, Ffertile windows, Students, associated factors, Wera Jarso, Ethiopia

1. Introduction

1.1. Background

The fertility period, also known as the fertile window, refers to the timeframe during which a woman's menstrual cycle is most likely to conceive a pregnancy if she engages in sexual intercourse (1). Knowledge regarding the fertile period is a natural family planning method in which scientific techniques are applied to postpone pregnancy (2). Treatment is used mainly by those who do not want to use mechanical, hormonal, or surgical means of contraception. These methods include basal body temperature, cervical mucus (or Billings), and symptom thermal methods. These three methods help determine the fertility duration successfully. For periodic abstinence, women need to correctly identify the fertile period of their menstrual cycle (3). However, most women often lack good knowledge as to when, during their menstrual cycle, they are most likely to become pregnant (4).

Fertility knowledge is important in determining a woman's ability to perform fertility self-care, which can directly impact both her sexual and reproductive behaviors and health outcomes (5). Maternal mortality is still high in Ethiopia, amounting to 412 per 100,000 live births (6). One of the most important factors influencing maternal mortality is unsafe abortion. Accordingly, women who do not have proper knowledge of the fertility period have gone to unsafe abortion (7). Approximately half of all maternal deaths that occur in Africa result from unsafe abortion, which occurs mostly due to unintended pregnancy (8).

Knowledge of the fertility period is one strategy for mitigating unintended pregnancies. A study conducted by the World Health Organization (WHO) showed that two-thirds of women who wished to delay or limit childbearing stopped using modern contraception for fear of side effects and health concerns and for underestimation of the likelihood of conception (9). A woman who knows her ovulatory period correctly was safe from undesired and unplanned pregnancies. Similarly, nonusers of contraception who are not familiar about their fertility period are at greater risk for unintended pregnancy (10). Moreover, couples who were actually practicing a fertile period did not rely upon the notion of a fertile period, and most of them were not aware of their fertility period. Because of their limited knowledge, they go to reproductive healthcare services to seek help from healthcare providers (11). Furthermore, knowledge of the fertile period has been

one of the most important factors contributing to the reduction in high fertility, which has negative influences on economic and social development (12). Providing adequate information on fertility and related physiology would help women understand the risk of pregnancy, plan their pregnancies appropriately, and recognize their pregnancies early (13).

.1.2 Statement of the problem

An estimated one-third of the global burden of disease and early death among women of reproductive age is attributed to their poor sexual and reproductive health (8). A study conducted in the United States showed that ~40% of women did not know of the ovulatory period (14). A similar study conducted in the United States showed that 51% of women were not able to reach fertility (13). Another study carried out in the USA among black women showed that nearly 91% of respondents had not correctly identified the duration of the fertile period (15).

A study conducted in Australia revealed that approximately 40% of participants were unsure about when menstrual cycle design was most likely to occur (10). Similarly, a study of young people in Turkey showed that knowledge about the fertility period was low, while only 40% of young people were well-informed (16). Moreover, the results of a study conducted in Pakistan on a certain adult population revealed that only 46% of them knew about the fertile period of the female cycle (17). In sub-Saharan Africa (SSA), many women face sexual and reproductive health challenges that affect their physical, social and psychological wellbeing (1). Approximately 16 million adolescents (15 to 19 years) and nearly one million girls less than 15 years of age give birth every year worldwide (18). Although not all pregnancy is unintentional and unwanted, adolescent pregnancy remains a social and public health concern (19). The current gap in unintended pregnancy among countries in Africa is 10–54% (20) greater than that in the previous 20–40% (1).

The frequency of teenage pregnancy is highest in African countries, and “teenage marriages are a larger factor than unwanted conceptions are in many of the countries with the most teen pregnancies (11). According to the Centers for Disease Control and Prevention (CDC), “unintended or unwanted pregnancy is a core concept for understanding the fertility of populations” (21). However, many reproductive health studies on adolescents and youth tend to overlook the importance of understanding the window of fertility or the ovulatory phase in patients with an unintentional pregnancy and tend to focus on the use of contraception (22). Despite the numerous advantages of knowing about the fertile period, a study showed that some young females were challenged because they strain their interactions due to difficulties with abstinence, decreases in frequency and spontaneity, and unbalanced sexual drive between partners. Additionally, some of the youths’ relationships worsened as a result of anger, frustration, and misunderstandings resulting from their partners’ unmet sexual needs (23). A study of youth females in 29 countries in

sub-Saharan Africa using demographic and health surveys (DHSs) revealed that only 8.3% of the participants had knowledge of ovulation, which is generally low (24). A study performed on Ghanaian female adolescents' knowledge about the fertile period showed that approximately 14.2% of them correctly identified only the specific fertile period within the female menstrual cycle (25). Similarly, a study conducted in Kenya found that fewer than 8% of its respondents correctly identified their fertile years (26).

Several studies have explored community- and individual-level factors associated with correct knowledge about the fertility period among women. These factors include women's age, place of residence, religion, education, partner's education, partner's occupational status, wealth index, marital status, contraceptive use, and pregnancy (3,9,13,27–29). Furthermore, existing studies revealed that exposure to mass media family planning messages and being visited by fieldworkers are positively associated with women's adequate knowledge of the fertile period (5,28,29). Findings from different studies indicate that several sociodemographic factors could affect women's knowledge about their fertility period. Among these factors, sex, residence, economic status, and educational status were the most common. However, a study performed in Turkey on university students' knowledge about the fertile period showed that approximately half of female students and one-third of males were knowledgeable about and correctly identified as fertile (11).

DHS conducted in 29 African countries among reproductive women showed that knowledge about the fertile period was low among young women, rural residents, women with poor economic status, and women with low levels of education (1,20). A study performed on Ghanaian males indicated that knowledge about the female fertility period was significantly associated with the age of the respondents, their level of education and their region of residence (7). Although there are numerous studies on the various natural methods of contraception, there are no studies that address the knowledge about the fertile period. Planning conceptions by knowing of the fertile period contributes to a country such as Ethiopia, which has the lowest level (1%) of natural family planning utilizers (21). In Ethiopia, most studies about the knowledge of the fertile period were not conducted among high school students and have been conducted on reproductive-age women (3,9,30). Therefore, to fill these gaps, this study aimed to assess the knowledge of the fertile period and its determinants among female students in the Wara Jarso District North Shewa Zone, Oromia, Ethiopia.

1.3 Significance of the study

Reproductive health problems such as abortion, risky sexual practices, unwanted pregnancy, sexually transmitted infection/sexually transmitted disease (STI/STD) and sexual violence are common among institutional populations/students, and similar studies have not been conducted previously to determine the magnitude of these problems. Therefore, this study provides an image of students' awareness of their fertility during their menstruation period within the study area, which may help the concerned bodies take action based on the findings. In addition, this study may provide baseline information for further studies that may be conducted on similar issues.

2. Literature review

2.1. The magnitude of knowledge about the fertile period

There is a lack of correct knowledge of the fertile window period of the menstrual cycle among women, particularly adolescent female students, whose percentage of knowledge varies from 8% to 91% (19). The puberty stage is a challenging stage and critical time at which girls need information since this stage involves the transition from childhood to adulthood, and physical and physiologic changes are common natural changes intended to serve a comfortable environment for menstruation and related SRH services (18).

According to a study conducted in India in 2017, approximately 3.4% of women knew the correct duration of fertility during their menstrual cycle (31). Another study from India in 2017 revealed that 39.2% of girls had knowledge of the unsafe period of the menstrual cycle (32). Another study conducted in Australia on the knowledge, attitudes and practices of women attending general practice indicated that 37.1% actively tried and had knowledge of fertility awareness (10). Similarly, knowledge of the unsafe period was found to be 2.1% in a study performed in Australia (33).

According to a study performed in Nepal in 2022, the awareness of women about their menstrual cycle was 67.2% (34). In a Jordanian study, the results indicated that 82.4% of respondents lacked knowledge of the menstrual cycle (35). A comparative study conducted in Saudi Arabia reported that 53.4% of girls in government schools and 67.9% of those in private schools had knowledge of the menstrual cycle, where mothers were reported to be the most common source of information (36). Similarly, a study conducted in Riyadh in secondary schools about menstruation indicated a lack of knowledge among participants (37). In addition, approximately 45% of Saudi nursing students were found to be knowledgeable about menstruation in a study conducted in 2017 (36). In Baghdad city, good awareness of menstruation was recorded for 45.5% of respondents (38).

Similarly, a study conducted on fertility awareness clearly revealed that the fertile period is a woman's ability to identify the fertile period of the menstrual cycle (33). Another study conducted in Nigeria indicated that 62% of students had knowledge of menstruation, whereas the remaining 38% had no knowledge of menstruation (39). Another study, 2017, showed that the knowledge

level of students regarding puberty changes and related issues indicated significant improvements in their first menses, but approximately 49.5% of the students were not aware of ovulation (40).

2.2. Factors associated with knowledge about the fertility period

2.2.1. Sociodemographic factors

According to a study conducted in India in 2017, a greater proportion of women aged 25 years or older, those educated at the secondary level or above, and ever users of any modern family planning methods had correct knowledge of fertility windows than their counterparts (33). Another similar study conducted in Australia showed that being older than 36 years was associated with a high level of awareness of the fertile period of menstruation (10). Moreover, mothers' educational level and socioeconomic background are other determinants of menstruation (4).

According to a study performed in Saudi Arabia among nursing students, there was a relationship between academic year and knowledge of menstruation, and students with more years of education were more likely to be in the fertile period of their menstrual cycle (36). The knowledge level of young girls in rural areas was poorer than that of young girls in urban areas due to minimal guidance on how to protect them physically, socially and psychologically as well as how to calculate safe and unsafe periods to protect themselves from unwanted and unplanned pregnancy (38). Abortion related to the inaccessibility of school-based SRH services varies from region to region, with 18.4% in Canada and 24.1% and 21.7% in the United States. However, almost half (49.5%) of the total area was in the study area (14,15,23).

Another study revealed that the prevalence of adolescent girl pregnancies and their associated factors and consequences were lower in developed nations but higher in sub-Saharan Africa, which led them to drop out of school (24).

A study conducted in Wolaita Sodo town on premarital sexual practices among school-aged adolescents indicated that the prevalence of premarital sex among the study participants was 31.3%, which is higher than that in 2000 national results due to a lack of awareness and less knowledge of premarital sex at the school level.(41) Another study in 2018 revealed that limited SRH knowledge, lack of open discussion of sexual matters, low status of women, cultural and logistical barriers, competing priorities among community health professionals, limited resources

for health facilities, and negative attitudes of providers towards unmarried youth were mentioned as factors affecting the utilization of sexual and reproductive services by young people (30).

2.3. Conceptual Framework

The conceptual framework of this study was adapted after reviewing different studies. A variable found in different studies associated with knowledge about the fertile period will also be considered in this study in relation to its effect on fertility. The framework was used as a guide in developing the measurement tool for the study (3,9,13) (**Figure 1**).

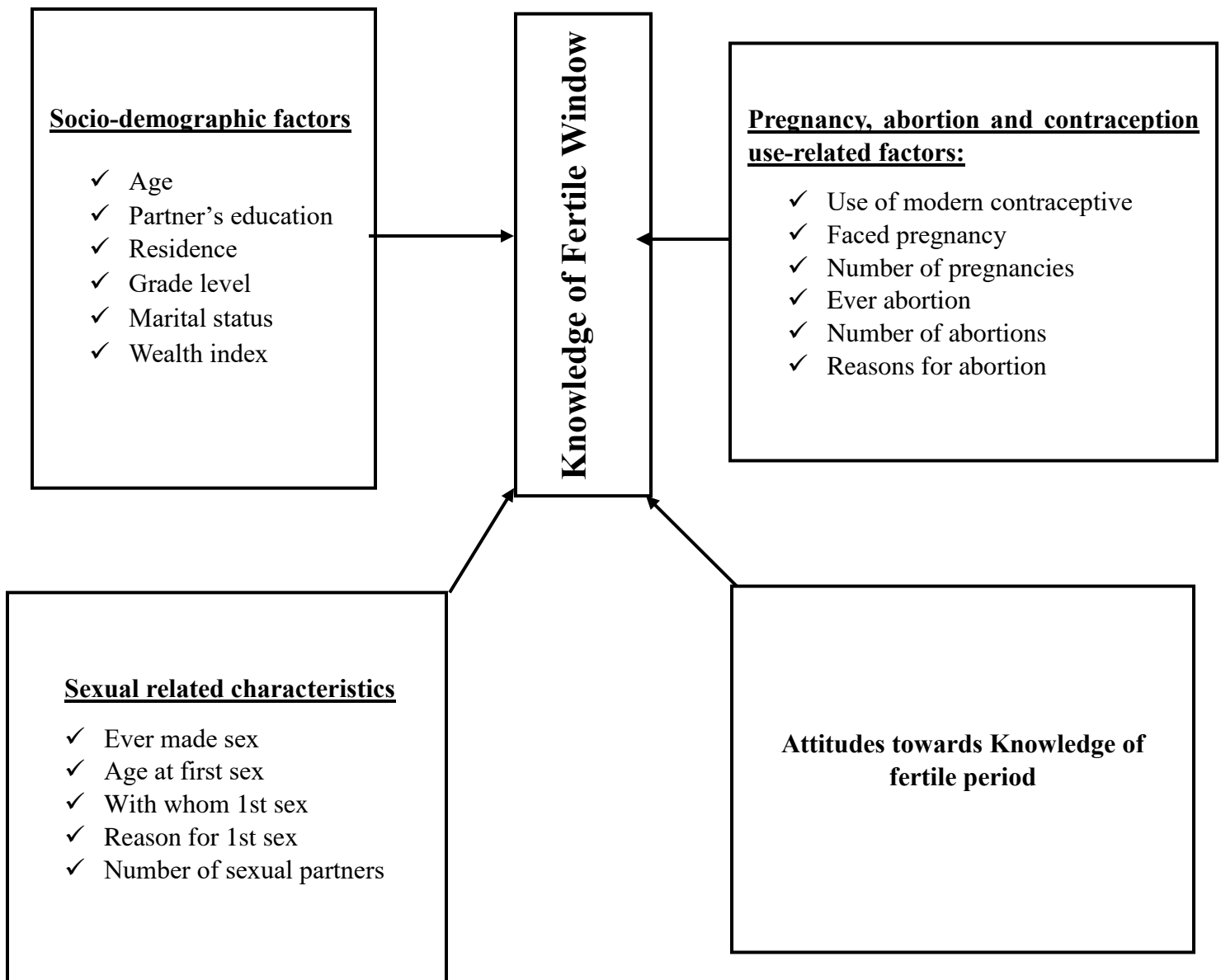


Figure 1: Conceptual framework indicating factors related to knowledge of fertile period among female high school student in Wera Jarso District, North Shewa Zone, Oromia Regional State, Central Ethiopia, 2024.

3. Objectives of the study

3.1 General objective

- ❖ To assess the knowledge of fertility window and its associated factors among female secondary school students in Wera Jarso District, North Shewa Zone, Oromia, Ethiopia, 2024

3.2 Specific objectives

- ✓ To determine the magnitude of knowledge of fertility window among female secondary school students in Wera Jarso District.
- ✓ To identify factors associated with knowledge about the fertility window among female students in secondary schools in Wera Jarso District.

4. Methods and Materials

4.1 Study Area and Period

This study was conducted in the North Shewa zone, Oromia regional state, central Ethiopia, from March 01 to April 01, 2024 among female secondary school students in Wera Jarso District (Gohatsion secondary school, Folklike secondary school and Tulu Milki secondary school) in the North Shewa zone, Oromia regional state. Wera Jarso District is located in the North Shewa zone and has six secondary schools. The district is located in the northern part of Ethiopia, 52 km from the capital city of zone Fiche and 186 km from the capital city of the country Addis Ababa. According to the Wera Jarso District Education Office estimate, in 2024, the total number of students in the district will be 3828, with 1936 females.

4.2 Study Design

An institution-based cross-sectional study design was employed.

4.3 Source population

Quantitative: All female students of secondary schools in Wera Jarso District, North Shewa Zone, Oromia Regional State.

Qualitative: All purposely selected secondary school students in Wera Jarso District were involved in the study. The selection criteria for the focus group discussion (FGD) principal investigator (PI) will include factors such as age, grade level, prior knowledge or awareness of the fertile period, and willingness to participate to form a homogenous group.

4.3.2. Study Population

All randomly selected secondary school students in Wera Jarso District were involved in the study.

4.3.3. Study Unit

Individual student

4.4. Inclusion and Exclusion Criteria

4.4.1 Inclusion criteria: All female students registered in secondary schools within Warra Jarso District who were present during the time of data collection

4.4.2. Exclusion criteria

All female students who are seriously ill and who are not able to provide information.

4.5. Sample size determination

4.5.1. Sample size determination for the quantitative study

The sample size was calculated by using the formula for estimating the proportion of a single population in the Epi Info STAT CALC cohort. Version 7.2, with the assumptions of a 95% confidence interval (CL), a margin of error (d) of 0.05, and a prevalence of knowledge of the fertile period among female students of 0.50 since no prior study has been conducted in the country. Considering a 10% nonresponse rate, the final sample size was 422.

Sample size determination for the 2nd objective: For the second objective, different kinds of literature were reviewed to select the variables, and then the sample size was calculated for those selected variables. The maximum sample size was selected for the final required sample size by using a double population proportion formula for analytic cross-sectional analysis in Epi Info version 7.2.4 (**Table 1**).

Table 1:- Factors reviewed for the maximum sample size for studies conducted on knowledge about the fertile period and its associated factors among female secondary school students in Wera Jarso District, North Shewa Zone, Oromia, Ethiopia, 2024.

Variables	CL	Power	P1	P2	OR	Ratio	Initial sample size	NRR	Sample size	References
	95%	80%				1:1		10%		
Number of sexual partners	95	80	47.8	73.3	3	1:1	130	10	143	(40)
Partner's education	95	80	55	78.6	3	1;1	140	10	154	(12)
Heard of FP	95	80	45	62.1	2	1:1	290	10	319	(2)

Key:

NRR----- nonresponse rate

P1----- Proportion of outcomes among the population with the exposure of interest

P2----- Proportion of outcome among population without the exposure of interest

4.5.2. For the qualitative study

For the qualitative part, a total of 24 students were involved in three FGDs. FGDs were conducted in three secondary schools in the Wera Jarso district. There were 8 members in each group. The sample size was determined by idea saturation.

4.6. Sampling procedures

4.6.1. Sampling procedures for the quantitative study

In Wera Jarso District, there are six secondary schools, all of which are governmental. Three schools were selected randomly. The sample size was distributed using proportional allocation to the size of each selected high school. Finally, a simple random sampling technique was used to select actual participants by using their alphabetical registration/roster as the sampling frame. (Figure 2)

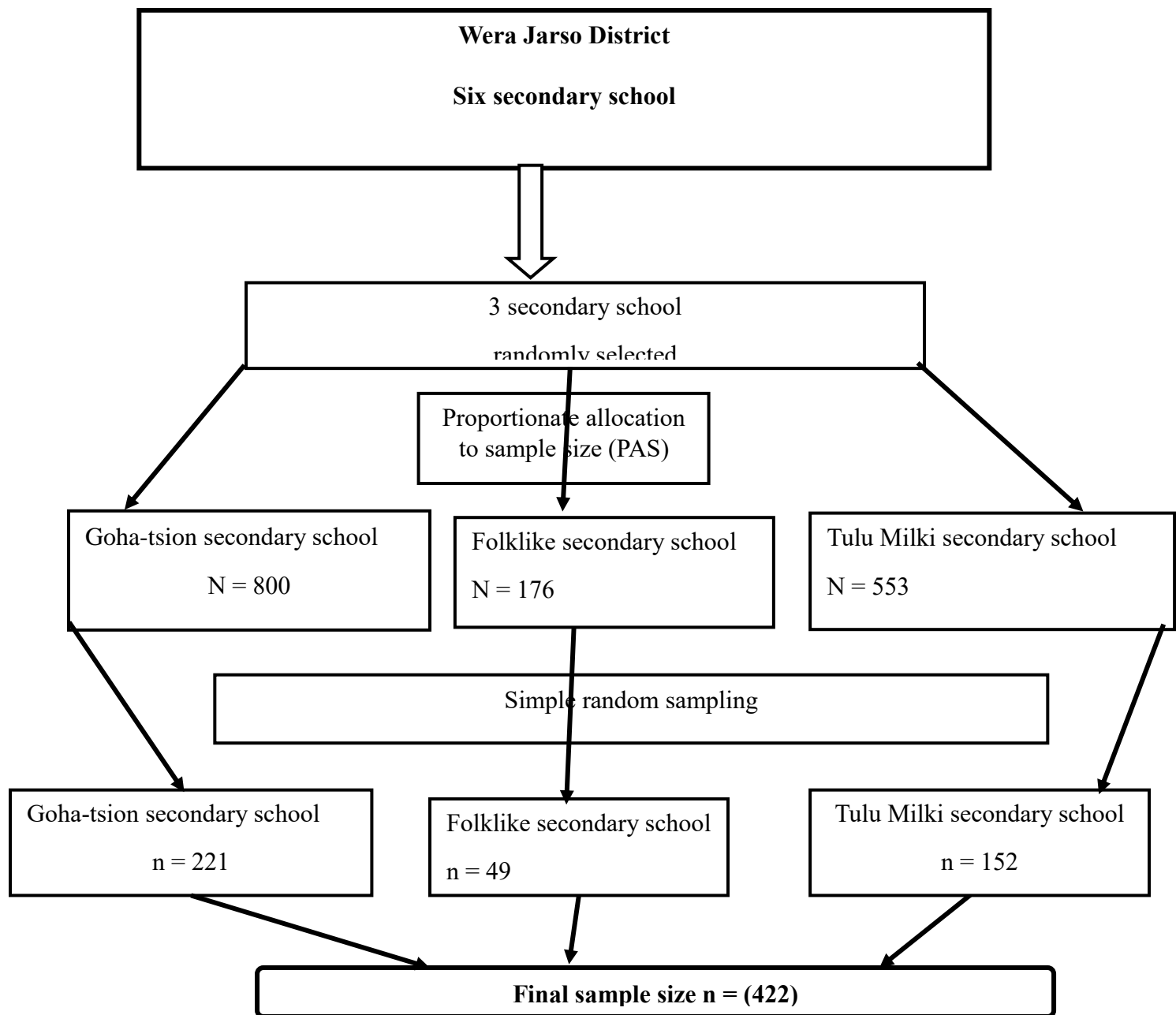


Figure 2: Schematic representation of sampling technique for the selection of female high school student in Wera Jarso District, North Shewa Zone, Oromia, Central Ethiopia, 2024.

.6.2. Sampling procedures for the qualitative study

A purposive sampling technique was used to select participants for FGD. From each selected high school, one FGD was formed. The study population and individuals not included in the quantitative study participated in the FGD. The selection criteria for the FGD PI would include factors such as

age, grade level, prior knowledge or awareness of the fertile period, and willingness to participate to form a homogenous group.

4.7. Data collection procedures (tools, techniques and personnel)

4.7.1 Data collection procedures (tools, techniques and personnel) for the quantitative study

A structured closed-ended questionnaire developed from different kinds of literature was used (1,11,30,42). The questionnaire consisted of three parts. The first part of the questionnaire consisted of three parts. The sociodemographic characteristics of the participants included age, sex, marital status, religion, monthly income and grade level. The second part consisted of questions related to the information sources. The third section included sexual practices, contraceptive utilization and access to healthcare. The data were collected via a self-administered structured questionnaire. Seven BSc nurses' data collectors and two BSc public health supervisors participated in the data collection process.

4.7.2. Data collection procedures for a qualitative study (tools, techniques and personnel)

The data were collected in the local language (Afan Oromo) by using semi-structured FGD guides. The guides were prepared in English by the PI, translated into Afan Oromo, and checked by advisers for more clarity. The FGD guides have a list of a few discussion points, such as knowledge about the fertile period, perceptions and attitudes, and barriers and challenges, with several follow-up probes used to address this issue. The FGDs were moderated by an experienced health professional and note-taker. During the discussion, notes were taken, and their voices were recorded using a tape recorder. Each experiment lasted 60–90 min at each selected site.

4.8. Study variables

4.8.1. Dependent variable

- ✓ Knowledge of Fertility Window

4.8.2. Independent variables

- ✓ **Sociodemographic characteristics** (age, marital status, religion, wealth index, grade level)
- ✓ **Sexual-related characteristics** (ever made sex, age at first sex, with whom 1st sex, reason for 1st sex, number of sexual partners)

- ✓ **Pregnancy, abortion and contraception use-related factors** (use of modern contraceptives, chance of becoming pregnant, number of pregnancies, ever abortions, number of abortions, reasons for abortion)
- ✓ **Attitudes towards Knowledge of the Fertile window**

4.9. Operational and term definitions

Knowledge of Fertile window: Knowledge of the ovulation period was assessed by asking respondents a single question, “When do you think the ovulation period of a woman is?” Respondents who answered that the fertile period is in the middle of the menstrual cycle are categorized as having good knowledge of the fertile period, while respondents who answered that the fertile period is “during her period,” “after the period ends,” “before a period begins,” “at any time,” or “I don’t know” are categorized as having poor knowledge (30).

Fertility window: The fertility period, also known as the fertile window, refers to the timeframe during which a woman's menstrual cycle is most likely to conceive a pregnancy if she engages in sexual intercourse (12).

4.10. Data quality assurance

4.10.1 Data Quality Control for Quantitative Studies

Before the beginning of the data collection, several preliminary steps were taken to ensure the quality and reliability of the data. First, standard tools were adopted by thoroughly reviewing the relevant literature in the field. Additionally, comprehensive training sessions were conducted for the data collectors to familiarize them with the research objectives and data collection techniques. The questionnaire was translated into the local language (Afan Oromo) by language experts and back-translated to English for consistency. To further enhance the clarity and consistency of the questionnaire, a pretest was conducted. A sample size of 5% from Gerba Guracha High School was selected for this purpose. Any necessary modifications and refinements were made to the questionnaire based on the findings from the pretest.

During the data collection phase, a supervisor was present at the data collection sites to ensure the completeness and consistency of each completed questionnaire. The supervisor accurately reviewed each questionnaire to identify any missing or inconsistent responses. Subsequently, during the data entry and analysis stage, a software tool called Epi-Data was utilized for data entry.

This software incorporates various control mechanisms, such as range validation, mandatory data entry fields, and skip patterns.

4.10.2 Data quality control for qualitative study

To ensure the quality of the data, the PI considered trustworthiness, which is the fundamental criterion for qualitative reports, along with credibility (internal validity), transferability, dependability (reliability), and conformability.

4.11 Data processing and analysis

4.11.1 Data processing and analysis for the quantitative study

Epi Data version 4.6 was used to enter, code and check the data, which were then exported to SPSS version 26 for editing, cleaning for inconsistencies, checking for missing values, and analysis. Descriptive statistics such as frequencies, percentages, means and standard deviations were calculated. Then, binary logistic regression was performed to assess the crude relationship between the independent variables and the dependent variable. All variables with a P value < 0.25 were candidates for multivariable logistic regression to control for possible confounding effects.

To determine the independent influence of each variable on the outcome variable, multivariable logistic regression was used. Multicollinearity was checked with a variance inflation factor (VIF), which was less than 5. Model fitness was checked using the Hosmer and Lemeshow goodness-of-fit model, and the results were fitted (p-value = 0.7). The final results of the associations are presented as the AORs with 95% CIs, and a p-value < 0.05 was considered to indicate statistical significance.

4.11.1. Data processing and analysis for a qualitative study

For qualitative data, audio-taped, transcribed, translated and coded qualitative data were organized into categorical forms after being checked for similarities and differences and analysed under selected themes based on the question guide and summarized manually.

4.12. Ethical considerations

The study was approved by the Ethical Review Board of Salale University. A permission letter was received from the Salale University College of Health Sciences. The study was presented to the North Shewa Zonal Education Office for official permission to undertake research activities at the selected secondary school. Written informed consent was obtained from every study subject

before the data collection. The entire set of information collected from the study participants was handled confidentially by omitting their identification.

4.13. Results dissemination plan

The findings from this study will be submitted to Salale University, Department of Public Health. Additionally, the participants communicated to the North Shewa Zonal Education Office, each secondary school, the Oromia Regional Health Bureau and concerned NGOs through the report. Furthermore, all attempts will be made to present the findings at scientific conferences and publish the findings in reputable scientific journals.

5. Results

5.1 Sociodemographic Characteristics

Of the total study participants, 417 female students participated, with a response rate of 98.8%. Most of the students were aged 14–16 years, accounting for 235 individuals (56.4%), with a mean age of 16.5 years (standard deviation ± 1.5). Of the total participants, 365 (87.5%) were single, while 12.5% were married. The predominant religious affiliation among the students was Orthodox, accounting for 72.4%, followed by Protestant, 12.7%. Regarding ethnic background, the majority of the students (75.1%) belonged to the Oromo ethnic group. In terms of academic grades, most of the students (57.0%) were in grades 11–12. A notable proportion of the students' mothers (37.4%) were unable to read and write. For the primary occupations of the students' fathers, farming held the half percentage at 50.1%, followed by merchant at 37.6% (Table 2).

Table 2: Sociodemographic characteristics of the students and their parents among female secondary school students in Wera Jarso District, Oromia, Ethiopia, 2024.

Variables	Categories	Frequency	Per cent
Age in years	14-16	194	46.5
	17-19	223	53.5
Marital status	Single	365	87.5
	Married	52	12.5
Religion	Orthodox	302	72.4
	Protestant	53	12.7
	Catholic	52	12.5
	Muslim	10	2.4
Ethnic group	Oromo	313	75.1
	Amhara	104	24.9
Grade Level	9-10	179	43.0
	11-12	238	57.0
mother's educational status	Unable to read and write	156	37.4
	Primary level (1-8)	157	37.6
	Secondary level (9-12)	67	16.1
	College and above	37	8.9
Father occupation	Farmer	209	50.1
	Civil servant	51	12.2
	Merchant	157	37.6
Mother Occupation	Housewife	281	67.4
	Farmer	84	20.1
	Civil servant	52	12.5
Receive pocket money	Yes	260	62.4
	No	157	37.6

If yes for the question of how often	Sometimes	83	31.9
	Once a month	125	48.1
	More than once a month	52	20.0
Living condition	With relatives	157	37.6
	With friends/peers	52	12.5
	With partner/ husband	156	37.4
	Alone	52	12.5

5.2. Sexual-related characteristics of the study participants

Of the total participants, 92 (22.1%) reported having sex, while 325 (77.9%) said they had not. The most common age at first sexual intercourse (40, 43.5%) was 14 years. The majority of the respondents, 52 (56.5%), reported having their first sexual intercourse with a boyfriend or friend. The most common reason for first engaging in sexual intercourse was falling in love (40 (43.5%)). The majority of respondents, 54 (58.7%), reported having only one sexual partner in the past 12 months (Table 3).

Table 3: Sexual-related characteristics of the study participants among female secondary school students in Wera Jarso District, Oromia, Ethiopia, 2024.

Variables	Categories	Frequency	Per cent
Ever having sex	Yes	92	22.1
	No	325	77.9
Age at 1st sex (n = 92)	14	40	43.5
	15	40	43.5
	16	12	13.0
	Teacher	11	12.0
With whom 1st sex (n = 92)	Boyfriend	29	31.5
	Husband	52	56.5
	Got married	52	56.5
Reason for 1st sex (n=92)	Fell in love	40	43.5
	Got married	52	56.5
Currently having sexual partners (n = 92)	Yes	66	71.7
	No	26	28.3
No sex partners in 12 months (n=92)	One	54	58.7
	Two	23	25.0
	Three	15	16.3

5.3. Pregnancy, abortion and contraception use-related characteristics of the study participants

Of the 92 respondents who had engaged in sexual activity, 26 (6.2%) reported experiencing a pregnancy, while 66 (93.8%) did not. The majority of pregnancies occurred at a young age, with 22 respondents (84.6%) reporting their first pregnancy at 15 years old. Among those who had been pregnant, 12 (46.2%) reported having experienced a single pregnancy. Regarding pregnancy planning, 8(30.8%) respondents reported that their pregnancies were planned. Notably, of the 26 respondents who had been pregnant, a significant proportion of 15 (57.7%) reported having undergone an abortion. Of those who had abortions, 12 (80.0%) had one abortion, while 3 (20.0%) had two. The primary reasons cited for abortion were fear of family repercussions (20.0%) and the desire to continue education (53.3%) (Table 4).

Table 4: Pregnancy, abortion and contraception use related characteristics of female secondary school students in Wera Jarso District, Oromia, Ethiopia, 2024.

Variables	Categories	Frequency	Per cent
Faced pregnancy	Yes	26	6.2
	No	391	93.8
Age at 1st pregnancy (n=26)	14	3	11.5
	15	22	84.6
	16	1	3.8
Number of pregnancies	One	12	46.2
	Two	14	53.8
The pregnancies were planned	Yes	8	30.8
	No	18	69.2
Ever abortion	Yes	15	57.7
	No	11	42.3
Number of abortions (n = 15)	One	12	80.0
	Two	3	20.0
With whom is abortion discussed? (n=15)	Boyfriend	1	6.7
	Peers	10	66.7
	Health professional	4	26.7
Reasons for abortion	For fear of my family	3	20.0
	To continue education	4	26.7
	It was outside of marriage	8	53.3
Place of abortion	At public health institution	10	66.7
	At private clinic	5	33.3
Modern Contraceptive utilization (n=92)	Yes	208	49.9
	No	209	50.1

Reasons for not using modern contraceptive (n=209)	Do not have access	29	13.9
	Fear of care providers	25	12.0
	Wants to be pregnant	27	12.9
	Fear of side effects	66	31.6
	Religion	16	7.7
	Community influence	46	22.0
Ever used emergency contraceptives	Yes	148	71.2
	No	60	28.8
If yes what is the exact time to take emergency contraceptives	Within 24 hours of sexual	82	39.4
	Within 48 hours of sexual	91	43.8
	within 72 hours after sexual	20	9.6
	I don't know	15	7.2

5.4. Magnitude of fertile window knowledge among female students

In this study, the magnitude of knowledge of fertility window was found to be 104 (24.9%) (95% CI: 20.9, 29.0). (Figure 3)

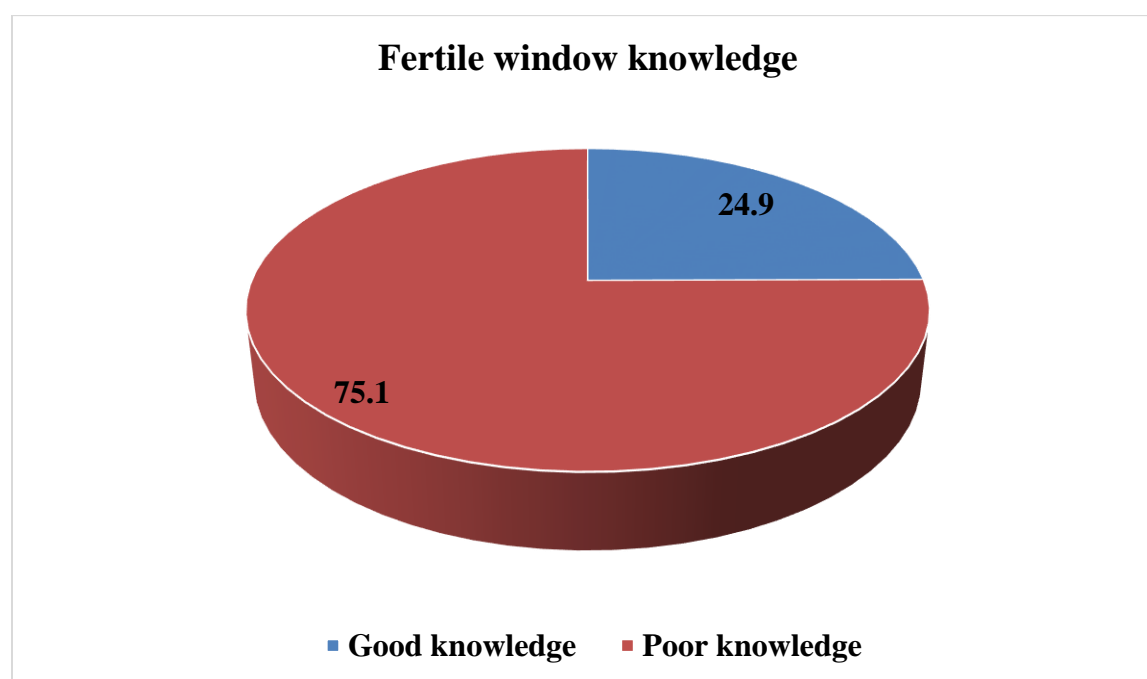


Figure 3: Magnitude of knowledge of fertility window among female secondary school students in Warra Jarso District Oromia, Ethiopia, 2024.

5.5. Misconception and source of information about the ovulation period among female students

Among the 104 female secondary school students surveyed, only 24.9% accurately identified the ovulation period as occurring in the middle of the menstrual cycle. A significant proportion of respondents held misconceptions about the timing of ovulation: 25.4% believed it occurred during menstruation, 18.9% thought it happened after menstruation ended, and 19.9% reported being unaware of the ovulation period altogether. Regarding menstrual health education, half of the students (49.9%) had received some form of information about menstruation. The primary sources of this information were school-based education (36.5%), family (25.0%), and mass media (26.9%).

This was supported by the findings from the FGD, where out of 24 participants, only 8 students accurately identified the ovulation period, describing it as the time when a woman is most fertile, typically around the 14th day of a 28-day cycle or the 5-7 days before ovulation. In contrast, several FGD discussants expressed misunderstandings, with some believing the fertile period lasts the entire month, except during menstruation, or that pregnancy could occur at any time. Cultural beliefs were also mentioned, such as the misconception that a woman is most fertile during the full moon. The sources of information on the fertile period varied, with students citing school biology classes, family discussions, and health professionals as their primary sources.

Around half 208 (49.9%) of the students reported receiving information on menstruation, with the most common sources being school 76 (36.5%) and mass media 56 (26.9%), followed by family 52 (25%). Most students (62.5%) received this information after reaching menarche, while over a third 78 (37.5%) received it before menarche (Table 5).

Table 5: Misconception and source of information about the ovulation period among female secondary school students in Wera Jarso District Oromia, Ethiopia, 2024.

Variables	Categories	Frequency	Per cent
When do you think the ovulation period of a woman is?"	Middle of the menstrual cycle	104	24.9
	During her period	106	25.4
	After period ended	79	18.9
	Before period begins	28	6.7
	At any time	17	4.1
	I don't know	83	20.0
Receive information on menstruation	Yes	208	49.9
	No	209	50.1

Sources of information	Family	52	25.0
	School	76	36.5
	Health Personnel	24	11.5
	Mass media (TV, Radio)	56	26.9
Time received information on menstruation	Before menarche	78	37.5
	After menarche	130	62.5

5.6. Study participant's attitude towards Fertile Window

The most of respondents (193) (46.3%) agreed that knowing about the fertile period can empower young women to make informed decisions about their reproductive health. Most respondents (296,71.0%) agreed that it is important for girls to know about their fertility. Over half of the respondents (231 (55.4%) agreed that knowing one's fertility period can help prevent unintended pregnancies. Nearly half of the respondents (46.3%) agreed that schools should provide education on fertility and reproductive health. The majority of respondents (67.4%) felt comfortable discussing their fertility period with a healthcare provider. Overall, more than half of the respondents had a positive attitude towards knowledge of fertility periods in this study (238, 57.1%, 95% CI of 48.0–57.5%) (Table 6).

Table 6: Attitudes towards fertile window among female secondary school students in Wera Jarso District, Oromia, Ethiopia, 2024.

Variables	Categories	Frequency	Per cent
Learning about the fertile period is essential for understanding reproductive health.	Strongly disagree	30	7.2
	Disagree	64	15.3
	Neutral	128	30.7
	Agree	151	36.2
	Strongly agree	44	10.6
Young women need to know about the fertile period.	Strongly disagree	30	7.2
	Disagree	30	7.2
	Neutral	156	37.4
	Agree	135	32.4
	Strongly agree	66	15.8
Discussing the topic of the fertile period openly is considered taboo in my community.	Strongly disagree	45	10.8
	Disagree	15	3.6
	Neutral	156	37.4
	Agree	175	42.0
	Strongly agree	26	6.2
Knowing about the fertile period can empower young women to make informed decisions about their reproductive health.	Strongly disagree	18	4.3
	Disagree	41	9.8
	Neutral	104	24.9

How important do you think it is for girls your age to know about their fertile period	Agree	193	46.3
	Strongly agree	61	14.6
	Strongly disagree	27	6.5
	Disagree	30	7.2
	Neutral	52	12.5
Do you think knowing one's fertile period can help prevent unintended pregnancies	Agree	296	71.0
	Strongly agree	12	2.9
	Strongly disagree	48	11.5
	Disagree	35	8.4
	Neutral	92	22.1
How confident do you feel in your ability to determine your fertile period	Agree	231	55.4
	Strongly agree	11	2.6
	Strongly disagree	96	23.0
	Disagree	49	11.8
	Neutral	93	22.3
How comfortable do you feel discussing fertility and reproductive health with others	Agree	167	40.0
	Strongly agree	12	2.9
	Strongly disagree	72	17.3
	Disagree	60	14.4
	Neutral	22	5.3
Do you think schools should provide education on fertility and reproductive health	Agree	251	60.2
	Strongly agree	12	2.9
	Strongly disagree	72	17.3
	Disagree	60	14.4
	Neutral	80	19.2
I feel comfortable discussing my fertile period with a healthcare provider	Agree	193	46.3
	Strongly agree	12	2.9
	Strongly disagree	24	5.8
	Disagree	27	6.5
	Neutral	61	14.6
	Agree	281	67.4
	Strongly agree	24	5.8

5.7. Study participant's attitude toward

Overall, more than half of the respondents had a positive attitude towards fertility periods in this study (238, 57.1%, 95% CI of 48.0–57.5%) (Figure 4.).

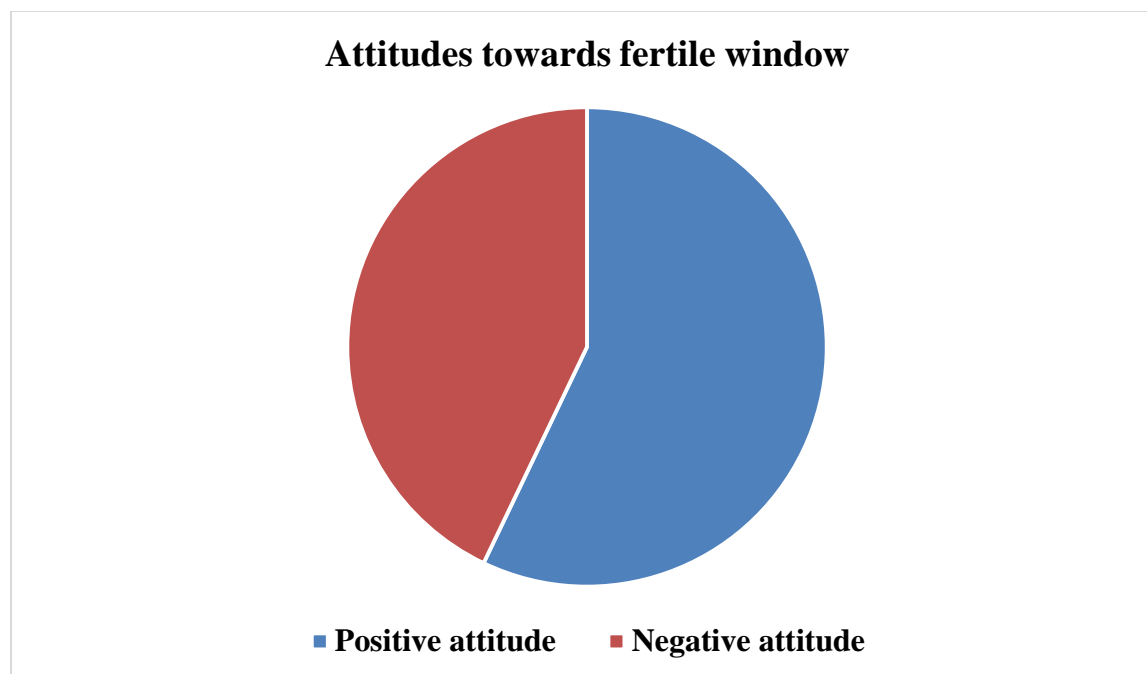


Figure 4: Overall attitudes towards fertile window among female secondary school students in Warra Jarso District, Oromia, Ethiopia, 2024.

5.7. Factors associated with fertile window knowledge

Bivariate and multivariable logistic regression analyses were performed to identify factors influencing knowledge about the fertile window.

The multivariable logistic regression model revealed several factors significantly associated with knowledge of the fertile window, including age group, sexual experience, pregnancy history, contraceptive use, and attitudes towards fertility knowledge. Specifically, students aged 17-19 years were 2.1 times more likely (95% CI = 6.1, 17.1) to possess good knowledge of the fertile window compared to those aged 14-16 years. Additionally, students who had ever had sex were more likely to know about the fertile window, with an adjusted odds ratio (AOR) of 3.0 (95% CI = 1.4, 4.7) compared to those who had never had sex. Respondents with a history of pregnancy were three times more likely (AOR = 3.2, 95% CI = 1.2, 8.8) to know the fertile window than those without such a history. Furthermore, students with positive attitudes towards fertility knowledge were nearly five times more likely (AOR = 5.0, 95% CI = 2.6, 9.4) to have accurate knowledge of the fertile window compared to those with negative attitudes (Table 7).

Table 7: Bivariable and multivariable logistic regression analysis on factors affecting knowledge of fertile window among female secondary school students in Wera Jarso District, Oromia, Ethiopia, 2024.

Variable	Knowledge of Fertile window		COR CI)	(95% CI)	AOR CI)	(95% CI)	P- value
	Good knowledge (%)	Poor knowledge (%)					
Age (in years)							
14-16	35(33.7)	159(50.8)	1		1		1
17-19	69(66.3)	154(49.2)	0.5(1.3, 3.2)		2.1(6.1, 17.1)		0.001
Marital status							
Single	89(85.6)	286(91.4)	1		1		1
Married	15(14.4)	27(8.6)	0.6(0.3, 1.1)		0.4(0.3, 1.7)		0.422
Ever having sex							
Yes	52(50.0)	40(12.8)	6.7(4.1, 11.3)		3.0(1.4, 4.7)		0.003
No	52(50.0)	273(87.2)	1		1		1
Faced pregnancy							
Yes	20(19.2)	6(1.9)	12.2(4.7, 31.3)		3.2(1.2, 8.8)		0.024
No	84(80.8)	307(98.1)	1		1		1
Ever used contraceptive							
Yes	94(90.4)	114(36.4)	16.4(8.2, 22.8)		9.0(4.1, 19.3)		0.001
No	10(9.6)	199(63.6)	1		1		1
Attitude towards Knowledge of Fertile Window							
Positive attitude	88(84.6)	150(47.9)	6.0(3.4, 10.6)		5.0(2.6, 9.4)		0.001
Negative attitude	16(15.4)	163(52.1)	1		1		1

6. Discussion

This study is aimed to assess the magnitude of knowledge of fertile window and the factors associated with it among female secondary school students in Warra Jarso District, Oromia, Ethiopia. The findings reveal that only 24.9% of the respondents demonstrated accurate knowledge of the fertile window (95% CI: 20.9, 29.0). This relatively low level of knowledge underscores a significant gap in reproductive health education among this population. The results are consistent with previous studies conducted in different parties of Ethiopia which includes the Ethiopia EDHS 2016 (23.5%), Wolaita Sodo and other countries, such as Haiti (24.1%) and Pakistan (25%) (3,13,17,42).

The magnitude of knowledge of fertile window in this study is notably higher than findings from studies in Ghana (14.2%), Kenya (18.3%), Uganda (15%) and Saudi Arabia (12.2%) (7,43–45) respectively. These differences may reflect variations in educational systems, cultural norms, and access to reproductive health information across these countries. In the contexts of Ghana, Kenya, Uganda, and Saudi Arabia, it is possible that reproductive health education may be less comprehensive, or that socio-cultural factors such as taboos around discussing sexual and reproductive health may limit young people's access to accurate information. Additionally, differences in the methodological approaches and the demographic characteristics of the study populations could also explain some of these discrepancies

However, the knowledge of fertility window in this study was lower than that found in other regions, such as Cameroon (49.3%) (12), East Sikkim in Asia (51.2%) (32) and Bangladesh (41.2%) (28). These studies suggest that, in certain contexts, students may receive more extensive education on reproductive health, which could contribute to higher levels of awareness regarding fertility and the menstrual cycle. Differences in educational curricula, the integration of reproductive health into school programs, and the cultural acceptability of discussing reproductive health topics may explain the higher knowledge levels observed in these countries. For instance, in Cameroon, East Sikkim, and Bangladesh, there may be more robust initiatives or programs focused on sexual and reproductive health education, which could explain the higher prevalence of correct knowledge about the fertile window.

The variation in knowledge of fertile window across different settings highlights the importance of context in shaping young people's understanding of reproductive health. In Ethiopia, particularly

in rural areas like Warra Jarso District, access to reproductive health education and resources may be limited due to socio-cultural barriers, lack of trained educators, and inadequate school-based health programs. The relatively low prevalence of accurate knowledge in this study points to a critical need for more targeted interventions to improve reproductive health education in these areas, especially as it relates to fertility awareness

The current findings showed that students aged 17-19 years were 2.1 times more likely to have good knowledge about the fertility window than those aged 14–16 years. This finding is similar to those of other studies conducted in different regions of Ethiopia (30), Wolaita Sodo (42), Sub-Saharan Africa (20) and other countries, such as Turkey (16), northern Nigeria (39) and Cameron (12). A possible justification for this may be increased exposure and education; older students (aged 17-19 years) are likely to have had more exposure to sexual and reproductive health education through their school curriculum, community programs, or other information sources. As they mature, they tend to have better access to and understanding of topics related to fertility and the fertile period.

The findings showed that respondents who had ever engaged in sexual activity were 3 times more likely to know about the fertile period than those who had never had sex. This finding is in line with other studies carried out in different parts of Ethiopia, Wolaita Sodo (42), and other countries, such as Turkey (16) and Cameron (12). A possible justification for this may be that individuals who have engaged in sexual activity may be more likely to seek information about fertility and reproductive health. Similarly, respondents who had previously faced pregnancy were 3 times more likely to know about the fertile period, likely due to their first-hand experience navigating fertility and pregnancy.

Respondents who had positive attitudes toward knowledge of fertility windows were five times more likely to know about fertility periods than those who had negative attitudes toward knowledge of fertility periods. This study is consistent with studies conducted in Ethiopia (9), Cameron (12), Australia (10), and Asia East Sikkim (32). A possible justification may be information-seeking behaviour; those with a positive attitude may be more proactive in researching and obtaining information about fertility and reproductive health through channels such as educational resources, healthcare providers, or peer discussions. This active information-seeking behaviour results in greater knowledge.

7. Strengths and limitations of the study

7.1. Strengths of the Study

The data were collected through both quantitative and qualitative research approaches, which add value to strengthen the study design.

7.2. Limitations of the study

As a cross-sectional study, a cause-and-effect relationship cannot be established to identify an actual predictor. Since the data were self-reported, and included some sensitive issues there may be social desirability bias.

8. Conclusion and Recommendations

8.1. Conclusion

In conclusion, while the knowledge of the fertile window in this study was higher than in some countries, it was still considerably lower than in others, suggesting the need for improved and context-specific sexual and reproductive health education. Addressing the disparities in reproductive health knowledge across regions can help ensure that all adolescents, regardless of location, have access to the information necessary to make informed decisions about their reproductive health.

The findings from this study concluded that age between 17-19 years, sexual experience, pregnancy history, contraceptive use, and attitudes towards fertility window knowledge are among key determinants of students' understanding of the fertile period.

8.2. Recommendations

Based on the findings of this study, the following points are recommended: This study recommends the implementation of comprehensive sexual and reproductive health programs aimed at providing accurate, age-appropriate and comprehensive sexual and reproductive health education for all adolescent and adult female students, with a special focus on awareness of the fertility period. The Regional Health Bureau and Education Bureau should work in collaboration by designing strategies for increasing the knowledge of female students about their fertility period.

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. ANNEX A

ANNEX A. Information sheet and informed consent form for head of institution.

My name is _____. I am working as a data collector for the study being conducted in this high school by **Mengistu Tadesse** who is studying for his Master's degree at Salale University, the College of Health and Medical Sciences. I kindly request you to lend me your attention to explain you about the study.

The study title: Knowledge states About Fertile Period and Its Associated Factor Among Female Students of Secondary School in Wera Jarso District, North Shewa Zone, Oromia Regional State, Ethiopia, 2024.

Purpose of the study: The findings of this study can be of a paramount importance for the regional, zonal and woreda health office to plan intervention programs so as to reduce hinders or challenging factors for modern contraception among female students of higher institution that are associated with high mortality and morbidity association with abortion and its complication, high rate of school drawback, early marriage and increase gender based violence. Moreover, the aim of this study is to write a thesis as a partial requirement for the fulfillment of a Master's Program in Public Health Reproductive health for the principal investigator.

Procedure and duration: I was providing the selected students with the questionnaires to answer a questionnaire to provide me with pertinent data that is helpful for the study. There are 44 questions to answer where they will fill the questionnaire by reading. The questionnaire will take about 60 minutes, and kindly request to spare me their time to respond the questionnaire.

Risks and benefits: The risk of being participating in this study is very minimal, but only taking 60 minutes from your time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information regarding factors associated with modern contraception utilization its practice among higher institution students in Wera Jarso District based on the information you provided us.

Confidentiality: The information that we was provided was kept confidential. There was no information that will identify the participants in particular. The findings of the study was general for the study community and will not reflect anything particular of individual persons. The questionnaire was coded to exclude showing names. No reference was made in oral or written reports that could link participants to the research.

Rights: Participation for this study is fully voluntary. The participants have the right to declare to participate or not in this study. If they decide to participate, they have the right to withdraw from the study at any time and this will not label them for any loss or benefits which they otherwise are entitled. They do not have to answer any question that they do not want to answer.

Contact address: If there are any questions or enquires any time about the study or the procedures, please contact in this address.

Principal investigator

Name: Mengistu Tadesse.

Address

[Tel:0920956667](tel:0920956667)

[E-mail:- mengisutadesse@gmail.com](mailto:mengisutadesse@gmail.com)

Declaration of informed voluntary consent:

I have read the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to stop the study at any time. Therefore, I declare my voluntary consent on behalf of the college to allow this study to be conducted in the college with my initials (signature).

ANNEX A:Ethical clearance letter



Salale University
Institutional Research Ethics Review Committee (SIU-IRERC)

Date: EP 10/10/2016


Ref. No: SIU-IRERC-123/2016

To: Mengistu Tadesse

Subject: Research Ethics Approval Letter

This is to kindly notify you that your project protocol entitled “**Knowledge of fertile window and its associated factors among female secondary school students in Were-Jarso district, north Shewa zone, Oromia-Ethiopia 2024**” has been approved for the intended one-year period of implementation. The review process of the Research protocol has been carefully conducted by Salale University institutional research ethics review committee (SIU-IRERC). The protocol is ethically sound to be implemented through adhering to the research ethics principles during the implementation. Thus, the committee is pleased to inform you that your study protocol has been approved.

The committee would like to remind you that the research principal is expected to submit a progress report of the research at least once before the end of its implementation. The committee also looks forward to receiving the final technical report and recommendations that will be generated from the study.

Sincerely,

Solomon Balami(Phd)
Salale University IRB
Chairperson



CC:

- Salale University Institutional Research Ethics Review Committee
- Salale University Collage of health sciences CARD

ANNEX B. Questionnaires. English version

<i>PART ONE:-Socio-demographic variables</i>			
No	Questions	Alternative Choices for response	skip
101	How old are you?	_____ years	
102	What is your Religion?	1. Orthodox 2. Protestant 3. Catholic 4. Muslim 5. Others, specify _____	_____
103	To which ethnic group you belong to?	1. Oromo. 2. Amhara 3. Tigre 4. Others, (Specify) _____	_____
104	What is your grade level?	1) 9 th 2) 10 th 3) 11 th 4) 12 th	_____
105	What is your mother's educational status?	1) Unable to read and write 2) Primary level (1-8) 3) Secondary level (9-12) 4) College and above	_____
106	What is your father occupation?	1. Farmer 2. Daily laborer 3. Civil Servant 4. Employed in private sector. 5. Has private business. mention _____ 6. Other (Specify) _____	_____
107	What is your mother occupation?	1. Housewife 2. Daily laborer 3. Official worker 4. Employed in private sector. 5. Has private business 6. Others(specify) _____	_____
108	Do your parents give you money (pocket money) for your own use?	1. Yes 2. No	

109	If yes for Q 109	1. I have never been given any money 2. A few times, but not every month 3. Once a month 4. More than once a month	
110	With whom do you live most of the time?	1. With relatives 2. With friends/peers 3. With partner/ husband or wife 4. With boy / girl friend 5. Alone 6. Others specify_____	

Part Two: Concerning Sources of Information

No	Questions	Alternative Choices for response	Code
201	Have you ever had sexual intercourse?	1. Yes 2. No	_____
202	If yes at, what age did you first have sexual intercourse? (enter number)	_____Age in years	_____
203	Why you decide to have sexual intercourse the first time?	1. Fell in love 2. Had desire 3. I got married 4. Raped 5. To get money and other gifts. 6. Peer pressure 7. was drunk or stoned. 8. others(specify)_____	_____
204	With whom did you make your first sexual intercourse?	1. He was a steady boyfriend 2. He was a casual boyfriend 3. He was a stranger 4. He was a family member 5. He was my employer 6. Others(specify)_____	
205	How older or younger was the person with whom You had your first sexual intercourse?	1. He was an age like mine 2. By more than 10 years older 3. By more than 5 years older 4. By less than 5 years older 5. Younger 6. Do not know	
206	How many people in total have you ever had Sexual intercourse within the past 12 months?	1. with one person 2. with two people 3. with three people 4. with four people 5. with five to nine people 6. with 10 or more people	_____

207	Have you ever had symptoms of STI, Such as genital ulcer, abnormal genital discharge, pain during urination or genital swelling?	1. Yes 2. No	
208	If yes, whom did you first discuss the issue with?	1. My friends/peers 2. My parents 3. My boy/girl friend 4. Health workers 5. Traditional healers 6. local injectors 7. Others, specify _____	_____
210	Have you ever used modern contraceptives?	1. Yes 2. No	_____
211	If no, what are the reasons? (more than one answer is possible)	1. I have infrequent sex 2. Religious Prohibition 3. Unavailability the service. 4. Fear of side effects 5. Fear of care providers 6. Service not available 7. Others specify _____	_____ —
212	Have you ever faced chance of becoming pregnant?	1. Yes 2. No	
213	If yes for Q2012 How old were you when you first became pregnant? (Enter age)	1. Age _____ years	
214	How many times have you been pregnant? (Enter number)	_____ Times	
215	If you have been pregnant, how many of your pregnancies were planned?	_____ Times	
216	Have you ever aborted or stopped a pregnancy?	1. Yes 2. No	
217	If yes, how many times did you have abortion?	_____ Times	
218	If there was abortion, whom did you first discuss the issue with?	1. My partner/husband 2. My boy friend 3. My friends/peers 4. My parents 5. Health workers 6. Traditional healers 7. Local abortionist 8. Others, specify _____	
219	Why did you abort or terminated the pregnancy?	1. For fear of my family 2. To continue my education. 3. It was outside marriage 4. Economical problem 5. Others _____	

220	Where did you abort?	1. At public health institution 2. At private clinic 3. At abortionist's house 4. Others, specify ____	
221	Why you preferred to seek abortion care in this place?	1. Effectiveness of treatment 2. Free treatment 3. Low cost of treatment 4. Proximity 5. Confidentiality 6. Others, specify_____	

Part 3: - Questions Related to Attitude

No	Questions	Response	skip
301	It is important for young women to have knowledge about the fertile period.	1) Disagree 2) Strongly disagree 3) Neutral 4) Agree 5) Strongly agree	
302	Discussing the topic of the fertile period openly is considered taboo in my community.	1) Disagree 2) Strongly disagree 3) Neutral 4) Agree 5) Strongly agree	
303	Having knowledge about the fertile period can empower young women to make informed decisions about their reproductive health.	1) Disagree 2) Strongly disagree 3) Neutral 4) Agree 5) Strongly agree	

Part 4: Knowledge of Fertile Period

401	When do you think the ovulation period of a woman is?"	1) Middle of the menstrual cycle 2) During her period 3) After period ended 4) Before period begins 5) At any time 6) I don't know
402	Did you receive information on menstruation?	1. Yes 2. No
403	If yes, from where do you receive information on menstruation?	1. Family 2. Peers 3. School 4. Health Personnel 5. Mass media 6. Magazines/ newspapers/ leaflets 7. Others specify_____
404	Time received information on menstruation?	1. Before menarche 2. After menarche
405	What is your age at first menses	_____
3. Sex related		
301	Have you ever made sex?	1) Yes 2) No
302	What is your age at first sex	_____
303	With whom did you make first sex?	1) Fellow student 2) Teacher from the school 3) Business man 4) NGO/ GO employee 5) Others
304	What was the sexual initiation during first sex?	1) Forced or raped 2) Peer influenced 3) Willingly or love
305	How much life time sexual partner did you have?	1) None 2) One 3) Two 4) Three or more
306	If you have sexual partner, do you use condom at sex?	1) No 2) Sometimes 3) Every time during sex
4. Contraceptive utilization		
401	Have you ever used modern contraceptives	1. Yes 2. No

402	From where do you think modern contraceptive can be obtained?	_____
403	What is your reason for contraceptive non-use	<ol style="list-style-type: none"> 1. Do not have access 2. Do not have knowledge 3. Family influence 4. Community influence 5. Due to divorce 6. Wants to be pregnant
404	Have you ever used emergency contraceptives	<ol style="list-style-type: none"> 1. Yes 2. No
405	What is the exact time to take emergency contraceptives	<ol style="list-style-type: none"> 1. No need to take emergency contraceptives 2. within 24 hours after unprotected sexual intercourse 3. within 48 hours after unprotected sexual intercourse 4. within 72 hours after unprotected sexual intercourse
5. Pregnancy related		
501	Have you ever been pregnant	<ol style="list-style-type: none"> 1. Yes 2. No
502	Are you currently pregnant?	<ol style="list-style-type: none"> 1. Yes 2. No
503	What was you feeling about the pregnancy?	<ol style="list-style-type: none"> 1. Happy 2. Unhappy 3. Nothing
504	What was the condition of the pregnancy?	<ol style="list-style-type: none"> 1. Planned 2. Unplanned
505	What was the outcome of the pregnancy?	<ol style="list-style-type: none"> 1. Delivered (Live birth) 2. Still birth 3. Still pregnant 4. Aborted
506	Do you have family member with history of teenage pregnancy?	<ol style="list-style-type: none"> 1. Yes 2. No

THANK YOU!

Appendix C Consent form for Qualitative study

Procedures for FGD

Informed consent: -My name is -----We come to conduct a study on the **Fertile Period Knowledge and Associated Factors Among Female Students of Secondary School in Wera Jarso District, North Shewa Zone, Oromia Regional State, Ethiopia: A cross-sectional study** a beneficiary of the project we are rise questions to you to participate in this study. Your participation was in a focus group discussion. In this discussion, you was asked about the barrier to breast self-examination among women. By participating in this study, you will not get direct benefits or get payment but as was mentioned above your complete and honest answer will have useful input in the efforts of preventing breast cancer.

This discussion will last for _____. This discussion will only be for research purposes, and all the information obtained was kept safe in our files. We ask all group members to respect others' privacy and not tell people outside the group what was said in the group, but we cannot be sure this will not happen so others may learn something about us. You will not be identified in any discussion of the study reports. With your permission, we would like to capture audio during the group discussion.

Your participation in this study will completely voluntary, and you may leave the discussion at any time. Also, you are free to refuse to answer any questions that you feel are not appropriate or that make you feel uncomfortable. You may ask us any questions about this study at any point during the discussion. Your participation or non-participation in the focus group will not affect other services you currently receive from any of the inserts of the services provided to project participants in any way.

There is no anticipated discomfort for those contributing to this study, so the risk to participants is minimal – but as stated above, others outside the group may learn something about you. Although you may not directly benefit from taking part in this study, the information you provide may lead to improved programs and services in the community and other programs.

There is no compensation for your participation. You can have a copy of this checklist if you want. Do you have any questions? If you have any concerns about this study, you may contact: **Mengistu Tadesse (Mobile: - 0920956667, email: mengisutadesse@gmail.com)** at any time. Do you agree to participate in this study? [If YES, indicate below that the oral informed consent has been

obtained. Then we shall proceed with the question below regarding audio recording. If they refuse, thank them for their wasted time and out them.

❖ **Written consent received**

Do you agree to be audio recorded? [If YES, indicate below. If any of the participants respond “NO”, proceed with the focus group without audio recording.]

❖ **Consent to audio record interview received**

Signature of interviewer: Date: ____/____/____

FGD participants consent form table

- **Date** _____
- **Location** _____
- **Starting time** _____ **Ending time** _____

Pseudo name	Age	Sex	Education level	Religion	Marital status	Signature
P 1						
P 2						
P 3						
P 4						
P 5						
P 6						
P 7						
P 8						
P 9						
P 10						

Facilitator’s welcome, introduction and instructions to participants

Welcome and thank you for volunteering to take part in this focus group/interview. You have been requested to participate as your point of view is important. I realize you are busy and you have no time I appreciate your time.

Introduction: This focus group discussion is designed to assess your current thoughts and feelings about the barrier to knowledge of fertile window Among female secondary school . The focus group discussion will take no more than two hours. May I tape the discussion to facilitate its recollection? (If they agree I will be, switch on the recorder)

Ground rules

1. The most important rule is that only one person speaks at a time.
2. There was a temptation to jump in when someone is talking but please wait until they have finished.
3. There are no right or wrong answers
4. You do not have to speak in any particular order
5. When you do have something to say, please do so. There are many of you in the group and I must obtain the views of each of you
6. You do not have to agree with the views of other people in the group
7. If anyone has any questions they was explained
8. OK, let's begin

Warm-up

First, I'd like everyone to introduce themselves. Can you tell us your name?

Introductory question

I am just was going to give you a couple of minutes to think about your experience with Fertile period knowledge and any challenges may you face to practice it. Is anyone interested to share her experience?

FGD guide/Topic Guide

Knowledge and Awareness:

- 1) What do you understand by the term "fertile period" or "fertile window"?
- 2) Have you received any information or education about the fertile period in your school or elsewhere?
- 3) How confident do you feel in your knowledge about the fertile period? Why?

Sources of Information:

- 1) Where do you usually get information about reproductive health and the fertile period?
- 2) Do you feel that the information you receive is reliable and accurate? Why or why not?
- 3) Are there any challenges or barriers you face in accessing information about the fertile period?

Perceptions and Attitudes:

- 1) How important do you think it is for young women to have knowledge about their fertile period?
- 2) What are some common misconceptions or myths you have heard about the fertile period?
- 3) Do you believe that understanding the fertile period can help prevent unintended pregnancies? Why or why not?

Educational Needs:

- 1) What specific topics related to the fertile period would you like to learn more about?
- 2) What are some effective ways to educate young women like yourselves about the fertile period?
- 3) Do you think it would be helpful to include information about the fertile period in the school curriculum? Why or why not?

Barriers and Challenges:

- 1) Are there any cultural or societal factors that make it difficult to discuss or learn about the fertile period?
- 2) Do you face any personal barriers or challenges in understanding or tracking your own fertile period?

Recommendations:

- 1) Based on our discussion, what recommendations do you have to improve education and awareness about the fertile period among young women like yourselves?
- 2) How can schools, parents, and communities support young women in learning about and understanding their fertile period?

Conclusion:

- 1) Summarize the main points discussed during the FGD.
- 2) Thank the participants for their valuable insights and contributions.
- 3) Provide any additional information or resources that may be relevant to the topic.
- 4) Reiterate the confidentiality of the discussion and emphasize the importance of using the knowledge gained to make informed decisions about reproductive health.

DABALATA A

DABALATA A. Waraqaa odeeffannoo fi unka hayyama beekumsa qabu itti gaafatamaa dhaabbatichaaf.

Maqaan koo _____. Qorannoo mana barumsaa sadarkaa lammaffaa kana keessatti gaggeeffamaa jiruuf daataa walitti qabaa ta'ee hojjechaa jira, Yunivarsiitii Salaalee, Kolleejjii Saayinsii Fayyaa fi Meedikaalaatti Digrii Mastersii isaaf kan baratu **Mangistuu Taddasaa**. Waa'ee qo'annaa sanaa akkan isiniif ibsuuf xiyyeeffannaa keessan akka naaf kennitan kabajaan isin gaafadha.

Mata dureen qorannichaa : Haala Beekumsa Waa'ee Yeroo Dhalchuu fi Qabxii Isaa Waliin Walqabatu Barattoota Dubartoota Mana Barumsaa Sadarkaa Lammaffaa Aanaa Warra Jarsoo, Zoonii Shewa Kaabaa, Naannoo Oromiyaa, Ethiopia, 2024.

Kaayyoo qorannichaa: Argannoon qorannoo kanaa waajjirri fayyaa naannoo, zoonii fi godinaalee sagantaalee gidduu seensaa karoorsuu keessatti barbaachisummaa olaanaa qabaachuu danda'a, kunis barattoota dubartootaa dhaabbata olaanaa kanneen waliin walqabatan biratti ittisa ulfaa ammayyaa irratti gufuulee ykn qormaata ta'an hir'isuuf du'a fi dhukkubbii olaanaa ulfa baasuu fi walxaxiinsa isaa waliin walqabatee, hanqina mana barumsaa olaanaa, dafanii gaa'ela godhachuu fi jeequmsa saalaa irratti hundaa'e dabaluu. Kana malees, kaayyoon qorannoo kanaa qorataa ijoodhaaf Sagantaa Maastarsii Fayyaa Hawaasaa Fayyaa walhormaataa guutuuf akka barbaachisummaa gartokkeetti barruu qorannoo barreessuudha.

Hojimaataa fi yeroo: Barattoota filatamaniif gaaffilee gaaffilee deebii kennuun daataa barbaachisaa qorannichaaf gargaaru naaf kennuuf nan kenna. 44 dha gaaffilee dubbisuudhaan bakka gaafficha guutan deebisuuf. Gaaffiin gara daqiiqaa 60 kan fudhatu yoo ta'u, yeroo isaanii gaafficha deebisuuf akka naaf qusatan kabajaan isin gaafadha.

Balaa fi faayidaa: Balaan qorannoo kana irratti hirmaachuu baayyee xiqqaadha, garuu yeroo keessan irraa daqiiqaa 60 qofa fudhachuudha. Qorannoon kana irratti hirmaachuuf kaffaltiin kallattiin hin jiraatu ture. Garuu argannoowwan qorannoo kanarraa argaman odeeffannoo isin nuuf kennitan irratti hundaa'uun itti fayyadama

ittisa ulfaa ammayyaa hojii isaa barattoota dhaabbilee olaano Aanaa Wara Jarsoo biratti walqabatan ilaalchisee odeeffannoo barbaachisaa ta'e mul'isuu danda'a.

Iccitii: Odeeffannoon nuuf kennamu iccitii ta'ee ni eegama. Odeeffannoon addatti hirmaattota adda baasu hin jiraatu. Argannoon qorannichaa hawaasa qorannichaaf waliigalaa kan ta'u yoo ta'u, waan addaa namoota dhuunfaa kan hin calaqqisiifne ta'a. Gaaffiin maqaa agarsiisu akka hin dabalamneef koodii ni kennama. Gabaasa afaaniin ykn barreeffamaan hirmaattoota qorannicha waliin walqabsiisuu danda'u keessatti eeruun hin kennamu.

Mirga: Qo'annoo kanaaf hirmaannaan guutummaatti fedhii ofiitiin kan kennamudha. Hirmaattonni qorannoo kana irratti hirmaachuu fi dhiisuu isaani labsuuf mirga qabu. Yoo hirmaachuuf murteessan yeroo barbaadanitti qorannicha keessaa ba'uuf mirga kan qaban yoo ta'u, kunis kasaaraa ykn faayidaa karaa biraatiin mirga isaaniif malu kamiifuu isaaniif hin mallatteessu. Gaaffii deebii kennuu hin barbaanne kamiifuu deebisuu hin qaban.

Teessoo quunnamtii: Waa'ee qorannichaa ykn hojimaata yeroo kamiyyuu gaaffiin ykn gaaffii yoo jiraate teessoo kanaan qunnamaa.

Qorataa ijoo

Maqaa: Mangistuu Taddasaa.

Teessoo

[Bilbila:0920956667](tel:0920956667)

[Imeelii:- mengisutadesse@gmail.com irratti ergaa](mailto:mengisutadesse@gmail.com)

Labsii hayyama tola ooltummaa beekumsa qabu: 1.1.

Waraqaa odeeffannoo hirmaattotaa dubbiseera. Kaayyoo qorannichaa, hojimaata, balaa fi faayidaa, dhimmoota iccitii, mirga hirmaachuu fi teessoo quunnamtii gaaffii kamiyyuu sirriitti hubadheera. Wantoota ifa hin taane ta'uu danda'aniif gaaffii akkan gaafadhu carraan naaf kennameera. Yeroo kamiyyuu qo'annoo dhaabuuf mirga akkan qabu naaf himameera. Kanaafuu, qorannoon kun maqaa jalqabaa (mallattoo) kootiin kolleejjicha keessatti akka gaggeeffamuuf hayyama tola ooltummaa koo maqaa kolleejjichaatiin nan ibsa.

DABALATA B. Gaaffiilee. Afaan Oromoo version

<u>KUTAA TOKKO:- Jijjiiramoota hawaas-dimoogiraafii</u>			
Lakki	Gaaffiilee	Filannoo Filannoo Deebii kennuudhaaf	irra darbuu
101	Umuriin kee meeqa?	_____ waggoota	
102	Amantiin keessan maali?	6. Ortodoksii 7. Pirootestaantii 8. Kaatolikii 9. Muslima 10. Kanneen biroo, _____ ibsi.	_____ .
103	Saba kam keessaa tokko?	5. Afaan Oromoo. 6. Amaaraa 7. Tigree 8. Kanneen biroo, (Ibsi)_____ .	_____ .
104	Sadarkaan kutaa keessan maali?	5) 9ffaa – 6) 10 ^{ffaa} 7) 11ffaa ^{irratti} 8) 12ffaa ^{irratti}	_____ .
105	Haalli barnootaa haadha kee maali?	5) Dubbisuu fi barreessuu dadhabuu 6) Sadarkaa tokkoffaa (1-8) . 7) Sadarkaa lammaffaa (9-12) . 8) Kolleejjii fi sanaa ol	_____ .
106	Hojiin abbaa kee maali?	3. Qotee bulaa 4. Hojjetaa guyyaa guyyaa 7. Hojjetaa Mootummaa 8. Damee dhuunfaa keessatti qacaramee hojjeta. 9. Daldala dhuunfaa qaba. eeruu _____ 10. Kan biroo (Ibsi)_____ .	_____ .
107	Hojiin haadha kee maali?	3. Haadha manaa 4. Hojjetaa guyyaa guyyaa 7. Hojjetaa ofiisaa 8. Damee dhuunfaa keessatti qacaramee hojjeta. 9. Daldala dhuunfaa qaba	_____ .

		10. Kanneen biroo(ibsu)_____	
108	Warri kee maallaqa (maallaqa kiishaa) ofii keetiif siif kennu?	3. Eeyyee 4. Lakki	
109	Yoo eeyyee ta'e G 109	2. Maallaqni tokkollee naaf kennamee hin beeku 5. Yeroo muraasa, garuu ji'a ji'aan miti 6. Ji'atti al tokko 7. Ji'atti al tokkoo ol	
110	Yeroo baay'ee eenyu waliin jiraatta?	7. Fira waliin 8. Hiriyyoota/hiriyyoota waliin 9. Hiriya/ abbaa manaa ykn haadha manaa wajjin 10. Hiriya gurbaa / intala waliin 11. Qofaa 12. Kaan immoo ibsu_____.	

Kutaa Lammaffaa : Maddoota Odeeffannoo Ilaalchisee

Lakki	Gaaffilee	Filannoo Filannoo Deebii kennuudhaaf	Koodii
201	Walqunnamtii saalaa raawwattee beektaa?	3. Eeyyee 4. Lakki	_____ .
202	Yoo eeyyee ta'e, jalqaba umrii meeqatti walqunnamtii saalaa raawwatte? (lakkoofsa galchi)	_____ Umurii waggaadhaan	_____ .
203	Yeroo jalqabaaf qunnamtii saalaa raawwachuuf maaliif murteessita?	9. Jaalalaan qabame 10. Fedhii qaba ture 11. Anis fuudhe 12. Gudeedamte 13. Maallaqaa fi kennaa biroo argachuuf. 14. Dhiibbaa hiriya 15. machaa'ee ykn dhagaadhaan rukutame. 16. kanneen biroo(ibsi) .	_____ .

204	Walqunnamtii saalaa jalqabaa eenyu waliin goote?	7. Jaalallee dhaabbataa ture 8. Jaalallee yeroo hunda nama jaallatu ture 9. Inni nama orma ture 10. Miseensa maatii ture 11. Inni hojjechiisaa koo ture 12. Kanneen biroo(ibsi) ._____	
205	Namni Ati yeroo jalqabaaf walqunnamtii saalaa waliin raawwatte umuriin isaa hangam ykn xiqqaa ture?	7. Inni bara akka koo ture 8. Waggaa 10 ol ta'een 9. Waggaa 5 ol ta'een 10. Waggaa 5 gadi ta'een 11. Dargaggeessa 12. Hin beekne	
206	Walumaagalatti namoota meeqatu ji'oota 12 darban keessatti walqunnamtii saalaa raawwattee beektaa?	7. nama tokko waliin 8. nama lama waliin 9. namoota sadii waliin 10. namoota afur waliin 11. namoota shanii hanga sagal waliin 12. namoota 10 fi isaa ol waliin	_____ .
207	Mallattoolee STI, Kan akka madaa qaama saalaa, dhangala'aa qaama saalaa hin baramne, dhukkubbii yeroo fincaan ykn dhiita'uu qaama saalaa si mudatee beektaa?	3. Eeyyee 4. Lakki	
208	Yoo eeyyee ta'e, jalqaba dhimma kana irratti eenyu waliin mari'atte?	8. Hiriyyoota/hiriyyoota koo 9. Warri koo 10. Hiriya koo gurbaa/intala 11. Hojjetoota fayyaa 12. Fayyisaa aadaa 13. injeektota naannoo sanaa 14. Kanneen biroo, _____ ibsi.	_____ .
210	Qorichoota ulfa ittisuu ammayyaa fayyadamtee beektaa?	3. Eeyyee 4. Lakki	_____ .
211	Lakki yoo ta'e sababoonni maali? (deebii tokkoo ol ni danda'ama)	1. Qunnamtii saalaa yeroo baay'ee hin raawwadhu 9. Dhorka Amantii 10. Hin argamne tajaajilli. 11. Sodaa miidhaa cinaa 12. Sodaa namoota kunuunsa kennan 13. Tajaajilli hin argamu 14. Kaan immoo ibsu _____ .	_____ . _ .
212	Carraan ulfa ta'uu si mudatee beekaa?	3. Eeyyee	

		4. Lakki	
213	If yes for Q2012 Yeroo jalqaba ulfoofte umriin kee meeqa ture? (Umurii galchi)	1. 1. . Umurii _____ waggaa	
214	Yeroo meeqa ulfoofte? (Lakkoofsa galchi)	_____ Yeroo	
215	Ulfa turte yoo ta'e ulfi kee meeqatu karoorfame?	_____ Yeroo	
216	Ulfa baasuu ykn ulfa dhaabdee beektaa?	3. Eeyyee 4. Lakki	
217	Yoo eeyyee ta'e, yeroo meeqa ulfa baaste?	_____ Yeroo	
218	Ulfa baasuun yoo jiraate, jalqaba dhimma kana irratti eenyu waliin mari'atte?	1. 1. . Hiriya/abbaa manaa koo 2. Hiriya koo gurbaa 9. Hiriyyoota/hiriyyoota koo 10. Warri koo 11. Hojjetoota fayyaa 12. Fayyisaa aadaa 13. Ogeessa ulfa baasuu naannoo sanaa 14. Kanneen biroo, _____ ibsi.	
219	Maaliif ulfa baaste ykn ulfa addaan kutte?	6. Maatii koo sodaachuun 7. Barnoota koo itti fufuuf. 8. Gaa'elaan ala ture 9. Rakkoo dinagdee 10. Kaan__	
220	Ulfa eessaa baafta?	5. Dhaabbata fayyaa hawaasaatti 6. Kilinika dhuunfaa keessatti 7. Mana ogeessa ulfa baasuutti 8. Kanneen biroo, ____ ibsi.	
221	Bakka kanatti maaliif kunuunsa ulfa baasuu barbaaduu filatte?	7. Bu'a qabeessummaa wal'aansaa 8. Wal'aansa bilisaa 9. Baasii wal'aansaa xiqqaa 10. Dhiyeenya 11. Iccitii eeguu 12. Kanneen biroo, ibsi _____ .	

Kutaa 3ffaa: - Gaaffilee Ilaalchaan Walqabatan

Lakki	Gaaffilee	Deebii	irra darbuu
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301	Shamarran shamarran waa'ee yeroo hormaataa beekumsa qabaachuun barbaachisaa dha.	6) Walii hin galu 7) Cimsee walii hin galu 8) Qaama bilisaa 9) Waliigaluu 10) Cimsee walii gala	
302	Mata duree yeroo hormaataa irratti ifatti mari'achuun hawaasa koo keessatti akka waan dhorkameetti ilaalama.	6) Walii hin galu 7) Cimsee walii hin galu 8) Qaama bilisaa 9) Waliigaluu 10) Cimsee walii gala	
303	Waa'ee yeroo hormaataa beekumsa qabaachuun shamarran dargaggootaa waa'ee fayyaa walhormaataa isaanii murtoo sirrii ta'e akka murteessan humna isaaniif kennuu danda'a.	6) Walii hin galu 7) Cimsee walii hin galu 8) Qaama bilisaa 9) Waliigaluu 10) Cimsee walii gala	

Kutaa 4ffaa : Beekumsa Yeroo Dhalchuu

401	Yeroon ovulation dubartii yoom sitti fakkaata?"	7) Giddugaleessa marsaa lagu 8) Yeroo lagu ishee 9) Erga period xumuramee booda 10) Osoo marsaan lagu hin jalqabin dura 11) Yeroo kamiyyuu 12) An hin beeku
402	Odeeffannoo waa'ee lagu argattee?	3. Eeyyee 4. Lakki

403	Yoo eeyyee ta'e odeeffannoo waa'ee laguu eessaa argatta?	8. Maatii 9. Hiriyoota 10. Mana barumsaa 11. Hojjettoota Fayyaa 12. Miidiyaa ummataa 13. Barruulee/ gaazexaa/ barruulee 14. Kaan immoo ibsu _____ .
404	Yeroon odeeffannoo laguu irratti argame?	3. Laguu dura 4. Laguu booda
405	Yeroo laguu jalqabaa umriin kee maali	_____ .
3. Walqunnamtii saalaa kan wal qabatu		
301	Walqunnamtii saalaa raawwattee beektaa?	3) Eeyyee 4) Lakki
302	Walqunnamtii saalaa jalqabaa irratti umriin kee maali	_____ .
303	Walqunnamtii saalaa jalqabaa eenyu waliin goote?	6) Barataa waliin barattuu 7) Barsiisaa mana barumsichaa irraa 8) Nama daldalaa 9) Hojjetaa NGO/ GO 10) Kaan
304	Yeroo walqunnamtii saalaa jalqabaa jalqabni saalqunnamtii maal ture?	4) Dirqisiisuun ykn gudeedamuun 5) Dhiibbaa hiriya irraan gahe 6) Fedhiidhaan ykn jaalalaan
305	Hiriya saalqunnamtii bara jireenyaa meeqa qabda turte?	5) Homaa 6) Tokko 7) Lama 8) Sadii fi isaa ol
306	Yoo hiriya qunnamtii saalaa qabaatte yeroo walqunnamtii saalaa kondomii fayyadamtaa?	4) Lakki 5) Yeroo tokko tokko 6) Yeroo hunda yeroo walqunnamtii saalaa
4. Fayyadama qoricha ulfa ittisuu		
401	Qorichoota ulfa ittisuu ammayyaa fayyadamtanii beektuu	3. Eeyyee 4. Lakki
402	Qorichi ulfa ittisuu ammayyaa eessaa argachuun ni danda'ama jettanii yaaddu?	_____ .
403	Sababni qoricha ulfa ittisuu itti hin fayyadamneef maali	7. Dhaqqabummaa hin qabaatin 8. Beekumsa hin qabaatin 9. Dhiibbaa maatii 10. Dhiibbaa hawaasaa 11. Sababa wal hiikuutiin 12. Ulfa ta'uu barbaada
404	Qoricha ulfa ittisuu hatattamaa fayyadamtee beektaa	3. Eeyyee 4. Lakki

405	Yeroon sirrii qoricha ulfa ittisuu hatattamaa fudhachuuf maali	5. Qoricha ulfa ittisuu hatattamaa fudhachuun hin barbaachisu 6. walqunnamtii saalaa of eeggannoo malee erga raawwatanii booda sa'aatii 24 keessatti 7. walqunnamtii saalaa of eeggannoo malee erga raawwatanii booda sa'aatii 48 keessatti 8. walqunnamtii saalaa of eeggannoo malee erga raawwatanii booda sa'aatii 72 keessatti
5. Ulfa waliin kan walqabatu		
501	Ulfa taatee beektaa	3. Eeyyee 4. Lakki
502	Yeroo ammaa kana ulfa taatee jirtaa?	3. Eeyyee 4. Lakki
503	Waa'ee ulfaa maaltu sitti dhaga'ama ture?	4. Gammadaa 5. Gammachuu dhabuu 6. Homaa
504	Haalli ulfaa maal ture?	3. Karoorfame 4. Karoora malee
505	Bu'aan ulfaa maal ture?	5. De'e (Live birth) . 6. Ammallee dhalachuu 7. Ammallee ulfa 8. Ulfa irraa baafame
506	Miseensa maatii seenaa ulfa dargaggummaa qabu qabduu?	3. Eeyyee 4. Lakki

GALATOOMAA!

Dabalata C Unka hayyamaa qo'annoo qulqullinaa

Hojimaata FGD

Hayyama beekumsa qabu : -Maqaan koo ----- Yeroo Dhalchuu irratti qorannoo gaggeessuuf dhufna Beekumsaa fi Qabxiilee Walqabatan Barattoota Dubartoota

Mana Barumsaa Sadarkaa Lammaffaa Naannoo Oromiyaa, Ethiopia Goodina Shewa Kaabaa, Aanaa Wara Jaarsoo: Qo'annoo qaxxaamuraa fayyadamaa pirojektichaa nuti qorannoo kana irratti akka hirmaattan gaaffii isiniif kaasaa jirra. Hirmaannaan keessan marii garee xiyyeeffannoo irratti ta'a. Marii kana keessatti waa'ee danqaa of-qorannoo harmaa dubartoota biratti mudatu ni gaafatamna. Qorannoo kana irratti hirmaachuun faayidaa kallattiin hin argattu ykn kaffaltii hin argattu garuu akkuma armaan olitti ibsame deebii kee guutuu fi amanamaa tattaaffii kaansarii harmaa ittisuu keessatti galtee faayidaa qabu qabaata.

Mariin kun _____ kan turu ta'a. Mariin kun qorannoo qofaaf kan ta'u yoo ta'u, odeeffannoon argame hundi faayiloota keenya keessatti haala gaariin kan eegamu ta'a. Miseensonni garee hundi iccitii namoota biroo akka kabajanii fi garee keessatti waan dubbatamu namoota garee ala jiranitti akka hin himne gaafanna, garuu kun akka hin taane mirkaneeffachuu hin dandeenyu kanaaf namoonni biroo waa barachuu danda'u. Marii gabaasa qo'annoo kamiyyuu keessatti adda hin baafamtu. Hayyama keessaniin yeroo marii garee sagalee qabachuu barbaanna. Qo'annoo kana irratti hirmaachuun kee guutummaatti fedhii keetii kan ta'u si'a ta'u, yeroo barbaaddetti marii sana keessaa bahuu dandeessa. Akkasumas, gaaffii sirrii akka hin taane sitti dhaga'amu ykn miira tasgabbii akka sitti hin dhaga'amne sitti dhaga'amu kamiif iyyuu deebii kennuu diduudhaaf bilisa dha. Marii yeroo barbaaddanitti waa'ee qorannoo kanaa gaaffii yoo qabaattan nu gaafachuu dandeessu. Garee xiyyeeffannoo keessatti hirmaachuun ykn hirmaachuu dhabuun kee tajaajiloota biroo yeroo ammaa tajaajiloota hirmaattoota pirojektiif kennaman keessaa galtee kamiyyuu irraa argattu karaa kamiinuu dhiibbaa hin geessisu.

Namoota qorannoo kanaaf gumaachaniif miira gaarii dhabuun eegamu hin jiru, kanaaf balaan hirmaattootaaf dhufu xiqqaadha – garuu akkuma armaan olitti ibsame, namoonni garee kanaan ala jiran kaan waa'ee kee waan tokko barachuu danda'u. Qo'annoo kana irratti hirmaachuun kallattiin fayyadamoo ta'uu baatus, odeeffannoon ati kennitu sagantaalee fi tajaajiloota hawaasa keessatti fooyya'oo ta'anii fi sagantaalee biroo fiduu danda'a.

Hirmaannaa keessaniif beenyaan hin jiru. Yoo barbaadde waraabbii tarree sakatta'iinsaa kanaa qabaachuu dandeessa. Gaaffii qabduu? Qorannoo kana ilaalchisee yaaddoo yoo qabaattan: **Mangistuu Taddasaa qunnamuu dandeessu (Mobaayila: - 0920956667, email: mengisutadesse@gmail.com)** yeroo kamiyyuu. Qorannoo kana irratti hirmaachuuf walii galtuu? [Yoo EEYYEE ta'e, hayyamni afaaniin odeeffannoo kenname akka argame armaan gaditti

agarsiisi . Sana booda gaaffii armaan gadii waraabbii sagalee ilaalchisee itti fufna. Yoo didan yeroo qisaaseef galateeffadhu, isaanis baasi.

❖ **Hayyama barreeffamaa argame**

Sagaleen waraabamuuf walii galtuu? [Yoo EEYYEE ta'e armaan gaditti agarsiisi. Hirmaattota keessaa tokko “LAKK” jedhee yoo deebii kenne, sagalee waraabbii malee garee xiyyeeffannoo itti fufi.]

❖ **Hayyamni af-gaaffii waraabbii sagalee argate**

Mallattoo gaafataa: Guyyaa: ____/____/____ .

Gabatee unka hayyama hirmaattonni FGD

- Guyyaa _____
- Bakka _____
- Yeroo jalqabaa _____ Yeroo xumuraa _____ .

Maqaa sobaa	Umurii	Walqunnamtii saalaa	Sadarkaa barnootaa	Amantaa	Haala gaa'elaa	Mallattoo
P 1.						
P 2.						
P 3.						
P 4.						
P 5.						
P 6.						
P 7.1						
P 8.						
P 9.						
P 10.						

Simannaa haala mijeessituu, seensa fi qajeelfama hirmaattootaaf

Garee xiyyeeffannoo/af-gaaffii kana irratti tola ooltummaadhaan hirmaachuu keessaniif **baga nagaan dhuftan, galatoomaa**. Ilaalchi keessan barbaachisaa waan ta'eef akka hirmaattan gaafatameera. Hojiin akka itti baay'atee fi yeroo akka hin qabne nan hubadha yeroo kee nan dinqisiifadha.

Seensa: Mariin garee xiyyeeffannoo kun yaadaafi miira amma qabdan waa'ee danqaa of-qorannoo harmaa dubartoota biratti jiru madaaluuf kan qophaa'edha. Mariin garee xiyyeeffannoo sa'aatii

lama hin caalle kan fudhatu ta'a. Mariin sun akka yaadatamu haala mijeessuuf teeppiidhaan waraabuu danda'aa? (Yoo walii galan ani ta'a, waraabbii ibsi)

Seera lafaa

8. Seerri inni guddaan yeroo tokkotti namni tokko qofti akka dubbatudha.
9. Yeroo namni tokko haasa'u utaa luun qormaanni ni jiraata garuu mee hanga xumuranitti eegaa.
10. Deebiin sirrii fi dogoggoraa hin jiru
11. Tartiiba addaa kamiinuu dubbachuun si hin barbaachisu
12. Yeroo waan jettu qabaatte maaloo akkas godhi. Garee kana keessa baay'een keessan waan jiraniif yaada tokkoon tokkoon keessanii argachuun qaba
13. Ilaalcha namoota biroo garee sana keessa jiran waliin walii galuu hin qabdu
14. Namni gaaffii yoo qabaate ni ibsama
15. Tole, mee haa jalqabnu

Ho'isuu

Tokkoffaa, namni hundi akka of beeksisu nan barbaada. Maqaa kee nuuf himuu dandeessaa?

Gaaffii seensa

Ani qofa daqiiqaa lama lama siif kennuudhaan waa'ee muuxannoo beekumsa yeroo Fertile period fi qormaata shaakaluudhaaf si mudachuu danda'u kamiyyuu akka yaaddan. Namni muuxannoo ishee nuuf qooduuf fedhii qabu jiraa?

Qajeelfama FGD/Qajeelcha Mata duree

Beekumsaa fi Hubannoo:

- 4) Jecha "yeroo dhala dhala" ykn "foddaa dhala dhala" jedhu maal hubattu?
- 5) Waa'ee yeroo hormaataa mana barumsaa keessanittis ta'e bakka biraatti odeeffannoo ykn barnoota argattaniittuu?
- 6) Beekumsa waa'ee yeroo dhala godhachuu qabdu irratti hammam ofitti amanamummaa sitti dhaga'ama? Maalif?

Maddoonni Odeeffannoo:

- 4) Yeroo baayyee odeeffannoo waa'ee fayyaa walhormaataa fi yeroo hormaataa eessaa argatta?
- 5) Odeeffannoon isin argattan amanamaa fi sirrii akka ta'e isinitti dhaga'amaa? Maaliif ykn maaliif hin taane?
- 6) Odeeffannoo waa'ee yeroo dhala godhachuu argachuuf qormaanni ykn gufuun si mudatu jiraa?

Ilaalcha fi Ilaalcha: 1.1.

- 4) Shamarran shamarran waa'ee marsaa laguu isaanii beekumsa qabaachuun hangam barbaachisaa dha jettanii yaaddu?
- 5) Yaadonni dogoggoraa ykn sheekkoowwan beekamoo ta'an tokko tokko waa'ee yeroo dhala godhachuu dhageesse maali?
- 6) Yeroo dhala namaa hubachuun ulfa hin yaadamne ittisuuf gargaara jettanii amantaa? Maaliif ykn maaliif hin taane?

Fedhii Barnootaa: 1.1.

- 4) Mata dureewwan addaa yeroo dhala namaa wajjin walqabatan akkamii caalaatti baruu barbaadda?
- 5) Shamarran akka keessanii waa'ee laguu dhala godhachuu barsiisuuf karaaleen bu'a qabeessa ta'an maali?
- 6) Odeeffannoo waa'ee yeroo dhala namaa kaarikulamii mana barumsichaa keessatti hammachuun ni fayyada jettanii yaaddu? Maaliif ykn maaliif hin taane?

Gufuulee fi Qormaata: 1.1.

- 3) Wantoonni aadaa ykn hawaasaa waa'ee yeroo hormaataa irratti mari'achuu ykn barachuun rakkisaa ta'an jiruu?
- 4) Yeroo dhala godhachuu mataa keetii hubachuu ykn hordofuu irratti gufuu ykn qormaata dhuunfaa si mudataa?

Yaada kennaman: 1.1.

- 3) Marii keenya irratti hundaa'uun shamarran akka keessanii waa'ee yeroo hormaataa ilaalchisee barnootaa fi hubannoo fooyyessuuf yaada akkamii qabdu?
- 4) Manneen barnootaa, warri, fi hawaasni shamarran waa'ee yeroo dhala godhachuu isaanii akka barataniifi hubachuuf akkamitti deggeruu danda'u?

Goolaba:

- 5) Qabxiilee ijoo yeroo FGD irratti mari'ataman gabaabsi.
- 6) Hirmaatonni hubannoo fi gumaacha gatii guddaa qabu nuuf kennaniif galatoomaa.
- 7) Odeeffannoo dabalataa ykn qabeenya mata duree sanaan walqabatee ta'uu danda'u kamiyyuu kennuu.
- 8) Marii iccitii ta'uu irra deebi'anii ibsuun beekumsa argaman fayyadamuun waa'ee fayyaa walhormaataa murtoo sirrii ta'e murteessuu barbaachisaa ta'uu isaa cimsuu.

Declaration

This research thesis developed by **Mengistu Tadesse** is accepted in its present form and as his advisors, we satisfy the research thesis requirement in Partial Fulfilment of Master's Degree in Reproductive Health

Name: Mengistu Tadesse

Signature: _____



Name of the institution: Salale University

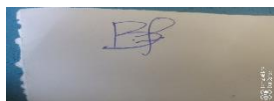
Date of submission: 12/09/2024

This research has been submitted for examination with my approval as University advisor

Name and Signature of the first advisor

Name: Mr. Mulugeta Mukria (BSc, MPH, Assistant Professor)

Signature: _____



Name and Signature of the second advisor

Name: Mr Tinsae Abaya (MPH in HP/HB, BSc in PH)

Signature: _____