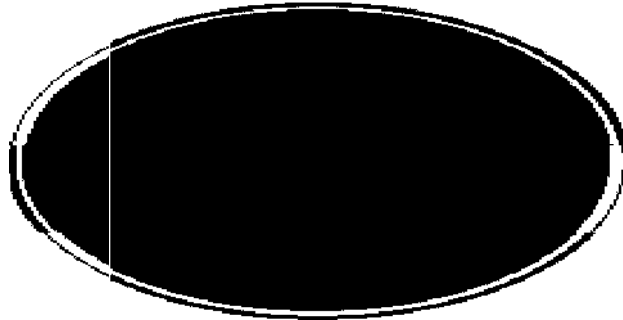


**ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH  
SCIENCES SCHOOL OF PUBLIC HEALTH**



**Prevalence of primary dysmenorrhea and its consequences on  
school attendance among high school female adolescent students**

**Candidate:** Merema Jemal

**Advisor:** Dr. Mirgissa Kaba and Meaza Gezu

**A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF PUBLIC  
HEALTH FOR PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER IN PUBLIC HEALTH PROGRAM.**

**November, 2019**

**Addis Ababa**

**Ethiopia**

## Acknowledgement

First of all, I would like to thank the almighty God Allah. Then my thank goes to Addis Ababa University school of public health for giving me this opportunity and my advisors Dr. Mirgissa Kaba and Meaza Gezu for their guidance and constructive comment starting from topic selection until the completion of the study.

My thank goes to school directors and teachers of Geresu Duky and Waliso high school for their willingness to provide the necessary information and supports during my data collection.

Finally, I would like to thank all female students who were volunteer and willing to give me their time to offer all relevant information to this study.

# Table of Contents

Acknowledgement .....	II
List of tables.....	V
List of figures.....	VI
List of annex .....	VII
Acronym .....	VIII
<b>1. INTRODUCTION.....</b>	<b>1</b>
1.1. Back ground .....	1
1.2. Statement of the problem .....	2
1.3. Significance\Rationale for the study .....	3
<b>2. LITRATURE REVIEW .....</b>	<b>4</b>
2.1. Prevalence and consequence of primary dysmenorrhea on school activities.....	4
2.2. Primary dysmenorrhea risk factors .....	5
2.3. Conceptual frame work .....	6
<b>3. OBJECTIVES .....</b>	<b>7</b>
3.1. General objective.....	7
3.2. Specific objectives.....	8
<b>4. METHDOLOGY.....</b>	<b>8</b>
4.1. Study setting.....	8
4.2. Study Design .....	9
4.3. Source Population .....	9
4.4. Study Population .....	9
4.4.1. Inclusion criteria .....	9
4.4.2, Exclusion criteria.....	9

4.5. Sample size.....	9
4.6. Sampling procedure.....	10
4.7. Study variables.....	11
4.7.1 Dependent variable.....	11
4.7.2. Independent variable.....	11
4.8. Data collection tools and procedures.....	11
4.9. Data quality management.....	12
4.10. Data entry and analysis.....	12
4.11. Operational definition.....	13
4.12. Ethical consideration.....	13
4.13. Dissemination of finding.....	14
<b>5. Results.....</b>	<b>14</b>
5.1. Socio demographic and menstrual characteristics.....	15
5.2. Characteristics of PD and manegment practices.....	17
5.4. Binary and Multi-variable logistic Regression analysis.....	19
5.5. Severity of primary dysmenorrhea and its cosequence on school attendance.....	21
<b>6. DISCUSSION.....</b>	<b>- 23 -</b>
6.1. Strength of the study.....	- 25 -
6.2. Limitation of the study.....	- 25 -
6.3. Conclusion.....	- 25 -
6.4. Recommendation.....	- 26 -
<b>REFERENCE.....</b>	<b>- 27 -</b>
<b>APPENDICES.....</b>	<b>- 31 -</b>

## LIST OF TABLES

## PAGE

<b>Table-1.</b> Socio-demographic and menstrual characteristics of adolescent female students in Waliso Town, Ethiopia, 2018\19.....	16
<b>Table-2.</b> Characteristics of primary dysmenorrhea of adolescent female students in Waliso Town, Ethiopia, 2018\19.....	18
<b>Table-3</b> Bivariate and multivariate logistic regression analysis adolescent female students in Waliso Town, Ethiopia, 2018\19.....	20
<b>Table-4.</b> Effects of Primary dysmenorrhea on school attendances adolescent female students in Waliso Town, Ethiopia, 2018\19.....	22

## LIST OF FIGURES PAGE

Figure1: Conceptualframework of this study.....	7
Figur2: Flow chart of sampling procedure .....	11
Figure3. Associated symptoms with Primary dysmenorrhea.....	17
Figure4.Management practice for treatment of Primary dysmenorrhea.....	19

# LIST OF ANNEXES

## Annexes page

Annex-1 Consent form (English) .....	31
Annex-2 Consent form(Amharic).....	33
Annex -3Concent form (AfaanOromo) .....	35
Annex -4Questioner(English).....	37
Annex -5 Questioner (Amharic) .....	42
Annex-6 Questioner (Afaan Oromo) .....	47

## ACRONYM

AAU-Addis Ababa University

AOR– Adjusted odd ratio

BMI – Body Mass Index

CDC – Center for disease control

CI – Confidence interval

COR–Crude odd ratio

CSA – Central Statistical Agency

Dr –Doctor

E.G – Example

MHM – Menstrual hygiene management

MPH – Master of public health

NRS – Numerical rating scale

NSAID –Non steroidal anti-inflammatory drugs

NPS- Numerical pain scale

PD – Primary dysmenorrhea

SPSS – Statistical Package for Social Science

SRS – Systematic random sampling

WASH –Water, sanitation and hygiene

## Abstract

**Introduction:** Primary dysmenorrhea, or painful menstruation in the absence of pelvic pathology is the most common gynecological complaint among adolescence and young women. Its adverse consequence ranges from short term school absenteeism to family and personal disruption. Local studies especially among younger adolescent students exploring primary dysmenorrhea and its consequences on school attendance is scarce. Therefore, this study aimed to assess the prevalence of primary dysmenorrhea and its consequences on school attendance.

**Method:** A Cross-sectional study was conducted from March, 7 to 21, 2019 among public secondary school students in Waliso town. Stratified random sampling technique was used to enroll 340 participants. Data were collected using pretested self-administered questionnaire. Data was cleaned, coded and entered into Epi info 7 and exported to SPSS version 25 for analysis. Bivariate and multivariable logistic regression model was applied to determine factors associated with primary dysmenorrhea. Pearson's Chi-square test was used to determine the relationship between primary dysmenorrhea and school absenteeism.

**Results:** Primary dysmenorrhea was reported by 247 (75.1%) of the participants. It was mild in 108 (43.7%), moderate in 98 (39.7%), and severe in 41 (16.6%) of the respondents. It was accompanied by other symptoms like back pain 184 (55.9%), fatigue 159 (43.3%) and headache 63 (19.1%). Out of dysmenorrhic students 96 (38.9%) of them reported consequent absence from school. Pearson Chi-square test showed statistically significant association between severity of primary dysmenorrhea and school activities. This was explained by school absence ( $\chi^2 df=2=17.9$ ,  $p<0.001$ ), loss of concentration ( $\chi^2 df=2=14.5$ ,  $p<0.001$ ), lack of focus on exam ( $\chi^2 df=2=11.4$ ,  $p<0.001$ ) and restriction of physical education. Primary dysmenorrhea was found to have relatively strong association with irregular menstrual cycle, shorter length of menstrual cycle and longer menstrual flow days. Only 7 (2.8%) of the participants seek medical care.

**Conclusion and recommendation:** Primary dysmenorrhea was found to be a common problem among female adolescent students and had consequences on student school attendance and limited their daily school activities. Comprehensive school education program on menarche and menstrual problems may help girls to cope better with dysmenorrhea and appropriately seek medical assistance.

# 1.INTRODUCTION

## 1.1. Back ground

Menstruation is a natural phenomenon that occurs throughout the reproductive year of women. It is one of the evidence of physiological development of adolescent girls. Menstruation is often personal secret and regarded as a taboo to speak about it even at family level. As a result, girls do not obtain adequate support from home, school and community. They are abandoned with consequences including compromised school performance (1).

There are physiological and symptomatic challenges that girls go through during menstruation, which also affect their daily life activity, including school performances. The most common menstrual related physiological problem are dysmenorrhea, premenstrual syndrome (PMS) and heavy bleeding; of these dysmenorrhea is extremely the most common one among adolescent girls and young females (2).

Dysmenorrhea, defined as painful cramps that associate with menstruation, can be sub-classified in to two broad categories of primary and secondary based on the presence or absence of underlying pathology. Primary dysmenorrhea is defined as recurrent, cramping pain occurring with menses in the absence of identifiable pelvic pathology. The initial onset of primary dysmenorrhea is usually shortly after menarche (6–12 months), when ovulatory cycles are established. Pain in the lower abdomen usually begins 1 or 2 days before, or when menstrual bleeding starts, and spread to the lower back and thighs. Pain may range from mild to severe, with typically last 12 to 72 hours, and can be accompanied by nausea, vomiting, fatigue, headaches and even diarrhea. Primary dysmenorrhea is more prevalent during late adolescence, with the beginning of ovulatory cycles two to three years after the commencement of menstruation. It is usually become less painful as a woman ages (3, 4).

The most commonly accepted explanation for the occurrence of primary dysmenorrhea during adolescent age is the over production of uterine prostaglandins. Nearly two to four days prior to the start of menstrual flow, prostaglandin hormone-like substance flows to the uterine muscle where it builds up very rapidly at the onset of menstruation and serve as contractor of uterus muscles, facilitating the expulsion of the uterine lining (endometrial) through the cervix,

this is what cause the menstrual bleeding. These prostaglandin cause muscles contraction in the uterus, which cause pain during menstrual flow and decrease blood flow and oxygen to the uterus, similar to the labor pain, that can cause significant pain and discomfort during menstruation(5,6).

Primary dysmenorrhea has adverse consequences on school, personal and family life of the women, including compromised school performances. Even though not life threatening, it is real health issue which deserves more attention and requires having better understanding it. Therefore, this study aimed to assess the prevalence of primary dysmenorrhea and its consequence on school attendance among high school female adolescent students.

## **1.2.Statement of the problem**

Primary dysmenorrhea is one of the most common gynecological complain among adolescent, yet it is rarely taken into consideration when assessing adolescent health and experience. Primary dysmenorrhea often disregarded by affected women who consider pain to be a normal part of the menstrual cycle. Thus, many women fail to seek treatment (7). It is known to have adverse consequences on personal, family and social life; resulting short term school and work absenteeism(8,9).

There are widely accepted risk factors, such as family history of dysmenorrhea, age at menarche, body mass index (BMI), smoking, heavy and longer menstrual flow and alcohol consumption (3,4). The prevalence of primary dysmenorrhea vary across the studies, because of different definition and measuring method for assessing the pain, different socio-cultural boundaries, ethnicity, selection of study subject and less treatment seeking by the affected women (10,11,12).

Globally, the prevalence of primary dysmenorrhea ranges from 15.8% to 93 % (11,12). Perceived Severe pain reported within the range of 17.7% to 37.5% (13,14). Only small portion of students sought medical advice for dysmenorrhea, it was reported as low as 3 % among Omani school adolescent (15) and as high as 14.2 % among Indian school adolescent (16). Local studies among school adolescents at Kola Diba and Dabat documented 72% prevalence rate and 48% school absenteeism (17).

Literatures documented 30% to 61% school absenteeism among students reported primary dysmenorrhea (12,14). Difficulty to concentrate in class and limitation of social activities when attending school while they are in pain was the other commonly reported consequences of dysmenorrhea on students (14,15).

Local studies especially among younger adolescent students exploring primary dysmenorrhea and its consequence on school attendance are scarce and it would be interesting to see the prevalence and impact of dysmenorrhea on school attendance among high school adolescent students.

### **1.3. Significance\Rationale for the study**

Primary dysmenorrhea is one of the common problem experienced by most of adolescent girls, and it is important to deal with the issue because of the following reasons; -

- Adolescents form an important vulnerable section of population of Ethiopia.
- Dysmenorrhea is one of the common gynecological condition that is under diagnosed and under treated.
- Dysmenorrhea is the most common of gynecological complaints that affects most of female adolescent and cause of periodic school absenteeism among adolescent girls.

Therefore, primary dysmenorrhea is a real health issue which deserves more attention and requires having better understanding of it. The finding of the study can help the healthcare providers, school authorities and for organizations working on school menstrual hygiene management (MHM) Program to have better understanding of the prevalence and consequence of primary dysmenorrhea on school attendance. It can help as a guide to design an effective menstrual health education program and to develop strategies to compensate lost classes and improve poor performance. It also assist the policy maker to give emphasis for the problem and incorporate menstrual related problems and available treatment option early enough in to the school curriculum. Furthermore, the present work will provide highlight implications for future research.

## 2.LITRATURE REVIEW

### 2.1.Prevalenceand consequence of primary dysmenorrhea

Primary dysmenorrhea is one of the most common gynecological complain among adolescent. Studies are conducted among population with different definition of the condition and measuring method for assessing prevalence rate among adolescent and young women. Globallythe prevalence of primary dysmenorrhea ranges from 15.8% to 93% with the higher prevalence rates observed among female adolescent population(11,12).Perceived severe pain reported in the range of 17.7%to 37.5% among female student (13,14).

The highest prevalence was reported (93%) among secondary school adolescents in Egypt, of this 22 % reportedsevere pain and it was responsible for the highest rate of school absenteeism, which was 61 % (12).

According to study in Northern Saudi Arabiaperformedamong 344 secondary school student the prevalence of PD was 74.4% (mild=21.1%, moderate=41.4%, sever=37.5%).Schoolabsence was reported 59.4%, loss of concentration 71.9%. family history of dysmenorrhea reported by 65.6%.18 %consulted school physician and 57.8%received herbal drink to alleviate the symptom of dysmenorrhea (13).

Similar studyin Parakua reported 78.3% prevalence rate of primary dysmenorrhea among high school adolescent, and perceivedsevere pain 28.8%. Irritability and fatigue were the most associated signs respectively. Absenteeism in class was noted in 30% of the cases, declining concentration in 63.7% of the cases andrestriction onparticipation to sports activities reported 55% of the cases. Among the students suffering from dysmenorrhea,11% of them consulted physician for pain relief and 68% of them used self-medication (14).

According to the study in India conductedamong 1000 Indian age 11-28girls, prevalence of dysmenorrhea was 70.2%. Majority of the subjects experienced pain for one or 1-2 days during menstruation. Females experiencing mild pain on an average absented for one and half day a month, while 2 and 3 days for those who experienced moderate and severe forms of dysmenorrhea respectively. A small proportion of girls sought pharmacological management (25.5%) and 83.2% depended on non-pharmacological methods. Only 14.2% had sought medical advice (16).

Study's in Ethiopia reported greater prevalence of PD, which ranges from 66.8% to 85.4% among university students with 60.4% and 88.3% of the respondents reported PD had a negative effect on their academic performance respectively(18,19). Another study at Kola Diba and Dabat in northwest Ethiopia reported 72% prevalence rate of PD with 48% school absenteeism among secondary school adolescent girls (17).

According to the study conducted in Brazil public school among 218 female adolescents of ages between 12 and 17. Dysmenorrhea had a prevalence of 73%, and school absenteeism was observed among 31% of the adolescents. In addition, 66% of the participants considered that dysmenorrhea affected their activities of daily living (20).

Dysmenorrhea has considerable consequences on the student's school performance. Reviewed literatures documented a range of 30% to 61% school absenteeism which was associated with PD (12,14). The other mostly reported consequences of PD among students were difficulty to concentrate and limitation of social activities when attending school while they are in pain (14,15).

Most of the Studies documented that majority of the students do not seek medical treatment for dysmenorrhea. Only small portion of students seek medical advice for dysmenorrhea, it was reported as low as 3 % among Omani school adolescent (15) and as high as 14.2 % among Indian school adolescent(16). A range of 21% to 67% of the respondents reported that they used self-selected medication without physician prescription (15, 16).

Majority dysmenorrhea adolescent girls and young women often suffer from other systemic health problems, such as fatigue, headaches, nausea, dizziness, backaches, weakness and sometimes diarrhea(21).

## **2.2.Risk factors primary dysmenorrhea**

Primary dysmenorrhea is considered the most common gynecological symptom of all menstrual complaints among adolescent and young women across different populations. Large

bodies of recent literatures have reported a range of common determinates identified world widely.

According to the report of study conducted Oman high school student dysmenorrhea was associated with age <20, null parity, higher/ upper socio economic status, heavy menses, attempts to lose weight, physical activity, smoking, disruption of social networks, depression and anxiety (15).

According to study conducted among student inNorther Ethiopia,Participants who had long menstrual cycle interval, long menses flows, and positive family history and who were alcohol users were more likely to had dysmenorrhea (22).

According to study conducted among Japan's junior high school, the prevalence of dysmenorrhea increased with age (31.6% for 12-year-olds, 39.5% for 13-year-olds, 50.3% in 14-year-olds, and 55% in 15-year-olds (23)

According to the study in Ghana chronological and gynecological ages, age at menarche, menstrual duration or flow level do not influence the severity of dysmenorrhea but irregular menstrual flow is significantly associated with severe dysmenorrhea (24).

### 2.3. Conceptual frame work

This study was aimed to determine the prevalence of dysmenorrhea and its association with school absenteeism among High school female adolescents of Waliso town. Review of the literature shows there are determinant factors being socio-demographic characteristics (age, marital status, parity and socio economic status), physiological factors (age at menarche,

shorter length of menstrual cycle, irregular menstrual cycle and heavy bleeding) and life style and psychological factors were found to have association with primary dysmenorrhea. Severity of primary dysmenorrhea found to have direct relationship with school absenteeism.

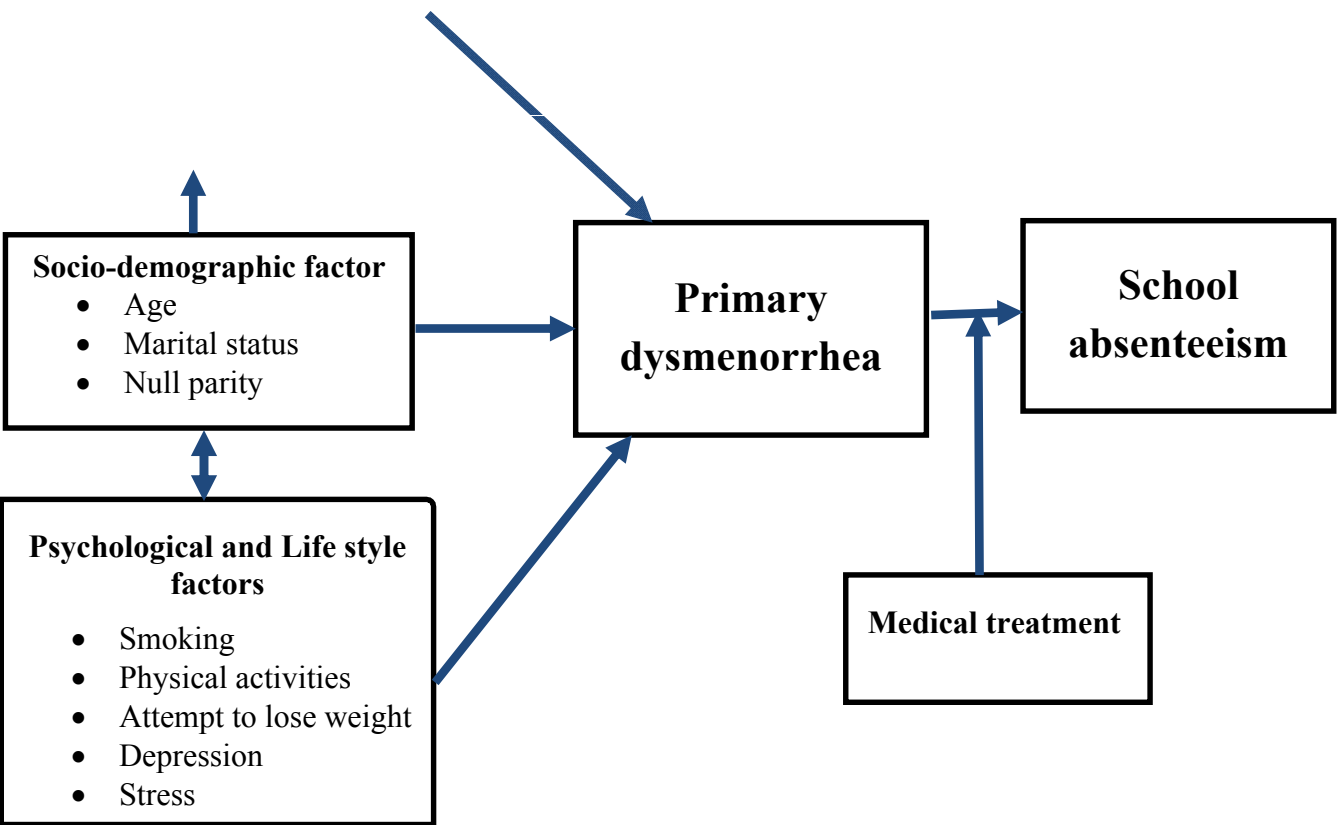


Fig-1: Conceptual framework of this study Source: - Developed after extensive literature review (13-24).

### 3.OBJECTIVES

#### 3.1. General objective

To assess the prevalence of primary dysmenorrhea and its association with school absenteeism among high school adolescent girls in Waliso Town, Oromia region, Ethiopia 2019.

### 3.2. Specific objectives

- To assess the prevalence of primary dysmenorrhea among high school adolescent girls in Waliso Town, Oromia region, Ethiopia 2019.
- To assess the association between primary dysmenorrhea and school absenteeism among high school adolescent girls in Waliso Town, Oromia region, Ethiopia 2019.

## 4. METHODOLOGY

### 4.1. Study setting

The study was conducted among secondary school adolescent girls in Waliso town, South West Shewa Zone, Oromia Regional state Ethiopia. Waliso is the capital town of South west Shewa zone and it is found in the south western parts of the country at the distance of 114km away from Addis Ababa, the capital city of Ethiopia. According to the central statistical agency of

Ethiopia population projection values of 2016 report, the total population of Waliso town was to be 58,296, of which the female population was estimated to be 29501 and 28795 males (25).

In the town there are two public secondary Schools (grade 9<sup>th</sup> & 10<sup>th</sup>) namely Geresu Duki and Waliso secondary school and there is no private secondary school in the town. High school (grade 9 and 10) was selected for the survey because majority of female adolescent found in those grade to study consequence of primary dysmenorrhea on school attendance among school adolescent.

## **4.2. Study Design**

School based cross-sectional study design was employed from March, 7 to 21, 2019 among public secondary school students in Waliso town.

## **4.3. Source Population**

The source population was all female adolescents in Waliso town, and those who enrolled into secondary schools of grade 9 and 10 during the academic year of 2018\19.

## **4.4. Study Population**

The study population was all adolescent students those who attain their menarche and those randomly selected.

### **4.4.1. Inclusion criteria**

All female adolescent students (grade 9 and 10).

### **4.4.2. Exclusion criteria**

- Students do not achieve their menarche
- Student under gynecology follow up

## **4.5. Sample size**

The sample size was determined by using single population proportion formula, considering 95% confidence level, 5% of marginal error (0.05), prevalence of dysmenorrhea ( $p=0.72$ ) from similar study at Dabat and Kola Diba high school North west Ethiopia (17).

$$n = \frac{(Z_{\alpha/2})^2 * P(1-P)}{d^2} = \frac{(1.96)^2 * (0.72 * 0.28)}{(0.05)^2}$$

$$= 309,$$

Where, n- is the sample size to be determined,

$Z_{\alpha/2}$ - for standard normal distribution at 95% confidence interval, is 1.96

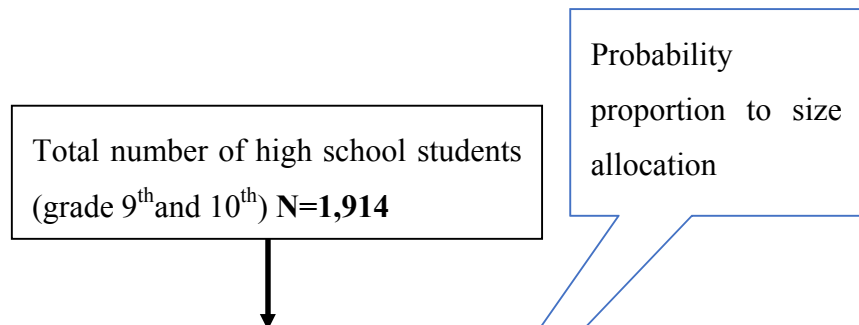
p- Prevalence of dysmenorrhea from previous study 72%,

d- margin of error assumed to be 5%

Adding 10 % non-response rate, final sample size required was **340** adolescent student attend grade 9<sup>th</sup> and 10<sup>th</sup> in academic year 2018\2019.

#### 4.6. Sampling procedure

The sampling procedure to draw 340 participants from the selected schools started by stratifying the schools into two categories based on their grades (grade-9 and grade -10). There were a total of 33 grade 9 and 26 grade 10 class in both schools. There were a total of 1,914 female students in both grades, 1,050 students found in grade 9 and 864 students were found in grade 10. Proportional allocation was used to identify representative sample from each grade. Systematic sampling technique was used to identify the study participant. As shown on figure below, 187 (55%) of the sample was drawn from grade 9 and 153 (45%) from grade 10. The name list of 1,050 grade 9 student and 864 grade 10 students used as sampling frame to select the study participant. Sampling interval ( $k=6$ ) was calculated by dividing number of female student in each grades to the proportionally allocated sample size of each grade ( $k = N \setminus n = 1,050 \setminus 187 = 5.6$ ). The start number was selected between number one and k (6) randomly, then the subsequent participant was selected every 6 intervals until total sample size fulfilled.



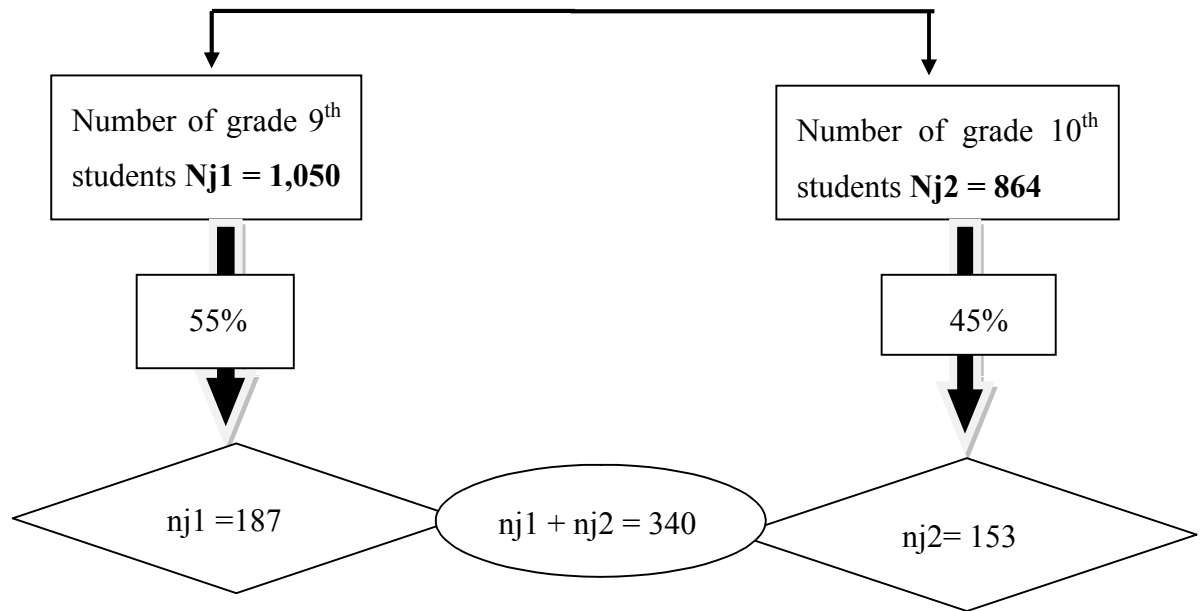


Fig 2: -Schematic Representation of the sampling procedure

## 4.7. Study variables

### 4.7.1 Dependent variable

- Prevalence of primary dysmenorrhea

### 4.7.2. Independent variable

- Socio-demographic variables (age, sex, marital status, place of residence, educational status of the mother)
- Menstrual characteristics (Age at menarche, regularity of menstrual, length of menstrual cycle, duration of menstrual flow, amount of flow, family history of dysmenorrhea).

## 4.8. Data collection tools and procedures

Structured data collection tool was developed based on the study objectives by reviewing related studies (17,18,19,21,22). The tool was first developed in English and translated to local language Afan Oromo and Amharic, then translated back to English for consistency. It has three sections. first section the socio-demographic data and menstrual characteristics of respondents,

second section question related to menstrual pain. Students who reported experience of menstrual pain completed additional questions (third section of the questioner) regarding the characteristics of pain and influence of pain on their ability to perform everyday school activities including class absenteeism and academic performance at the same time.

The questioner was pretested on 17 (5% of the total sample size) on school adolescent girls at Dilela secondary school in Dilela town and necessary modification was made. A half day explanation was given on the overall steps and procedure of data collection for data collectors. The data was collected by 2 female teachers and supervised by one male high school teacher. The data collection activities were accomplished in the class room at break time after letting out male students and females those are not selected randomly.

#### **4.9. Data quality management**

The data quality was maintained through careful design of questionnaire. Explanation and clarification on the questioner was done for the students before data collection. Regular meeting was held among data collector, supervisor and principal investigator throughout the course of data collection. Two more additional visit was made for participants who were not available at the time of data collection. The collected data were reviewed and checked for completeness before data entry and incomplete data were excluded from analysis.

#### **4.10. Data entry and analysis**

The collected questioners first manually checked for completeness, then the data was cleaned, coded and entered using Epi info 7 and exported to SPSS version 25 for data analysis. The descriptive statistics, such as frequency, percentage, mean, standard deviation was performed to describe study population. Text, tables and graphs were used to present the result.

Binary logistic regression model was computed to test the presence of association between dependent (primary dysmenorrhea) and independent (age, class year, place of residence, age at menarche...etc) variables. First, bivariate analysis was computed for each predictor variables, then all predictor variable with  $p < 0.05$  were included in multivariable analysis. Finally, significance was considered at  $p < 0.05$  with 95% CI.

Pearson's Chi-square was performed to determine the presence of association between dependent variable and outcome factors (school activities).

#### 4.11. Operational definition

**Primary Dysmenorrhea (PD):** -is defined as a cramp at the lower abdomen on the day before or at the onset of the menstrual period and lasting 1-3 days. Which characterized with three patterns, which is mild, moderate and severe. It is determined by presence of one or more episodes of menstrual cramps or pain in the last 12 months

To measure the severity of Primary dysmenorrhea a 10-point numerical rating scale (NRS) was used to represent the continuum of girls' student perception of degree of pain. One extremity of the scale represents no pain (0), and the other extremity (10) represents sever pain. Based on this, participants were asked to rate the degree of pain by encircle the number. Then, the scores received from the scale classified as mild 1-3, moderate 4-6 and sever >7 (27)

**Absenteeism:** - is missing school time for half day and above due to menstrual pain.

**Menstrual characteristics:** for the purpose of this study, menstrual pattern was characterized as follows: Menstrual cycle is the period between the first day of menstruation and the day immediately prior to the next menstruation. Shorter (frequent) cycle: cycle repeat once every <21 days, longer cycle: cycle repeats every >35 days, shorter duration: duration of menses less than 3 days, longer duration: duration of period greater than 7 days.

#### 4.12. Ethical consideration

Ethical approval was obtained from the Institutional research ethics committee (REC) of school of public health of Addis Ababa University. Permission to conduct the study was obtained from Waliso town education office. The selected school's authority was formally requested with written letter to ensure their consent before starting data collection. The purpose of the study was explained to the students and consent was obtained regarding their agreement to participate in the study. Study participant were told that participation in the study was voluntary, and the data will not be used for other purpose except for this research. No name was recorded on the questioner in order to keep the identity of respondents.

### **4.13. Dissemination of finding**

The result of this study was presented and submitted to Addis Ababa University school of Public Health and to Waliso town educational office. Finally, further effort will be made to publish the findings of this study on national and international journal.

## **5. Results**

### **5.1. Socio demographic and menstrual characteristics of the participant**

In this study, a total of 340 self-administered questionnaires were distributed. Out of these, 329 questionnaires were properly filled with required information for further analysis and gave a response rate of 96.7%. Four students were not willing to take part in the study and 7 respondents didn't answer the questionnaire completely. Students involved in the study were aged between 13 and 19 years with mean age and standard deviation of  $16.1 \pm 1.14$  years. From the total respondents, 182 (55.3%) participants were from 9th grade and 147 (44.7%) from 10th grade. Majority 298 (90.6%) of the participants were single, 246 (74.8%) of the study participants were Oromo ethnic group, 148 (45%) of the respondents were orthodox religion

followers and 261(79.3%) were urban residents. Majority 224 (66.3%) of the respondents started mensuration at the age between 13 and 14 with mean and standard deviation of  $13.3 \pm 1.06$  years. As summarized in the table below 210(63.8%) of the respondents reported the length of menstrual cycle was between 21-45 days and 200(60.8%) of the respondents reported that duration of menstrual flow was 2-5 days. Of all the study participants, 247(75.1%) of the respondents reported primary dysmenorrhea, 110(44.5%) of them reported they had family history of dysmenorrhea (Table 1).

**Table 1.** Socio demographic and menstrual characteristics of female adolescent high school students, Waliso town, Ethiopia, 2019

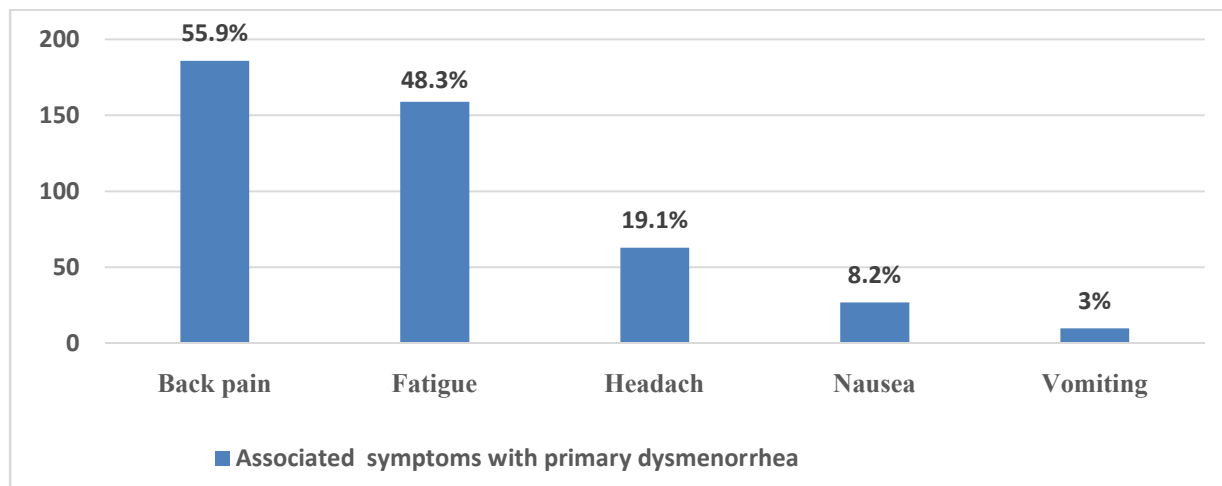
Variables	Frequency (n=329)	Percentage %
<b>Age of students (in years)</b>		
13 to 16 years	224	68.1%
17 to 19 years	105	31.9%
<b>Grade level</b>		
9th	182	55.3%
10th	147	44.7%

<b>Religion</b>		
Orthodox	148	45.0%
Muslim	95	28.9%
protestant	83	25.2%
Others	3	0.9%
<b>Marital status</b>		
Single	298	90.6%
Married	31	9.4%
<b>Age at menarche</b>		
Less than 12 year	72	21.9%
13-14year	218	66.3%
15 and greater	39	11.9%
<b>Length of menstruation cycle</b>		
Less than 21 days	119	36.1%
21to45days	210	63.8%
<b>Number of days of menuatral bleeding</b>		
2-6 days	200	60.8%
7 days and more	129	39.2%
<b>Primary Dysmenorrheal(PD)</b>		
Yes	247	75.1%
No	82	24.9%
<b>Family history of dysmenorrhea</b>		
Yes	110	44.5%
No	137	55.6%

## 5.2. Characteristics of primary dysmenorrhea and management practice

In this study, the prevalence of primary dysmenorrhea (PD) was found to be 247 (75.1%); of those, 108(43.7%), 98(39.7%), and 41(16.6%) of the respondents rate their pain intensity as mild, moderate, and severe respectively. The pain started few hours before menses among 149 (60.3%) of the participants and first day of menses among 98(39.7%) of them. It was accompanied by other symptoms like back pain 184 (55.9%) and fatigue 159 (43.3%) of the participants (figure 3). Menstrual pain was persisted for two to three days among 172(69.6%) of the participants. When we look at severity of pain with respect to the socio demographic

characteristics of the participant, Majority 58(69.9%) of the participant who reported moderate to severe pain were found in the age group between 17 and 19 and it was 66.1% among those participants age at menarche less than 12 years. As summarized in the Table-2, majority of moderate to severe pain was reported by students who were in grade 9 73(56.1%), married 16(69.6%) and urban residents 110(56.1%).



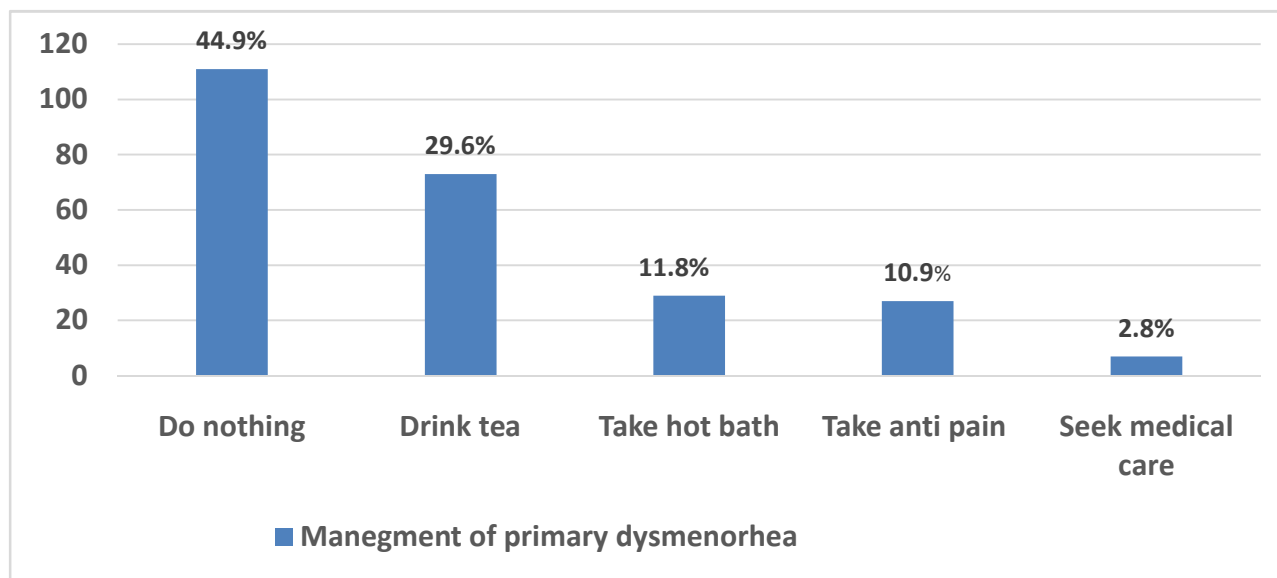
**Figure 3.** Associated symptoms with primary dysmenorrhea among female adolescent students Waliso town, Ethiopia, 2019.

Characteristics n =247(75.1%) n=108(43.7%)	Intensity of primary dysmenorrhea		
	Total Frequency Mild n=98(39.7%)	Moderate n=41(16.6%)	Severe
<b>Age of participant</b>			
13 to 16 year	164(66.4)	83(33.6)	56(22.6)
17 to 19 year	83(33.6)	25(10.1)	42(17)
<b>Grade</b>			

Grade 9	130(52.6)	57(23.1)	51(20.6)	22(8.9)
Grade 10	117(47.4)	51(20.6)	47(19)	19(7.7)
<b>Residence</b>				
Urban	196(79.4)	86(34.8)	77(31.2)	33(13.4)
Rural	51(20.6)	22(35.6)	21(8.5)	8(3.2)
<b>Marital status</b>				
Single	224(90.6)	101(40.9)	86(34.8)	37(14.9)
Married	23(9.3)	7(2.8)	12(4.8)	4(1.6)
<b>Age at menarche</b>				
Less than 12 year	53(21.5)	18(7.3)	26(9.7)	9(3.6)
13-14year	164(66.4)	79(31.9)	59(23.9)	26(10.5)
15 and greater	30(12.1)	11(4.4)	13(5.3)	6(2.4)
<b>Start time of pain</b>				
Few hour before menses	149(60.3)	67(27.1)	59(23.8)	23(9.3)
First day of menses	98(39.7)	41(16.6)	39(14.6)	18(7.3)
<b>Length stay of menstrual pain</b>				
≤ 1day	39(15.8)	28(11.3)	8(3.2)	3(1.2)
2 – 3 days	172(69.6)	76(30.7)	75(30.4)	21(8.5)
≥ 4days	36(14.6)	4(1.6)	15(6.1)	17(6.9)

**Table 2:** Characteristics of PD among female adolescent high students, Waliso town, Ethiopia, 2019.

Management of pain for primary dysmenorrhea by the selected girls is presented in figure3. Only small proportion of girls7(2.8%) reported to have sought medical advice. Majority of dysmenorrhic student 111(44.9%) do nothing to manage dysmenorrhea. Taking self-selected medicine, drinking coffee or tea and take hot bath were other practice done by the students to manage dysmenorrhea.



**Figure 4.** Management of primary dysmenorrhea among female adolescent students, Waliso town, Ethiopia, 2019

### 5.3. Bivariate and Multi-variable logistic Regression analysis

Bivariate and multi-variable logistic regression analysis was performed to identify factors associated with primary dysmenorrhea. First, binary logistic regression model was computed to test the presence of association between dependent and independent variables (age, grade, marital status, religion, place of residence, age at menarche, duration of menstrual flow, pattern of menstrual cycle.... etc.). Then all predictor variable with  $p < 0.05$  were included in multivariable analysis. Finally, significance was considered at  $p < 0.05$  with 95%CI. Irregular menses, shorter menstrual cycle, number of days of menstrual bleeding and number of pads used per day were found to have statistically significant association with primary dysmenorrhea. The result of the analysis showed that the odds of having PD are 4.8 times higher for students having irregular cycle than those who have regular cycle (AOR 4.8, 95%

CI: 2.6-8.85). Similarly, the odds of having PD are 5.76 times higher for students having shorter interval of menstrual cycle (less than 21 days) than the students having longer length of menstrual cycle (AOR5.7,95%CI:2.7-12.27) (table3).

**Table 3:** Binary and Multi-Variable Logistic Regression Analysis of PD and independent factors amongfemale adolescent students, Waliso town, Ethiopia,2019

<b>primary dysmenorrhea</b>					
<b>Variables</b>	<b>Yes (%)No (%)</b>		<b>COR(95%CI)</b>	<b>AOR(95%CI)</b>	<b>P(value)</b>
<b>Pattern of menstrual cycle</b>					
Regular	59(54.6%)	49(45.4%)	<b>1</b>	<b>1</b>	<b>P&lt;0.001*</b>
Irregular	188(85.1%)	33(14.9%)	4.74 (2.78-8.06)	4.41(2.43-7.94)	
<b>Grade</b>					
9th	130(71.4%)	52(28.6%)	<b>1</b>	<b>1</b>	<b>P=0.383</b>
10th	117(79.6%)	30(20.4%)	1.56(0.933-2.61)	1.32(0.71-2.49)	
<b>Length of menstrual cycle</b>					
Less than 21days	107(89.9%)	12(10.1%)	5.17(2.47-10.8)	4.46(2.3-8.64)	<b>P&lt;0.001*</b>
21-45 days	140(66.7%)	70(33.3%)	<b>1</b>	<b>1</b>	
<b>Number of days of menstrual bleeding</b>					
2-5 days	164(82%)	36(18%)	2.53(1.52-4.2)	2.1(1.13-3.9)	<b>P=0.018*</b>
6 days and more	83(64.3%)	46(5%)	<b>1</b>	<b>1</b>	
<b>Number of pads used per days</b>					
1-3 pads	199(71.6%)	79(28.4%)	<b>1</b>	<b>1</b>	<b>P=0.006*</b>
4-5 pads	48(94.1%)	3(5.9%)	6.35(1.9-20.9)	5.86(1.66-20.6)	

Note: p<0.05 indicates statistically significant (\*),1is reference, OR(crude odd ration),AOR(adjusted odd ratio)

#### 5.4. Severity of primary dysmenorrhea and its consequences on school attendance

Students with dysmenorrhea reported that primary dysmenorrhea has consequences on school activities that results compromised school performances. The consequence of PD on school activities explained by class absence 96(38.9%), lack of concentration in class 120(64.9%), lack of focus on exam 72(29%) and restriction on physical education 152 (43.7%) when attending school with pain. Of those students reported absent from school, majority 78(70.3%) of the participant reported missing 1 day every cycle, 27(24.3%) of the missed 2 days every cycle and 5(4.5%) of the participant missed 3 days every cycle. As shown in Table-4 below, chi-square test for independence was performed to determine the relationship between severity of PD and school activities. Statistically significant association was found with increase severity of primary dysmenorrhea and school absenteeism ( $X^2_{df=2}=17.9$ ,  $p < 0.001$ ), lack of class concentration ( $X^2_{df=2}=11.4$ ,  $p < 0.003$ ), lack of focus in exam ( $X^2_{df=2}=17.9$ ,  $p < 0.001$ ) and restriction of physical education ( $X^2_{df=2}=11.9$ ,  $p < 0.001$ ).

**Table 4.** Severity of PD and its effect on school activities among female school adolescent, Waliso town, Ethiopia,2019

<b>Severity of primary dysmenorrhea</b>								
<b>variables</b>	<b>Mild</b>		<b>Moderate</b>		<b>Severe</b>		<b>X<sup>2</sup></b>	<b>p-value</b>
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>		
<b>School Absenteeism</b>								
Yes	26	27.%	48	50%	22	15%	<b>17.9</b>	<b>P&lt;0.001*</b>
No	82	54.5%	50	33.1%	19	2.6%		
<b>Effect of study and do homework</b>								
Yes	51	38.6%	58	43.9%	23	17.4%	<b>3.5</b>	<b>0.174</b>
No	57	50.4%	39	34.5%	23	17.4%		
<b>Loss of concentration in class</b>								
Yes	38	31.7%	60	50%	22	18.2%	<b>14.5</b>	<b>P=0.001*</b>
No	70	55.1%	38	29.9%	19	15%		
<b>Lack of focus in exam</b>								
Yes	20	27.8%	39	54%	13	18.1%	<b>11.4</b>	<b>P=0.003*</b>
No	88	50.3%	59	33.7%	28	16%		
<b>Restriction of physical activity in school</b>								
Yes	55	36.2%	64	42.1%	33	21.7%	<b>11.9</b>	<b>P=0.003*</b>
No	55	55.8%	34	55.8%	8	8.4%		

Note: X<sup>2</sup>= chi square, and p<0.05 indicates statistical significant (\*).

## 6. DISCUSSION

Menstruation is often personal secret and regarded as a taboo to speak about it even at family level. As a result, girls do not obtain adequate support from home, school, and community(1).The most common menstrual related physiological problem are dysmenorrhea, premenstrual syndrome(PMS) and heavy bleeding; of these dysmenorrhea is extremely the most common one among adolescent girls and young females (2).Yet it is rarely taken in to consideration when assessing adolescent health and experience. Primary dysmenorrhea often disregarded by affected women who consider pain to be a normal part of the menstrual cycle. Thus, many women fail to seek treatment (7). It is known to have adverse consequences on personal, family and social life; resulting short term school and work absenteeism (8,9). Having better understanding of the problem improves the knowledge of primary dysmenorrhea among adolescents even at family, school and community level which helps to improve quality of life and academic performance of adolescent girls. Therefore this study is aimed to assess the prevalence of primary dysmenorrhea and its consequences on school attendance among high school female adolescent in Waliso town, Southwest Shewa, Ethiopia.

This study revealed that the overall prevalence of primary dysmenorrhea among the study participant was found to be 75%; of those, 108(43.7%), 98(39.7%), and 41(16.6%) of the respondents rate their pain intensity as mild, moderate, and severe respectively. This implies that primary dysmenorrhea is highly prevalent in this group. The finding was comparable with the previous study reported 70% in India (16), 78.3% in Brazil (20), 72% in north west Ethiopia (17), 69.3% among Debre Markose high school and preparatory students (26).

The prevalence of this study is relatively lower when compared to the prevalence reported from Egypt (12), Saudi Arabia (13), Oman (15) and Ghana (24) that ranged between 83% to 94%. The possible reason for the difference might be due to the difference in the life style of study subjects and perception of pain during menstruation.

However, the prevalence was relatively higher than that of the study among university student in Mexico 64%(27), 45% among young college nursing student in India (28) and 66.8% among Debra Berhan University female student (18). This inconsistency is probably due to the fact that prevalence of primary dysmenorrhea is higher among adolescents and decreases with age, where in those studies performed among university students the age ranges

between 18 to 29 year. Moreover, this difference may be resulted from the absence of universally accepted or standardized method of defining dysmenorrhea and from the subjective measurement and grading the severity.

It is evident from result that nearly 56.28% of females with dysmenorrhea experienced moderate to severe pain. While comparing prevalence of dysmenorrhea from other countries, Egypt reported 93% dysmenorrhea wherein 71% had moderate to severe, Parakua reported 78.3% prevalence rate where in 66.6% having moderate to severe pain and Japan reported 46.8% of the subject had moderate to severe pain. One of the reasons for the differences in severity of could be due to perceived severity of pain and subjective measurement of pain (12,14,23).

My study shows irregular menses, shorter length of menstrual cycle, number of days of menstrual bleeding and increased number of pads used per day found to have statistically significant association with dysmenorrhea, which is consistent with the study reported in Oman (15), Ethiopia (22), Japan (23), Northern Ghana (24). Early age at menarche was reported as a risk factor for primary dysmenorrhea on study in Ghana (24). However, this study did not find significant association between dysmenorrhea and age at menarche.

Dysmenorrhea is known to be associated with systemic symptoms like lower back pain, fatigue, headache, nausea, vomiting and diarrhea (more than one symptom per person). Lower back pain, fatigue and headache were most common reported symptoms in my study, and similar with finding elsewhere in the literature (13,14,17,24).

The results showed that dysmenorrhea adversely affected the students' daily school activities. Which is explained by lack of class concentration among 120 (48.6%), absence from school among 96 (38.9%), lack of focus on exam among 72 (29.1%) and restriction on physical education among 19 (61.5%). Based on these findings, one can learn that painful menses in the study setting is an important health problem among high school female adolescent students and had negative consequences on their academic performance. The Chi-square analysis also showed that there is significant association between dysmenorrhea and school absenteeism ( $\chi^2=17.9$ ;  $df=2$ ;  $p<0.001$ ), loss of concentration ( $\chi^2=14.5$ ;  $df=2$ ;  $p=0.01$ ), lack of focus on exam ( $\chi^2=11.4$ ;  $df=2$ ;  $p=0.003$ ), restriction of physical education ( $\chi^2=11.9$ ;  $df=2$ ;  $p=0.003$ ). Different studies agree

with this study findings (12,13,14,15,17,18,20,24). The negative effect of dysmenorrhea comes at its peak when it brings about missed exams and absenteeism.

The result of the study showed only very small portion of participant 7(2.8%) sought treatment. Majority of the participant(44.9%) do not do anything for management of pain. This finding was consistent with 3% reported in Egypt (15). It was relatively lower when compared to the report in India which was 14.2% (16). This may suggest that there was lack of awareness and knowledge among adolescent girls regarding treatment for dysmenorrhea.

### **6.1. Strength of the study**

The strength of the study was:

- Use of carefully designed and pretested data collection tool.
- Regular meeting with data collectors at the time of data collection to ensure data quality.
- Two additional visit was done to address students who was not present at the time of data collection.

### **6.2. Limitation of the study**

This study has some limitation that should be addressed:

- The self-reporting nature of this study may have resulted in recall bias and over-reporting of the condition, because students were asked for conditions within the last years prior to the study.
- Besides, it is possible that some of the participants completed their questionnaires discussing with peers, which may have biased their responses.

### **6.3. Conclusion**

- Primary dysmenorrhea was a common problem among adolescent female students at public secondary school in Waliso Town.
- It brought a number of physical and emotional symptoms. As a result, it affected female students school attendance and limited their daily school activities.

- Girls with irregular menstrual cycle, heavy bleeding and shorter length of menstrual cycle were more likely to have dysmenorrhea.
- Only small portion of the students sought medical care.

## 6.4. Recommendation

### **For school authority's and school teachers**

School teachers and school authorities should be aware of the burden and academic consequence of primary dysmenorrhea on female students to provide;

- ✓ comprehensive school education program on menarche and menstrual problems may help girls to cope better with dysmenorrhea and appropriately seek medical assistance.
- ✓ psychological and academic support to the affected group of student.

### **For policy makers**

Health education on issues related to menarche and menstrual related problem should be incorporated early enough in the school curriculum to prepare girls for menstruation and inform them about available treatment options in case they experience dysmenorrhea.

### **For researcher**

Further studies recommended on the natural history of primary dysmenorrhea and the effect of possible modifiable risk factors. So, studying the epidemiology and natural progression of menstrual pain and the underlying pathophysiologic mechanisms is essential to generate robust evidence and support targeted preventive interventions.

## References

1. Sahin M, Tamiru S, Mamo K, Acidria P, Mushi R, Ali CS, et al. Towards a sustainable solution for school menstrual hygiene management: cases of Ethiopia, Uganda, South-Sudan, Tanzania, and Zimbabwe. *Waterlines*. 2015 Jan 1;34(1):92–102.
2. Ravi R, Shah P, Palani G, Edward S, Sathiyasekaran BWC. Prevalence of Menstrual Problems among Adolescent School Girls in Rural Tamil Nadu. *J Pediatr Adolesc Gynecol*. 2016 Dec 1;29(6):571–6.
3. Cherry AL, Baltag V, Dillon ME. *International Handbook on Adolescent Health and Development: The Public Health Response*. Springer; 2016. 532p.
4. Sharma N, Sagayaraj M, and Sujatha B. Menstrual characteristics and prevalence of dysmenorrhea in college students. *International Journal of Scientific and Research Publications*, 2014; 4(10):1–6.
5. Bano R, AlShammari E, Aldeabani HKS. Study of the Prevalence and Severity of Dysmenorrhea among the University Students of Hail City. *IJHSR*. 2013;3(10):15–22.
6. Ana Carolina R. Pitangui , Mayra A. Gomes , Alaine S, Paulo A, et al. Menstruation Disturbances: Prevalence, Characteristics, and Effects on the Activities of Daily Living among Adolescent Girls from Brazil. *J Pediatr Adolesc Gynecol*, (2013) ;261489-152.
7. Mannix KL. Menstrual-related pain conditions: dysmenorrhea and migraine. *Journal of Women's Health*. 2008;17(5):879–891.
8. Ozerdogan N, Sayiner D, Ayranci U, Unsal A, Giray S. Prevalence and predictors of dysmenorrhea among students at a university in Turkey. *International journal of Gynecology and Obstetrics*. 2009;107(1):39–43.
9. Iacovides S, Avidon I, Baker FC. What we know about primary dysmenorrhea today: a critical review. *Human Reproduction Update*. 2015 Nov 1;21(6):762–78
10. Karinagannanavar A, M SG, Raghavendra B, Basavaraj S, Goud TG. Proportion, Risk Factors and the Impact of Dysmenorrhea among Girls. *International journal of Preventive and Curative Community Med*. 2015 Dec 1;1(4):158–62.

11. Ohde S, Tokuda Y, Takahashi O, Yanai H, Hinohara S, Fukui T. Dysmenorrhea among Japanese women. *International Journal of Gynecology Obstetrics Off Organ International*.
12. Abdelmoty HI, Youssef M, abdallah S, Abdel-Malak K, Hashish NM, Samir D, et al. Menstrual patterns and disorders among secondary school adolescents in Egypt. A cross-sectional survey. *BMC Women's Health*. 2015 Sep 4;15:70.
13. Abd El-Mawgod MM, Alshaibany AS, Al-Anazi AM. Epidemiology of dysmenorrhea among secondary-school students in Northern Saudi Arabia. *J Egypt Public Health Assoc*. 2016 Sep;91(3):115–9.
14. Sidi I, hounkpatin B, OBOSSU AAA, salifouk, vodoune, Denkproj, et al. Primary dysmenorrhea in the schools of parakou prevalence, impact and therapeutic approach [Internet]. *Gynecology and obstetrics*. 2016 may 07 [cited 2017 Oct 19]. Available from: <https://www.omicsonline.org/open-access>.
15. Al-Kindi R, Al-Bulushi A. Prevalence and Impact of Dysmenorrhoea among Omani High School Students. *Sultan Qaboos Univ Med J*. 2011 Nov;11(4):485–91.
16. Omidvar S, Bakouei F, Amiri FN, Begum K. Primary Dysmenorrhea and Menstrual Symptoms in Indian Female Students: Prevalence, Impact and Management. *Global Journal of Health Science*. 2016 Aug ;8(8):135–44.
17. Zegeye DT, Megabiaw B, Mulu A. Age at menarche and the menstrual pattern of secondary school adolescents in northwest Ethiopia. *BMC Women's Health*. 2009.
18. Derseh BT, Afessa N, Temesgen M, Semayat YW, Kassaye M, Sieru S, et al. Prevalence of Dysmenorrhea and its Effects on School Performance: A Cross sectional Study. *Journal of Women's Health Care*, 2017;6(2) *Fed Gynecology Obstet*. 2008 Jan;100(1):13.
19. Hailemeskel S, Demissie A, Assefa N. Primary dysmenorrhea magnitude, associated risk factors, and its effect on academic performance: evidence from female university students in Ethiopia. *International Journal of Women's Health*. 2016.
20. Ana Carolina R. Pitangui PhD1,2,\* , Mayra Ruana de A. Gomes PT1, et al. Menstruation Disturbances: Prevalence, Characteristics, and Effects on the Activities of Daily Living among Adolescent Girls from Brazil. *North American Society for Pediatric and Adolescent Gynecology*. 2013; (26) 148-152

21. Chaudhuri A, Singh A. How do school girls deal with dysmenorrhea. *Journal of Indian Med Assoc.* 2012 May;110(5):287–91.
22. Teshager A, Nigist A, and Eskinder A. Dysmenorrhea among University Health Science Students, Northern Ethiopia: Impact and Associated Factors. *International Journal of Reproductive Medicine.* 2018 January,
23. Kazama M, Maruyama K, Nakamura K. Prevalence of dysmenorrhea and its correlating lifestyle factors in Japanese female junior high school students. *Tohoku J Exp Med.* 2015;236(2):107–13.
24. Evans Paul Kwame Ameade<sup>1\*</sup>, Anthony Amalba<sup>2</sup> and Baba Sulemana Mohammed<sup>1</sup>. Prevalence of dysmenorrhea among University students in Northern Ghana; its impact and management strategies; *BMC Women's Health* (2018) 18:39
25. Encyclopedia of Waliso town administration. Socioeconomic characteristics. 2011
26. Muluneh A, Nigussie S, Kassa Y. Prevalence and associated factors of dysmenorrhea among secondary and preparatory students in Debreworkos town, North West Ethiopia. *BMC Women's health.* 2018 April;
27. Ortiz MI. Primary dysmenorrhea among Mexican university student; Prevalence, impact and treatment. *Eur J Obstet Gynecol Reprod Biol.* 2010;152(1):73-7.
28. Shah M, Monga A, Patel S, Shah M, Bakish H. A Study of prevalence of primary dysmenorrhea in young students-a cross-sectional study. *Indian J Community Med.* 2013;4(2):30-4.
29. Sommer M, Sahin M. Overcoming the taboo: advancing the global agenda for menstrual hygiene management for schoolgirls. *Am J Public Health.* 2013 Sep;103(9):1556–9.
30. Ortiz MI, Rangel-Flores E, Carrillo-Alarcón LC, Veras-Godoy HA. Prevalence and impact of primary dysmenorrhea among Mexican high school students. *International Journal of Gynecology Obstetrics Off Organ International Fed Gynecology Obstetrics.* 2009 Dec;107(3):240–3.

31. Banikarim C, Chacko MR, Kelder SH. Prevalence and Impact of Dysmenorrhea on Hispanic Female Adolescents. Arch Pediatrics and Adolescent Med. 2000 Dec 1;154(12):1226–9.
32. Parule A, Bhartin N, Karella and Kiran. Dysmenorrhea: prevalence, impact, and knowledge aspect of treatment in females of reproductive age in tertiary care teaching hospital. International Journal of Pharmaceutical Science and Research. 2016 NOV 1;7(11):4556-4560.
33. Analogique LV. The digital scale (DS). Antalvite (2007)14: 16-40..
34. Pembe AB, Ndolele NT. Dysmenorrhoea and coping strategies among secondary school adolescents in Ilala District, Tanzania. East African Journal Public Health. 2011 Sep;8(3):232–6.
35. Hillen TI, Grbavac SL, Johnston PJ, Straton JA, Keogh JM. Primary dysmenorrhea in young Western Australian women: prevalence, impact, and knowledge of treatment. Journal of Adolescent Health Med. 1999 Jul;25(1):40–5.
36. De Sanctis V, Soliman A, Bernasconi S, Bianchin L, Bona G, Bozzola M, et al. Primary Dysmenorrhea in Adolescents: Prevalence, Impact and Recent Knowledge. Pediatric Endocrinol Rev PER. 2015 Dec;13(2):512–20.

# Appendices

## ANNEX 1-Consent form (English version)

### Addis Ababa University Public Health Department English version questionnaire

A questionnaire prepared to assess the prevalence of primary dysmenorrhea and its consequences on school attendance in Waliso town south west Shewa. Ethiopia 2018\2019.

#### Research information

Dear participants

I would like to invite you to take part in the research project. Joining the research project is entirely depending on your choice of decision, before you decide I would like you to inform you why the study is being done and what it would involve for you. The main purpose of this study will be to find out the prevalence of primary dysmenorrhea (painful menstruation) and its effect on school attendance followed during monthly period among high school adolescent girl's student like you here in Waliso town. This study will be carrying using self-administered questionnaires which participants should be expected to answer individually. The study finding will help to understand the problem, and better planning school MHM intervention. The whole research processes will take approximately 30 minutes of your time. You are free to refuse or withdraw the participation. After the study, there will be no direct benefit or compensation which will be given to you in cash or in kind for participating. Participation or non-participation will not affect your relationship with teachers as well as other members of the school.

The information you will give here will be for research purpose only. You are therefore required not to write your name anywhere on the questionnaires you will fill. The response will be kept anonymously. No one outside the research team will have access to your responses.

Therefore, if you agree voluntarily to participate in this study, I appreciate your truthfulness. And after having this consent form read to you, please put a sign below to show if you are willing to participate (No need of writing your name).

## Consent form

I have read and understand the information provided to me. Therefore, my signature below indicates that I have decided to participate in the study voluntarily.

Participant signature..... Date .....

Investigator's /data collector's signature ..... Date .....

If you have any question you can contact the principal investigator at any time by using the following address.

Name of the principal investigator: Merema Jemal

Mobile Phone number: 0912289258, E-mail maryajemal1981@gmail.com

questionnaire for female student

Name of the school\_\_\_\_\_

Date \_\_\_\_\_

grade\_\_\_\_\_

Code no of the questionnaire\_\_\_\_\_



የፍቃድኝን ትመረጋገጫ

የተሰጠኝን መግለጫን በቤተረድቻለው ፡ በጥናቱ ላይ በፍቃድኝን ትተሳታፊ መሆኔን በፊርማዎ አረጋግጣለሁ ፡ ፡

የተሳታፊ ፊርማ----- ቀን -----

የጥናት አድራጊው የሚጃሱ ጠበቆ ፊርማ----- ቀን -----

ጥያቄ ካልሆነ ጥናት አድራጊውን በማንኛውም ዜገዝ ወይም በታች ባለው አድራሻ ማግኘት ይችላሉ ፡ የጥናት አድራጊው

ስም - መሪ ማጀማላ

ስልክ ቁጥር ፡ - 0912289258 E-mail maryajemal1981@gmail.com

ለተመራጭ የተዘጋጀ መጠይቅ

ጥያቄዎችን በጥንቃቄ ያንብቡና መልስ ወንግሮ ማለት ወይም ስህተት ማስተካከልን ይሠጥሮ ማለፊያ ወይም ሌላ ጥያቄዎችን ታወቅብጽ ሀፍይ መልሱ ፡ እንደ የጥያቄዎቹን ደናከ አንደበ ላይ መልስ መስጠት ይችላሉ ፡

የትምህርት ቤት ስም \_\_\_\_\_

ቀን \_\_\_\_\_

ክፍል \_\_\_\_\_

የመጠይቅ ቁጥር \_\_\_\_\_

**ANNEX 3-Consent form (Afaan oromo version)**



## **Gaafanno Afaan oromoo**

Addis Ababa University Institiyuuti Fayyaa Hawwaasatti gaafannoo barattoota shamarranii manneen barnota sadarkaa 2<sup>ffaa</sup>tti argaman laguu ji'aa wajjin walqabatee dhukuubii(ciniinna garaa)umamu fi dhiibbaa barumsa irra hambisuu taasifamu qu'achuuf gafannoo dhiyaate.Godina Sha/Kibba,N/Oromiyaa,M/Wolisoo 2018\19.

## **OdeeffannooQorannoo**

Kabajamaa Hirmaattoota duraan dursee projektii qorannoo kana kessa shoora kessan to'achuun akka nugargaartan sin affeerra.projektii qorannoo kana kessatti hirmaachuun guutummaa guutuutti fedhii kessan irratti hundaa'a. Hirmaachuu kessan osoo hin murteessin dura qorannoon kun maaliif akka barbaachiseefii bu'aa maal qaba kanjedhu isiniif ibsuun jaladha. Kayyoon qorannaa kun inni guddan isaa tatamsa laguu ji'aa wajjin walqabatee dhukuubii(ciniinna garaa)umamu fi dhiibbaa barumsa irra hambisuu irratti fidaa jiru kessatu barattoota akkuma kee shamarran kan ta'aniifii sadarkaa lammaffaa magaalaa walisoo kessatti barataa jiraniifi. Deebilleen gaafiilee Kanaaf kennamu dhunfaadhaan osoo ta'u namni deebii kennus akkataa barbaadaniin deebii kennu hindanda'u. Qorannoo kun hanga dhumutti daqiiqaa 30 kan fudhatu yemmuu ta'u hirmaattoonnis dhiisuu yookiin diduun mirga isaaniiti hirmaachuusaaniitiinis kanfaltiidhaan yookiin bifa biraatiin wan argatan hinjiru. Hirmaachuudhaan yookiin hirmaachuu dhiisuudhaan walqunnamtii isiniifi barsiisoota yookiin hiryoota kessan jidduu jirurraa dhiibbaa fidu hinjiru.Oddeeffannoo asitti kennitan dhimma qorannaa qofaaf oola. Deebii kennitan irratti maqaa kessan katabuu hinqabdanu deebilleen kessanis harka nama garee qorattoota alla jiru bira hingalu. Kanaafuu tolaan fedhii keessanin hirmaachuudhaaf yo murteessitan Gamtoomina kessaniif isin galateeffachuudhaan waliigaluu kessaniif foormii waliigaltee armaan gadi jiru irraaa kamallatteessitanisingaafadha.

## **Foormii waliigaltee**

Odeeffannoo armaan olitti dhaf dhiyaate dubbiseera Kanaafuu mallattoo asii gadi mallatteessuudhaan qorannoo kana irrati hirmaachuudhaaf fedhiikoo nan ibsa.

Mallattoo hirmaataa \_\_\_\_\_ Guyyaa \_\_\_\_\_

Mallattoo qorataa \_\_\_\_\_ Guyyaa \_\_\_\_\_

gaffii yokin ibsa chaalaatiif qorataa wajjin tessoo aramaan gadi jiruun walqunnamuu hindandeessu.

Maqaa qorataa : marema jamal

Lakkoofsa bilbila : 0912289258

E-mail : maryajemal1981@gmail.com, " questionnaire for female student "

Maqaa mana barumsaa : \_\_\_\_\_

Guyyaa : \_\_\_\_\_

Kutaa : \_\_\_\_\_

Lakkoofsa addaa gaaffileedhaf: \_\_\_\_\_

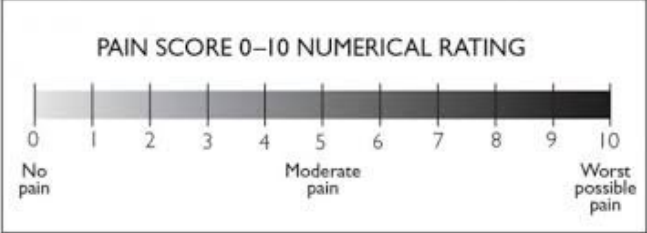
## **ANNEX 4- Questioner (English version)**

**Instruction:** circle or make a thick the one you choose from the alternatives from the right side options for the related questions which is placed on the left side.

<b>Part- I Demographic characteristics of respondent.</b>			
<b>No</b>	<b>QUESTION AND FILTERS</b>	<b>CODING CATAGORIES</b>	<b>SKIP</b>
1 01	Have you started your menses?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	If no thank you please stop here
102	Do you have diagnosed gynecological disease?	<ol style="list-style-type: none"> <li>1.Yes</li> <li>2.No</li> </ol>	If yes thank you please stop here
103	How old are you now? (in years)	-----	
104	What grade are you in?	<ol style="list-style-type: none"> <li>1. Grade – 9<sup>th</sup></li> <li>2. Grade – 10<sup>th</sup></li> </ol>	
105	What is your Religion?	<ol style="list-style-type: none"> <li>1. Muslim</li> <li>2. orthodox</li> <li>3. Protestant.</li> <li>4. Catholic.</li> </ol> Other, specify -----	
106	What is your Ethnicity?	<ol style="list-style-type: none"> <li>1. Oromo</li> <li>2. Amhara</li> <li>3. Gurage.</li> <li>4. Other, specify -----</li> </ol>	
107	What is your current marital status?	<ol style="list-style-type: none"> <li>1. Single.</li> <li>2. Married</li> <li>3. Divorced</li> <li>4. widower</li> </ol>	

108	What is your place of Residence?	<ol style="list-style-type: none"> <li>1. Urban</li> <li>2. Rural</li> </ol>	
109	what is the educational status of your mother?	<ol style="list-style-type: none"> <li>1. Illiterate</li> <li>2. Read and write</li> <li>3. Primary</li> <li>4. Secondary</li> <li>5. Tertiary</li> <li>6. Other.....</li> </ol>	
110	what is the educational status of your father?	<ol style="list-style-type: none"> <li>1. Illiterate</li> <li>2. Read and write</li> <li>3. Primary</li> <li>4. Secondary</li> <li>5. Tertiary</li> <li>6. Other.....</li> </ol>	
111	How old were you at your first menarche? (in years)	.....	
112	What is the duration of your menstrual flow (in days)?	<ol style="list-style-type: none"> <li>1. &lt;3 days.</li> <li>2. 3 - 6days.</li> <li>3. &gt;6days.</li> </ol>	
113	how many pads(hygiene material)you use per day?	<ol style="list-style-type: none"> <li>1. ≤3 pads</li> <li>2. 4 to 7 pads</li> <li>3. 2 pads at a time</li> </ol>	
114	What is the length of your menstrual cycle? (in days)	<ol style="list-style-type: none"> <li>1. ≤21 days</li> <li>2. 22 to 34days</li> <li>3. 35 days.</li> <li>4. I do not remember</li> </ol>	
115	Does your menstrual cycle comes regularly?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	

<b>Section2- Dysmenorrhea related questions</b>			
201	Do you have the following symptoms at the time your menstruation? you can circle more than one	1. Headache 2. Fatigue 3. backache 4. Nausea 5. Vomiting 6. Diarrhea Other specify -----	
202	Do you have experience of one or more episode of menstrual cramp within the past 12 month?	1. Yes 2. No	If no thank u return the questioner
203	If your answer is yes for Q- 202, when does it starts?	1. A few hours before menstrual flow. 2. First day of menses. 3. From first to third day of menses. 4. More than three days of menses. 5. Other specify.....	
204	Which part of your body feel pain/cramp during your menstruation?	1. Lower abdomen/super pubic/ 2. Lower back 3. anterior of the thighs. 4. Other, specify -----	
205	For how long the menstrualcramp usually persist?	1. <2 day 2. 2-3days 3. The entire of the period	

206	<p>Please rate your pain on the given numeric rating scale (NRS) by circling the level of your pain from no pain (0) to sever pain (10).</p> <p>Mild pain (1-3)  Moderate pain (4-6)  Severe pain (7-10)</p>		
207	Do you think primary dysmenorrhea happen only on you?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. NO</li> </ol>	
208	If your answer for Q 207 is no, on whom you saw such problem to be happened.	<ol style="list-style-type: none"> <li>1. On my sister</li> <li>2. On my mother</li> <li>3. On my friends</li> </ol>	
<b>Section 3.question related to dysmenorrhea outcome/consequences.</b>			
301	were you absent from school because of menstrual related pain within the past 12 month?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	If no skip to 303
302	If your answer is yes for the Q301: how many days you absent per cycle each cycle?	<ol style="list-style-type: none"> <li>1. One day every cycle</li> <li>2. Two-day every cycle</li> <li>3. Three days every cycle</li> <li>4. Four days every cycle.</li> <li>5. Greater than 5days</li> </ol>	
303	Do you think that menstrual relatedcramp affects your focus on exam?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	
304	Do you think that menstrual related cramp cause difficulty to study or do homework?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	

305	Do you think that menstrual related cramp affects your concentration in the class while the teacher is teaching?	1. Yes 2. No	
306	Do you think that menstrual related cramp affects physical education in school?	1. Yes 2. No	
307	What action do you take when you experience menstrual pain?	1. Consult medical personnel. 2. Take self-treatment of anti-pain drug. 3. Take hot bath. 4. Use hot compress. 5. Drink coffee or tea 6. I don't do any thing Other specify ----- --	

*That is the end of my questionnaire*

*Thank you very much for taking your time to answer the questions. I appreciate your help, and wish you the best*

### ANNEX 5- Questioner (Amharic version)

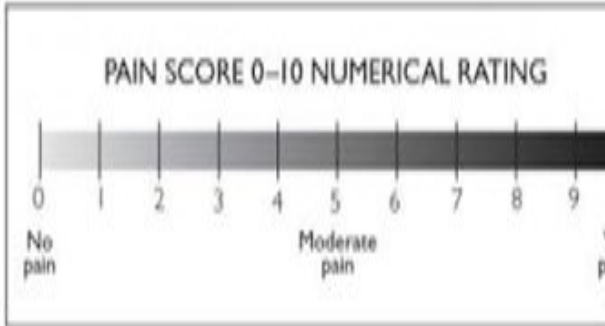
**መግቢያ** :- በግራ በኩል ለተቀመጠች ጥያቄዎች በቀኝ ከተቀመጠች አሜሪካ ማካከል የርስዎን ምርጫ በማክበብ ወይም ምልክት በማድረግ ይግለጹልን

ክፍል-1 የጥናት ተገቢነት ለመመዘኛ የሥራ ስራዎች የሥራ አገልግሎት ሁኔታ መግቢያ			
ተ.ቁ.	መጠይቅ	አሚሎቶኒክ	ወደሚቀጥለው
101	የሥራ አገልግሎት ትጅም ሲሆን?	1. አዎ. 2. የለም	መልስሽ የለም ከሆነ አመለካከት ለመደመጥ ጥያቄ ስለሌላው ስለሌለው ስለሌለው
10	በሃኪም የተረጋገጠ የሥራ ስራዎች ሁኔታ ስለሆነ?	1. አዎ. 2. የለም	መልስሽ አዎ ከሆነ አመለካከት ለመደመጥ ጥያቄ ስለሌላው ስለሌለው ስለሌለው

2			ሰ:
1 0 3	ስንተኛክፍልነሽ?	1. 9-ኛ      2. 10-ኛ	
1 0 4	እድሜስንትነ ወ?	-----አመት	
1 0 5	ብሄርሽምንደነ ወ?	1. አርሞ 2. አሜ 3. ጉራጌ 4. ለለከሆ ይገለጽ -----	
1 0 6	ሀይማኖትሽ?	1. ሙስሊም 2. ኦርቶዶክስ 3. ፕሮቴስታንት 4. ለለከሆ ይገለጽ -----	
1 0 7	የጋብቻህኔታ?	1. ያገባች 2. ያላገባች 3. የፈታች 4. ለለከሆ ----- ----	
1 0 8	የመሪያቦታ?	1. በከተማ 2. ማጠር	
1 0 9	የእናትዎ ትግህርትደረጃ	1. ያልተሟላች 2. ማብብሻ መጽፍ 3. የመጀመሪያ ደረጃ ያጠናቀቀች 4. ሁለተኛ ደረጃ ያጠናቀቀች 5. ሶስተኛ ደረጃ ያጠናቀቀች	

		6. ለሌ.....	
1 1 0	የአባት የትምህርት ደረጃ	<ol style="list-style-type: none"> <li>1. ያልተመረቀ</li> <li>2. ማህተም ማዘጋጀት</li> <li>3. የመጀመሪያ ደረጃ ያጠናቀቀ</li> <li>4. ሁለተኛ ደረጃ ያጠናቀቀ</li> <li>5. ሶስተኛ ደረጃ ያጠናቀቀ</li> <li>6. ለሌ.....</li> </ol>	
1 1 1	የመጀመሪያውን የወር አበባ ስንት ታዩ እድሜ ስንት ነበር ?	----- አመት ነበር.	
1 1 2	የወር አበባ ስንት ተጠቅሞ ስንት ተጠቅሞ ስንት ተጠቅሞ ?	<ol style="list-style-type: none"> <li>1. 21 ቀን እና ከዚያ በታች.</li> <li>2. ከ22 – 34 ቀን መካከል.</li> <li>3. ከ35 ቀን በላይ.</li> </ol>	
1 1 3	በቀን ምን ያህል የንፅህና መጠቀም ተጠቅሞ ስንት ?	<ol style="list-style-type: none"> <li>1. ≤3 ጊዜ</li> <li>2. ከ4- 7 ጊዜ</li> <li>3. 2 ጊዜ በአንድ ሳይ</li> </ol>	
1 1 4	የወር አበባ ስንት ተጠቅሞ ስንት ተጠቅሞ ?	<ol style="list-style-type: none"> <li>1. ከ 3 ቀን በታች</li> <li>2. ከ 3-7 ቀን</li> <li>3. ከ 7 ቀን በላይ</li> </ol>	
1 1 5	የወር አበባ ስንት ተጠቅሞ ስንት ተጠቅሞ ?	1. አዎ 2. የለም	



205	ህመሙ ስንት ቀን ይቆይብኛል?	<ol style="list-style-type: none"> <li>&lt;2 ቀን</li> <li>2-3 ቀን</li> <li>አጠቃላይ ወር አ በባረዜ</li> </ol>	
206	እባክሽ የቁርጠትሽን መጠን በቀረበው የህመም ለካሊብሮክስ ስኬት አለመኖር (0) እስከ ከፍተኛ ቁርጠት (10) በሙከብ-ብግላጫ ቀላል ቁርጠት (1-3) መካከለኛ ቁርጠት (4-6) ከፍተኛ ቁርጠት (7-10)		
207	ይህ ችግር በኔ ላይ ብቻ የሚከሰት ነገር ነው ብሎ ገልጸዋል?	<ol style="list-style-type: none"> <li>አዎ</li> <li>የለም</li> </ol>	
208	ለጥያቄ ቁጥር 207 መልስሽ የለም ከሆነ ማን ላይ ሰከሰት አይተሽ ታወቁዎልሽ?	<ol style="list-style-type: none"> <li>በእናቴ</li> <li>በእህቴ</li> <li>በጉዋደኛዎ</li> </ol>	
<b>ክፍል - 3 ስለወርአበባ የቁርጠት ህመም ተግባራዊ ጥቅም ላይ የሚውል ማሻሻያ ስኬት ለመጠን</b>			
301	ከወርአበባ ጋር በሚጠቃሚ ህመም ከንጥል ለፈጠራ ደረጃ ስኬት ጥቅም ላይ የወጣብታል?	<ol style="list-style-type: none"> <li>አዎ</li> <li>የለም</li> </ol>	መልስሽ የለም ከሆነ ወደ ጥያቄ ቁ 303
302	ለጥያቄ ቁ-301 መልስሽ አዎ ከሆነ በየ ወሩ ስንት ቀን ከት/ቤት ትቆይላለሽ?	<ol style="list-style-type: none"> <li>በወር አንድ ቀን</li> <li>በወር ሁለት ቀን</li> <li>በወር ሶስት ቀን</li> <li>በወር አራት ቀን</li> </ol>	

3 0 3	የወርአበባህመጫ ፈተና ጊዜ የትኩረት ማጣት አስከትሎቸዋል?	1. አዎ. 2. የለውም	
3 0 4	የወርአበባህመጫ ክፍል ወስጥ በትኩረት አለመከታተል አስከትሎቸዋል?	1. አዎ. 2. የለውም	
3 0 5	የወርአበባህመጫ ጥናት ማጥናት እና የቤት የስራ መብራሪያ አለመቻል አስከትሎቸዋል?	1. አዎ. 2. የለውም	
3 0 6	የወርአበባህመጫ ትምህርት በትውልድ የአካል ብቃት እንቅስቃሴ ለይተኛ አስከትሎቸዋል?	1. አዎ. 2. የለውም	
3 0 7	በወርአበባህመጫ ጊዜ ምን ታደርጊያ ለሽ?	<ol style="list-style-type: none"> <li>1. የጤና ተቆጣሪ ጅምር ከመሆኑ</li> <li>2. ማከታተያ ሻማ ኒት እንደሆነ መሆኑ</li> <li>3. መቅሻ ወርአበባ ሆኖ መሆኑ</li> <li>4. ትኩረት ላይ ለመቆየት</li> <li>5. ምንም ዓይነት ጭንቀት ሳይሆን</li> <li>6. ሌላ ካለ ይገለጽ ----</li> </ol> <p>-----</p>	

የጥያቄው መጨረሻ ነገር ወለተሳተፎ ስለሆነ እና ለጊዜ ስለሆነ እና መብራሪያ ስለሆነ ::

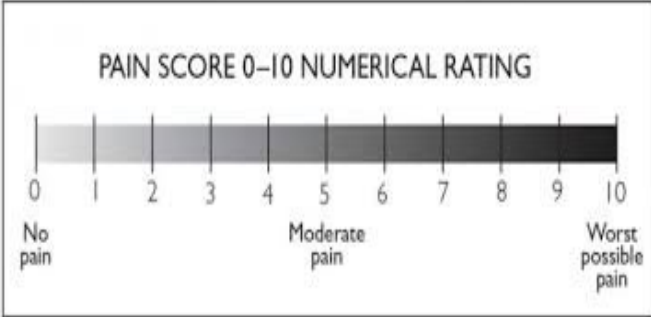
## ANNEX 6- Questioner (Afaan oromo version)

**Ajaja**:-Deebii sirii dhaa jatee lakkoofsa irratti marudhaan filadhu ykn bakka duwaatii guuttii.

Kutaa-1 Gaaffanno haala waliigala Hirmaatoota fi wa'ee lagu ji'aa ilaalchisee dhiyaatan			
L.K	Gaaffiwwan	Deebiiwwan dhiyaatan	Gaaffi itti anutii darbi
101	Laguu ji'aa arguu eegaltee?	1. Eeyyee. 2. Lakki	Debiin kee <b>Lakki</b> yoo ta'ee gelatoomi gafanoo debisii
102	Dhukuba gedemesaa hakimidhaan ken mirkenae jirra?	1.Eeyyee 2.Lakki.	Debiin kee eeyyee yoo ta'ee gelatoomi gafanoo debisii
103	Kutaa meeqa baratta?	1.9ffaa. 2. 10 ffaa	
104	Umurii?	Waggaa _____.	
105	Saba?	1. Oromo 2. Amhara 3. Gurage 4. Kenbiro yoo ta'e haa ibsemu.....	
106	Amantaan kee?	1. Muslim 2. Ortodoksii 3. Prootestaanti 4. Kenbiro yoo ta'e haa ibsemu	
107	Haala gaa'elaa?	1. Kan herumte. 2. Kan hin heerumne. 3. Kanbraa yoo ta'e haa	

		ibsamu.....	
108	Idoo jireenyaa?	1. Magaalaa. 2. Baadiyyaa.	
109	Haali berumsaa Haadhaketii?	1. Hin barrene 2. Dubissuuffi baresu 3. Sederka tokkoffaa 4. Sederkaa lemmeffa 5. Sedekaa sedffa	
110	Haali berumsaa Abbaaketii?	1. Hin barrene 2. Dubissuuffi baresu 3. Sederka tokkoffaa 4. Sederkaa lemmeffa 5. Sedekaa sedffa	
111	Yeroo calqabaatiif lagu ji'aa yemuu argitu umuriin kee meeqa ture?	Waggaa_____.	
112	Lagu ji'aa erga argitee booda marsaan itti aanu guyyaa meeqa booda argita?	1. Guyyaa 21 gaditti. 2. Guyyaa 21 – 34 gidduutti. 3. Guyyaa 35 boodatti.	
113	Laguun ji'aa kee yeroo baayee guyyaa meeqaaf dhangla'a ?	1. Guyyaa 3 gadiif (< 3 days). 2. Guyyaa 2 hanga guyyaa 7tiif (2 - 7 days). 3. Guyyaa 7 ool.(>7days).	
114	yeroo Laguun ji'aa modessi (meshaa qulqulina) guyyatti hamem feyyedemta?	1. ≤ padii 3 2. Padii 4-7 3. Padii 2 altokkoti	
115	Marsaan laguun ji'aa kee guyyaa dhaabata ta'een dadebi'ee dhufa?	1. Eeyyee 2. Lakki	
<b>Kutaa-2 Gaafannoowwan haala dhukkuubii(murraa gara) laguun ji'aa wajjin walqabatee dhiyaate</b>			
201	Laguun ji'aa wajjiin walqabatee rakkoon	1. Dhukkubbii	

	fayyaa kamitu simudat	<ol style="list-style-type: none"> <li>2. mataa.Aluullaa</li> <li>3. Miira dadhabbi</li> <li>4. .Haaqee.</li> <li>5. Dhukuba dugdaa</li> </ol>	
202	Yeroo lagu ji'aa dhukkubi ciniinna garaa qabdaa?	<ol style="list-style-type: none"> <li>1. Eeyyee.</li> <li>2. Lakki. .</li> </ol>	Deebin kee yoo lakki ta'e galatoomii gafeno debissi
203	Deebin gaffi 202 yoo eeyyee tae ddukubbin yoom sii jelqabaa?	<ol style="list-style-type: none"> <li>1. Se'aatti murrasa lagu ji'aa dhuffun dura</li> <li>2. Guyya jalqaba enaa lagu ja'a jalqabuu</li> <li>3. Guyya 1-3ffa egaa laguun ja'a jalqabe</li> <li>4. Guyya 3 bodde</li> <li>5. Kanbirra yoo jiraate ibsii..</li> </ol>	
204	Dhukkubiin ciniinna garaa yeroo lagu ji'aa guyyaa meqaaf siira turaa?	<ol style="list-style-type: none"> <li>1. Guyyaa tokkoof.</li> <li>2. Guyyaa lamaaf.</li> <li>3. Guyyaa saddiif.</li> <li>4. Guyaa afuuriif isaa ooliti.</li> </ol>	
205	Yeroo lagu ji'aa dhukkubiin qaama idoo kamiiti bayiisee sitidhaga'amma?	<ol style="list-style-type: none"> <li>1. Garaa kara gadii irratti(handhuuraa gadiiti).</li> <li>2. Dugda kara gadii.</li> <li>3. Naannoo tafa.</li> <li>4. Iddoo birra – yoo ta'eeibsi _____</li> </ol>	

206	Dhukkubi cinninnaa garaa yeroo lagu ji'aa safartuu dhiyateen akkamiti ibisita?Ibsa safartuu lakk:- 0-Dhukkubi ciniinnaa omaa hinqubu ibsaa.Lakkoofsa 0 -10 dhiyatee keessaa haala isaa gaubatii lakk tokkoo filaduu.		
207	Ciniinnaa garaa yeroo lagu kuun waan rakoo sii irratii qofa keen umeme sitti fekataa ?	<ol style="list-style-type: none"> <li>1. Eeyyee.</li> <li>2. Lakki.</li> </ol>	
208	Debiin kee gafenno 207 <b>Lakki</b> yoo ta'ee egnuu irrati ennaa umamu argitetaa?.	<ol style="list-style-type: none"> <li>1. Obboleti kooti</li> <li>2. Harmee kooti</li> <li>3. hirriyaakooti.</li> </ol>	
<p><b>Kutaa 3 gaaffille lagu ji'aa wajjin walqabatee dhukuubii(ciniinna garaa)umamu dhiibbaa barumsa irra hambisuu taasifamu qu'achuuf</b></p>			
301	Dhukkubin ciniinnaa garaa yeroo lagu ji'aa M/barumsaa irraa si hambisa?	<ol style="list-style-type: none"> <li>1. Eeyyee.</li> <li>2. lakki.</li> </ol>	Debiinkee Lakki yoo ta'ee 303tii darbii.
302	Gaaffii lakk-301fdeebiin kee <b>Eeyyee</b> , yoo ta'ee ji'aa ji'aan guyyaa meeqaaf bayiistee hafta?	<ol style="list-style-type: none"> <li>1. guyaa tokkoof.</li> <li>2. Guyyaa laamaaf.</li> <li>3. Guyyaa sadiif.</li> <li>4. Guyyaa afuurifii isaa ool.</li> </ol>	
304	Lagu ji'aa wajjin walqabatee ciniinnaan garaa umamu Yeroo qormaataa hojjachuu dadhabuu sitii uumee jira?	<ol style="list-style-type: none"> <li>1. Eeyyee.</li> <li>2. Lakki.</li> </ol>	
303	Lagu ji'aa wajjin walqabatee ciniinnaan	<ol style="list-style-type: none"> <li>1. Eeyyee.</li> <li>2. Lakki.</li> </ol>	

	garaa umamu mana berumsa kessa xiyeffano dhabuu sitti uumee jira?		
305	Laguu ji'aa wajjin walqabatee ciniinnaan garaa umamu Yeroo hojii mana hojjachuu ykn qo'achuu dhibba sitti uumee jira?	1. Eeyyee. 2. Lakki.	
306	Laguu ji'aa wajjin walqabatee ciniinnaan garaa Soochii qamaa gochuu irraa off qusachuu sitti uumee jira?	1. Eeyyee. 2. Lakki.	
307	Yeroo leguu ji'aa dhukkubin cinuunnaa innaa sitti dhaga'ame maal gootu?	1. Dhabata fayyaa deemma yalemma 2. Qoricha dhukkubi wayyeessu iti fuudhaa. 3. Bishaan o'aatiin qamaam dhiqaadha. 4. Shaa'ii o'aa dhuuga. 5. Omaa hin godhu. 6. Kan biroo haa ibsamu..... _____	