

**MODERN FAMILY PLANNING METHODS UTILIZATION AND ASSOCIATED FACTORS AMONG FEMALE STUDENTS IN AYSAITA TOWN, NORTHEASTERN ETHIOPIA**

**Keder Mahamed<sup>1</sup>, Araya Abbrha Medhanyie<sup>2</sup>, Misgan Legesse Liben<sup>3\*</sup>, Reda Shamie<sup>3</sup>**

*1. USAID, AIDS free, Afar, Ethiopia*

*2. School of Public Health, Mekelle University, Mekelle, Ethiopia*

*3. Department of Public Health, College of Medical and Health sciences, Samara University, Samara, Afar, Ethiopia*

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For Correspondence

Email ID:

[lmisgan@yahoo.com](mailto:lmisgan@yahoo.com)

**Abstract**

**Background:** Investing in family planning is a development “best buy” that can accelerate achievement across the five Sustainable Development Goal themes of People, Planet, Prosperity, Peace and Partnership. Hence, this study was aimed to assess the factors associated with utilization of modern family planning among female students in Aysaita secondary and preparatory school, Afar Regional State.

**Methods:** School based cross-sectional study was conducted at Aysaita secondary and preparatory school in April, 2016. Data were cleaned, coded and entered into Epi-Info version 3.3.2, then exported to SPSS version 20 statistical package for analysis. Binary and multivariable logistic regression analyses were used to assess the association between each independent variables and the outcome variable. Variables with p-value <0.05 were considered as significant and independent predictors.

**Results:** The study included 301 students. Of sexually active students, 68.4% were currently using modern family planning. In the multivariable logistic regression analysis, students who had pocket money [AOR=2.3(1.07, 5.23)], had ever been married [AOR=4.3(1.45, 12.63)], and those who had ever discussed on modern family planning methods [AOR=4(1.90, 8.28)] were more likely to use modern family planning as compared to their counter parts.

**Conclusion:** The study revealed that having pocket money, being married and having discussion on modern family planning (MFP) methods are positive predictors of MFP utilization. Therefore, Aysaita secondary and preparatory school must establish and promote more responsive and youth-friendly health service delivery. Furthermore, the school must advocate for reducing the financial cost of MFP methods to female students.

**Keywords:** Aysaita, School, Female, Youth, Modern Family Planning, Afar, Ethiopia

**Background**

Family planning implies the ability of individuals and couples to anticipate and attain their desired number of children, and the spacing and timing of their births. Investing in family planning is a development “best buy” that can accelerate achievement across the five Sustainable Development Goal themes of People, Planet, Prosperity, Peace and Partnership [1].

Modern family planning (MFP) methods refers to safe and effective methods to prevent pregnancy and sexually transmitted infections. MFP methods include female and male sterilization, intrauterine devices (IUDs), hormonal methods (oral pills, injectable and hormone releasing implants, skin patches and vaginal rings), condoms and vaginal barrier methods (diaphragm, cervical cap and spermicidal foams, jellies, creams and sponges) [2].

In Sub-Saharan Africa, MFP utilization is low [3-5], which exposes them with adverse consequences such as unwanted pregnancy, unsafe abortion, sexually transmitted infections, morbidity and mortality during pregnancy and child birth. About 16 million adolescent girls between 15 and 19 years of age give birth each year. This accounts roughly 11% of all births worldwide, with 95% occurring in developing countries [6].

Family planning can prevent closely spaced and ill-timed pregnancies and births, which contribute to some of the world’s highest infant mortality rates. About 35% of maternal and 13% of child mortalities can be prevented if couples can space their pregnancies by at least two years through the use of modern family planning [7-9]. Furthermore, about three million unsafe abortions among girls aged 15-19 years can be prevented every year [4].

Youths in Ethiopia lack adequate information and guidance on sexual and reproductive health issues. According to the recent demographic and health survey, only 5% of all females aged 15-19 years, and 12% of all females aged 15-24 reported current use of any contraceptive method. Moreover, uptake of modern contraceptives in Afar region is 8.4% [10].

Many adolescent girls who become pregnant have to leave school. This has long term implications for adolescents, their families and communities [11]. Despite this fact, there is little documentation on factors affecting modern contraceptive utilization among students in Afar Regional State. Therefore, this study was aimed to assess the utilization and factors affecting modern family planning in Aysaita secondary and preparatory school in Afar Regional State.

**Methods****Study Area and Design**

School based cross-sectional study was conducted at Aysaita secondary and preparatory school in April, 2016. The school is found in zone one of Afar Regional State. It is located at 70 km from Samara (capital city of Afar Regional State), and 700 km from Addis Ababa (capital city of Ethiopia). There were 1,309 regular students in 2015/16, of which 600 were female students.

**Sample Size Determination and Sampling Procedure**

A sample size of 321 was calculated based on a single population proportion formula by considering the following assumptions:  $n$  = required sample size,  $Z$  = critical value for normal distribution at 95% confidence level (1.96),  $d$  = 0.033 (3.3% margin of error),  $P$  = 9.1% (uptake of modern contraceptives in Afar region) [10] and an estimated non-response rate of 10%.

$$n = \frac{\left(\frac{z}{d}\right)^2 P(1-P)}{}$$

Then the total sample size was distributed to the four grade levels (grade 9-12) based on the number of students in each grade. Finally, using students list as a sampling frame, 321 students were selected using random sampling technique.

#### **Data Collection tools and procedures**

Data were collected using structured self-administered questionnaire. The questionnaire was prepared first in English and translated to Amharic (the Ethiopian national language), then back to English to check for consistency. The Amharic version of the questionnaire was used to collect the data. The questionnaire was pre-tested on 5% of the sample size in Dubti secondary and preparatory school. Confidentiality of responses was also maintained throughout the study.

#### **Study variables and Statistical analysis**

The dependent variable was modern family planning utilization. It was defined as the use of at least one of the modern family planning methods. Students who were exposed to at least one modern family planning methods was coded as “1” and those who were not exposed to the event were coded as “0” for regression analysis. Current modern family planning users are those female students or whose partner using any one of the modern family planning methods until the day of data collection. Ever users are those female students or whose partners had ever used modern family planning methods in their life time.

The data were checked for completeness and consistencies. Data were also cleaned, coded and entered into Epi-Info version 3.3.2, then exported to SPSS version 20 statistical package for analysis. The crude odds ratios with 95% confidence interval were estimated in the binary logistic regression analysis to assess the association between each independent variable and the outcome variable.

Variables with p-value <0.05 in the binary logistic regression analysis were considered in the multivariable logistic regression analysis. The Hosmer-Lemeshow goodness-of-fit with enter procedure was used to test for model fitness. Adjusted odds ratios with 95% confidence interval were estimated to assess the strength of the association, and variables with p-value <0.05 were considered as significant and independent factors.

#### **Results**

##### **Socio-demographic characteristics of the study participants**

Three hundred one female students were included in this study, making response rate of 93.8%. Two hundred sixty one (86.7%) of the respondents were in the age group of 15-19 years. Two hundred fifty seven (85.4%) were never married in marital status. One hundred thirty nine (46.2%) of the study students were Afar followed by Amhara (45.5%). Majority 259(86.0%) were Muslim by religion (**Table 1**).

**Table 1:** Socio-demographic characteristics of female students in Aysaita Secondary and Preparatory school, Northeast Ethiopia, 2016

<b>Variables (n=301)</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Age</b>		
15-19	287	95.3
20-24	14	4.7
<b>Mean (<math>\pm</math>SD) of the students</b>	16.74 ( $\pm$ 1.53) years	
<b>Educational level</b>		
Secondary school	227	75.4

Preparatory school	74	24.6
<b>Marital status</b>		
Never married	259	85.4
Ever married	42	14.6
<b>Religion</b>		
Muslim	259	86.0
Christians	42	14.0
<b>Ethnicity</b>		
Afar	139	46.2
Amhara	137	45.5
Oromo	11	3.7
Tigray	8	2.6
Guraghe	6	2.0
<b>Residence</b>		
Urban	239	79.4
Rural	62	20.6
<b>Living characteristics</b>		
With parents	266	88.4
With others	30	9.9
Alone in rental house	5	1.7
<b>Average pocket money per month (ETB)</b>		
≤100	169	56.2
101-200	64	21.3
201-300	47	15.6
> 300	21	6.9
<b>Paternal education status</b>		
Formal education	202	(67.2)
No Formal education	99	(32.8)
<b>Maternal education status</b>		
Formal education	121	(37.9)
No Formal education	180	(67.1)

ETB: Ethiopian Birr

#### Sexual history of the students

Of the 301 study participants, 76 (25.24%) reported having had sexual intercourse in their life time. The minimum age at first

sexual intercourse was 15 years. Most of the students (43.5%) had sex by their interest (**Table 2**).

**Table 2:** Sexual history of female students in Aysaita Secondary and Preparatory school, Northeast Ethiopia, 2016

Variables	Frequency	Percentage (%)
<b>Ever had sex (n=301)</b>		
Yes	76	25.2
No	225	74.8
<b>Remember the time of first sexual intercourse (n=76)</b>		
Yes	25	32.9
No	51	67.1
<b>Mean (<math>\pm</math>SD) age of the first sexual intercourse (n=25)</b>	17.07 ( $\pm$ 1.42) years	
<b>Person forced students to have sexual intercourse (n=76)</b>		
Students' interest	33	43.4
Peer pressure	6	7.9
Teacher	2	2.6
No answer	35	46.1

**Utilization of Modern family planning methods among female students**

Two hundred nineteen study students (72.8%) heard at least one of modern family planning method in their life time. The most

commonly reported method was injectables (48.9%) followed by pills (35.6%). Of the sexually active students, 52(68.4%) were currently using modern family planning (Table 3).

**Table 3:** Modern family planning related characteristics among sexually active female students in Aysaita Secondary and Preparatory school, Northeast Ethiopia, 2016

Variables	Frequency	Percentage (%)
<b>Ever heard about MFP method (n=301)</b>		
Yes	219	72.8
No	82	27.2
<b>MFP methods students ever heard (n=219)*</b>		
Injectable	107	48.9
Pills	78	35.6
Condom	61	27.9
IUCD	38	17.4
Emergency contraceptive	21	9.6
Norplant	14	6.4
<b>Ever discuss about MFP method (n=301)</b>		
Yes	84	27.9
No	217	72.1
<b>Using MFP is against religion (n=301)</b>		
Yes	105	34.9
No	32	10.6
Do not know	164	54.5

<b>Ever utilization of MFP method (n=76)</b>		
Yes	59	77.6
No	17	22.4
<b>Reasons to use MFP method (n=59)</b>		
Prevent unplanned pregnancy	37	62.7
Prevent sexually transmitted disease	8	13.6
No answer	14	23.7
<b>Current utilization of MFP method</b>		
Yes	52	68.4
No	24	31.6
<b>Types of MFP currently used (n=52)</b>		
Injectable	23	44.2
Pills	7	13.5
Condom	13	25.0
Norplant	5	9.6
Emergency contraceptive	4	7.7
*Multiple responses. MFP: Modern Family Planning methods		

#### Factors associated with modern family planning methods utilization among female students

Binary logistic regression analysis showed that, marital status, age, residence, students' living characteristic and having pocket money were significantly associated with current utilization of modern family planning methods at  $p < 0.05$ . In the multivariable logistic regression analysis, students who had pocket money were two times [AOR=2.3(1.07, 5.23)] more likely to

use modern family planning methods as compared to those who lack pocket money. In addition, students who had ever married were about four times [AOR=4.3(1.45, 12.63)] more likely to use modern family planning methods as compared to never married students. Finally, students who had discussed on modern family planning methods were four times [AOR=4(1.90, 8.28)] more likely to use modern family planning methods as compared to those who had no discussion (**Table 4**).

**Table 4:** Factors associated with modern family planning utilization by female students in Aysaita secondary and preparatory school, Northeast Ethiopia, 2016

Variables	Current utilization of MFP		COR(95%CI)	AOR(95%CI)
	Yes	No		
<b>Age of students</b>				
15-19	46	241	1	1
20-24	6	8	3.9(12.7-11.548)*	2.5(0.61,10.43)
<b>Marital status</b>				
Never married	27	230	1	1
Ever married	25	19	11.2(5.46,22.97)*	4.3(1.45,12.63)

				*
<b>Residence</b>				
Urban	34	205	0.40(0.21,0.78)*	0.6(0.29,1.53)
Rural	18	44	1	1
<b>Father education</b>				
Non formal education	36	124	1	1
Formal education	16	125	2.2(1.19-4.23)*	0.5(0.25,1.22)
<b>Living characteristics</b>				
With parents	31	235	1	1
With others	18	12	11.3(5.00325.84)*	2.1(0.59-7.38)
Alone	3	2	11.3(1.82-70.34)*	1.9(0.21-17.13)
<b>Student has pocket money</b>				
Yes	35	125	2.0(1.082,3.83)*	2.3(1.07,5.23)*
No	17	124	1	1
<b>Ever discuss about MFP</b>				
Yes	33	51	6.74(3.54,12.82)*	4(1.90-8.28)*
No	19	198	1	1
MFP: modern family planning. *Statistically significant variables at $p < 0.05$ . CI = Confidence Interval.				

## Discussion

This study shows that 68.4% of sexually active students were currently using modern family planning. This is consistent with a study done in Asella [12] and Kenya [13]. However, a study done in Shire Endasillasie revealed that about 80% of sexually active respondents were using modern family planning methods. This discrepancy could be attributed to women’s good awareness about family planning methods in Shire Endasillasie [14].

This study showed that odds of using modern contraceptives among married students was higher compared to single students. This is consistent with other findings [14, 15]. However, in Tanzania female students who were married had less odds of using contraceptives compared with those who were single [16].

Students who had ever discussed about modern family planning methods with their partners were more likely to use modern

family planning methods compared to those who did not discuss with their partners. This is in line with other researches [17, 19]. This is possibly because discussion about family planning methods may be associated with subsequent family planning exposure, which in turn led to family planning use.

This study revealed that students who had pocket money were more likely to use modern family planning methods compared to those who had not. This result is similar with other studies [11]. This could be because students who had pocket money might have ease of access for family planning methods.

The major limitation of this study was the nature of cross sectional study which may not explain the temporal relationship between the outcome variable and explanatory variables. Furthermore, the data were collected from students where only small proportion of females got chance to join school.

**Conclusion:** The study revealed that nearly seven in ten sexually active students were currently using modern family planning (MFP) methods. In the multivariable logistic regression analysis having pocket money, being married and having discussion about MFP methods are positive predictors of MFP utilization. Therefore, Aysaita secondary and preparatory school must establish and promote more responsive and youth-friendly health service delivery, including access to sexual education and information on MFP methods.

#### Abbreviations

AOR: Adjusted odds ratio; CI: Confidence interval; SD: Standard deviation; ETB: Ethiopian Birr; WHO: World Health Organization; MFP: Modern family planning; IUD: intrauterine devices.

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#### Competing interests

The authors declare that they have no competing interests.

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