

Assefa Beyene, Abiyou Muhiye, Yeneneh Getachew, Abiy Hiruye, Damen Haile Mariam, Millard Derbew, Dereje Mammo, Fikre Enquesselassie. *Ethiop Med J*, 2015, *Supp.* 2

## ORIGINAL ARTICLE

# ASSESSMENT OF THE MAGNITUDE OF TEENAGE PREGNANCY AND ITS ASSOCIATED FACTORS AMONG TEENAGE FEMALES VISITING ASSOSA GENERAL HOSPITAL

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## ABSTRACT

**Background:** Teenage pregnancy is directly related to high incidence of pregnancy related complications contributing to maternal morbidity and mortality and social problems. There are no enough data on teenage pregnancy and related complications in Ethiopia and in Benishangul Gumuz region in particular.

**Objective:** To investigate the magnitude and factors associated with teenage pregnancy among teenage females visiting Assosa general hospital for health care services.

**Methods:** Facility-based quantitative cross-sectional study was carried out among 783 randomly selected teenage females using structured and pre-tested questionnaire from January to April 2014.

**Results:** Teenage pregnancy is estimated at 20.4% in this study. The median age of subjects at first sexual intercourse and at first marriage being 16 and 17 years respectively. High proportion of (46.8%) teenagers had engaged in premarital sex. Among sexually active teenage females, 46.7% experienced their first sexual encounter by coercion. Being young [AOR= 0.21, 95%CI= 0.06-0.67], single [AOR= 0.06, 95%CI= 0.03-0.12], housemaid [AOR= 3.93, 95%CI=1.71-9.04] and use of family planning [AOR= 2.39, 95%CI= 1.20-4.75] have statistically significant association with teenage pregnancy.

**Conclusions and Recommendations:** A range of factors including age, marital status, level of education, occupational status, average family income and use of family planning have influence on teenage pregnancy in the study area. Behavioral change communication, strengthening school health program, empowering young women specifically the rural women, and promoting parent-children discussion on sexuality is recommended.

**Key words:** Teenage pregnancy, Risk factors, Assosa General Hospital

## INTRODUCTION

Adolescence is the transitional period from childhood to adulthood characterized by significant physiological, psychological and social changes. World Health Organization (WHO) defines the age group 10-19, 13-19 and 15-24 years of age as adolescents, teenagers and youth, respectively. Those in the age group 10-24 years are called young people(1). Adolescence is characterized by immature behavioral decision-making, exploration, experimentation, subjection to peer influences, and lack of knowledge

about disease and protective measures against it (2, 3).

Worldwide, adolescents suffer from a disproportionate share of early marriage, unwanted pregnancies, and unsafe abortions, sexually transmitted infections (STIs) including HIV/AIDS, female genital mutilation, malnutrition and anemia, infertility, sexual and gender based violence, and other serious reproductive health problems (4,5). According to UNFPA report, each year an estimated 14 million adolescents between the ages of 15 and 19 give birth globally, of which more than 90% occurs in developing countries (6,7). In many countries, unmarried adolescent mothers are likely to experience social ostracism, which may result in rejection by their family and peers.

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Very young mothers also tend not to be emotionally or financially prepared to care for and bring up a child (8, 9). Beyond these social and economic consequences, the psychological and physical health consequences of early motherhood for the mother and her child are even more problematic. Researches have shown that teenage fertility is associated with adverse maternal and child health outcomes including obstructed labor, pregnancy related hypertension, fistula, anemia, low birth weight, fetal growth retardation, and psychological trauma all leading to high infant and maternal mortality rate (8-16).

Complications from pregnancy and childbirth are the leading cause of death for adolescent girls between the ages of 15 and 19 in poor countries. Girls in this age group are twice as likely to die from pregnancy and childbirth-related causes, compared with older women. Children born to teenage mother are 50% more likely to die before the age of one than those born to women in their twenties. Furthermore, among teenagers who become pregnant only few of them seek antenatal and delivery care from health professionals (6, 17, 18).

Ethiopia has a high incidence of unwanted pregnancies and incomplete and unsafe/septic abortions, particularly among adolescents (19). According to EDHS 2011, among women aged 25-49, 29% had first sexual intercourse before age 15 years and 62% before age 18. The national median age at first sexual intercourse for women age 25-49 years is 16.6 years, and the median age at first marriage being 17.1 years among women aged 20-49 years by the year 2011, indicates that adolescent sexual activity and early marriage are common among women of reproductive age group in Ethiopia (20).

Various reports and publications have identified determinants of teenage pregnancy and fertility but most of the findings were from nationwide studies rather than specific to regions. Additionally, much of the focus of fertility and use of maternal health service is among the general population of reproductive age group rather than this specific age group. Hence, this research is carried out to assess the magnitude and associated factors of teenage pregnancy among teenage females visiting Assosa General Hospital for healthcare services.

## MATERIALS AND METHODS

The study is carried out in Assosa General Hospital, one of the two hospitals in Benishangul Gumuz Region, in the north western part of Ethiopia. In addition

to other health services, the hospital provides reproductive and maternal health services including antenatal, delivery, postnatal care, post abortion care, family planning and HIV services. The hospital has strong linkage and collaboration with youth centers and reproductive health care clinics in the town; which might enable adolescents to easily access reproductive health care services.

Facility-based quantitative cross-sectional study was conducted from January to April 2014 to assess the magnitude and factors associated with teenage pregnancy among teenage females visiting Assosa General Hospital for health care services. The study population was teenage females who have visited Assosa General Hospital for health care services during the study period that were selected by our sampling procedure to be part of the study.

Single proportion sample size calculation formula was used to calculate the sample size for the study with the following assumptions: expected prevalence of teenage pregnancy was 19.3% (20); desired precision of 3% at 95% confidence level and non-response rate of 15%; the sample size was estimated at 783. All teenage females, excluding those seriously sick, who visited Assosa General Hospital for health care services in our study period were included in the study.

The independent variables were: age, sex, religion, ethnic group, marital status, level of education, occupational status, level of income (monthly), substance use, age at first sexual intercourse, contraceptive use, age at marriage (early Marriage), and sexual coercion.

Data were collected with structured and pre-tested interviewer-administered questionnaire by trained health professionals. The overall data collection was coordinated and supervised by supervisors and the principal investigator. The questionnaires that were filled by data collectors in each wards and clinics of the hospital were collected and cleaned by the supervisors daily. Then the supervisors handed over the collected and cleaned questionnaires to the principal investigator on weekly basis.

Ethical clearance was obtained from Benishangul Gumuz Regional Health Bureau Ethical Review Committee. Permission was obtained from Assosa General Hospital. Consent was taken from each respondent by informing them about the objective of the study, its benefits and confidentiality related issues.

The data were cleaned, edited and entered using EPI Info version 7 statistical packages after being manually coded and validated. The cleaned and validated data was then transferred into the SPSS 21 software for further processing and analysis. Descriptive and analytic statistics including bivariate and multivariate statistics were used to summarize the data and look for associations.

## RESULTS

***Socio-demographic characteristics of the study participants:*** A total of 770 teenagers were included in the study and the response rate was 98.3%. Almost, six out of ten (58.4%) respondents live in urban areas, and the remaining four out of ten (41.6%) in rural areas. The mean age of teenagers was 16.86 ( $\pm 1.95$ ) years. Almost half (47.9%) of teenagers were in the age range 18-19 years and nearly a quarter (23.4%) of teenagers were ever married.

Almost all teenagers (96.6%) had attended at least primary level education. Almost seven out of ten (69%) teenagers were students, and one out of ten (9.6%) is housewife. The mean monthly family income of teenagers was calculated to be 1206.23 birr (Table 1).

***Teenage sexuality:*** At the time of data collection, 450 (58.4%) teenage girls were sexually active. The minimum and maximum age of teenagers at their first sexual encounter was 12 and 19 years respectively. The median age at first sex was 16 years. Among sexually active teenagers, 71.6% of them had their first sexual intercourse before they were 18 years old. Moreover, 90 (20%) had their first sexual intercourse at their first marriage while the remaining 360 (80%) had engaged in premarital sexual relation. Desire to have sex 162 (45%), forced sex/rape 93 (25.8%), deception/promise/reward 74 (20.6%), exchange of sex-for-money/favor/gifts 19 (5.3%), substance use (alcohol and khat) 7 (1.9%) and threat of non-physical punishment/verbal pressure 5 (1.4%) were the main reported reasons to initiate first sexual intercourse among sexually active teenagers who engaged in premarital sexual relation. Among sexually active teenagers 210 (46.7%) had their first sexual intercourse in one or other forms of sexual coercion.

The sexually active teenagers were also asked about the problems related to sexual practice that they encountered during/after their first sexual intercourse; A total of 263 (58.4%) sexually active teenagers encountered psychological and physical problems related to their first sex. Psychological trauma (self-blame, fear of contracting HIV/AIDS and other STIs) 164 (62.4%), Physical trauma (injury to genitalia and other body parts) 101 (38.4%), unintended pregnancy 76 (28.9%), unusual vaginal discharge 23 (8.7%) and pain during/after sexual intercourse 12(4.6%) were the main problems reported by them (Table 2).

Table 1: Socio-demographic characteristics of teenagers visiting Assosa General Hospital, Assosa, Northwest Ethiopia, 2014.

<b>Socio-demographic variables (n=770)</b>	<b>Number</b>	<b>Percent</b>
<b>Residence</b>		
Urban	450	58.4
Rural	320	41.6
<b>Current age (Mean <math>\pm</math> SD = 16.86 <math>\pm</math> 1.95)</b>		
13-14 years	126	16.4
15-17 years	275	35.7
18-19 years	369	47.9
<b>Marital status</b>		
Single	590	76.6
Married	159	20.7
Divorced	21	2.7
<b>Religion</b>		
Muslim	332	43.2
Orthodox	329	42.7
Protestant	102	13.2
Catholic	6	0.8
Others	1	0.1
<b>Ethnicity</b>		
Amhara	294	38.2
Berta	201	26.2
Oromo	122	15.8
Shinasha	68	8.8
Gumuz	27	3.5
Mao	8	1.0
Others	50	6.5
<b>Educational status</b>		
Grade 12+	45	5.8
Grade 9-12	277	36.0
Grade 5-8	360	46.8
Grade 1-4	62	8.0
Illiterate	26	3.4
<b>Occupational status</b>		
Student	531	69.0
Housewife	74	9.6
Housemaid (Servant)	66	8.6
Merchant	35	4.5
Gov. employee	30	3.9
Self-employee	21	2.7
Others	13	1.7
<b>Average family monthly income in ETB</b> (Mean family monthly income in ETB = 1206.23)		
<300	16	2.1
300-600	288	37.4
601-1200	152	19.7
> 1200	314	40.8

Table 2: Characteristics of sexual practice of teenagers visiting Assosa General Hospital, Assosa, Northwest Ethiopia, 2014

Characteristics	Frequency	Percent
<b>Sexually active? (n=770)</b>		
Yes	320	58.4
No	450	41.6
<b>Age at first sex (n=450) (Median = 16 years)</b>		
12-14 years	53	11.8
15-17 years	269	59.8
18-19 years	128	28.4
<b>Premarital sex (n=450)</b>		
Yes	360	80.0
No	90	20.0
<b>Means of your first premarital sex (n=360)</b>		
Desire to have sex	162	45.0
Physical force/rape	93	25.8
Deception/promise/reward	74	20.6
Exchange of sex for money/gifts/favour	19	5.3
Use of substances (alcohol, khat and drugs)	7	1.9
Threat of non Physical punishment/verbal pressure	5	1.4
<b>Have you encountered any problem related with your first sexual intercourse? (n=450)</b>		
Yes	263	58.4
No	187	41.6
<b>Problem at/after your first sex (n=263)*</b>		
Psychological trauma (self-blame, fear of contracting - HIV/AIDS and other STIs)	164	62.4
Physical trauma (injury to genitalia and other body parts)	101	38.4
Unintended pregnancy	76	28.9
Unusual vaginal discharge	23	8.7
Pain during / after sexual intercourse	12	4.6

\* Each respondent could have encountered more than one problem; hence the frequencies and percentages didn't add up 263 and 100%, respectively.

**Use of family planning:** Regarding the knowledge of teenagers on family planning methods, more than half 446 (57.9%) of them knew about family planning methods and where to find them. Of these, 390 (87.4%) knew where to get pills, 386 (86.5%) depo-provera injection, 325(72.9%) male condom, 187 (41.9%) traditional methods, and 147 (33%) emergency contraception/post pill. However, only 294 (65.9%) of them ever used their choice of contraceptive methods. Among teenagers who have ever used FP methods, most used short term methods: Depo-provera injection 150 (51%), male condom 133 (45.2%), emergency contraception/postpill 40 (13.6%), Combined contraceptive pills 26 (8.8%) and traditional methods 25(8.5%).

Being sexually inactive among 109(71.7%), desire to have child among 7 (4.6%) and lack of husband's consent among 15 (9.9%) participants were the main reported reasons among teenagers for not using any contraception (Table 3).

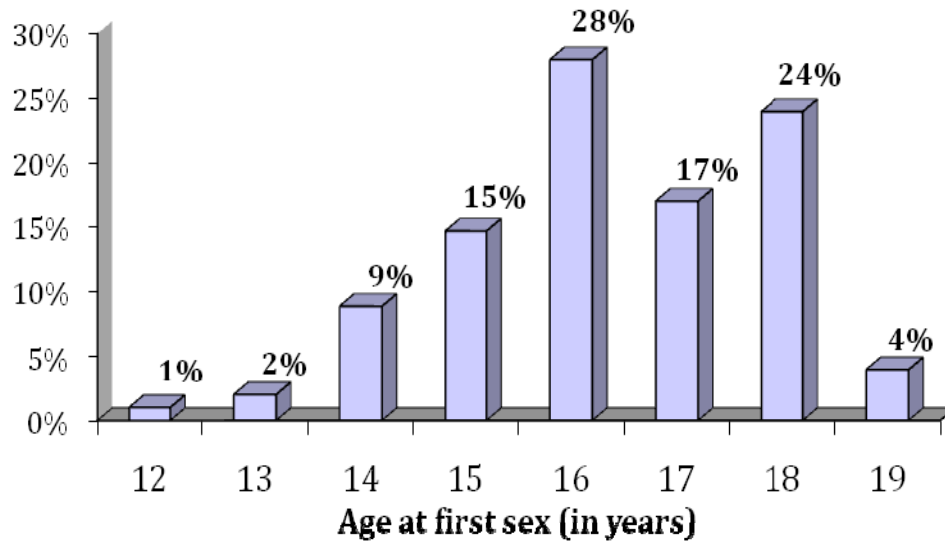
Table 3: Family planning experience among teenagers visiting Assosa General Hospital, Assosa, Northwest Ethiopia, 2014

Variables	Frequency	Percent
<b>Do you know about FP? (n=770)</b>		
Yes	446	57.9
No	324	42.1
<b>Type of FP methods you ever know (n=446)*</b>		
Pills		
Depo-Provera injection	390	87.4
Male Condom	386	86.5
Female Condom	325	72.9
Implants	29	6.5
IUCD	96	21.5
Emergency Contraception (Post pill)	93	20.9
Traditional Methods	147	33.0
	187	41.9
<b>Do you know place (s) where FP methods can be obtained? (n=446)</b>		
Yes	444	99.6
No	2	0.4
<b>Do you ever use FP methods? (n=446)</b>		
Yes	294	65.9
No	152	34.1
<b>Type of FP methods you ever used (n=294)**</b>		
Pills	26	8.8
Depo-Provera injection	150	51.0
Male Condom	133	45.2
Female Condom	2	0.7
Implants	12	4.1
IUCD	8	2.7
Emergency Contraception (Post pill)	40	13.6
Traditional Methods	25	8.5
<b>Reason for not using FP methods (n=152)</b>		
Never had sexual intercourse	109	71.7
Violence/Forced sex	21	13.8
Lack of husband's consent	15	9.9
Want to get pregnant	7	4.6

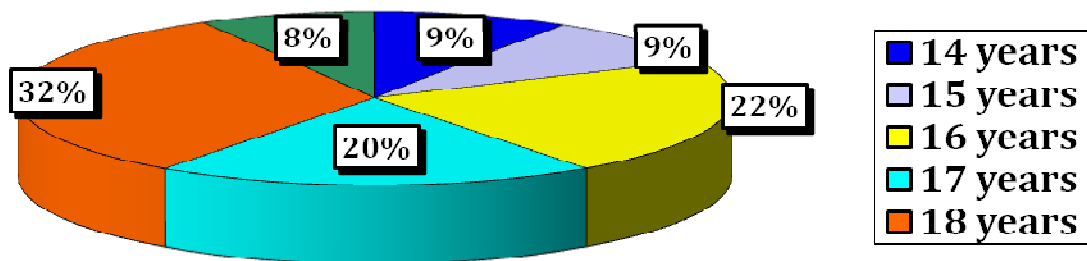
\* Each respondent could have known more than one FP methods; hence the frequencies and percentages didn't add up 446 and 100%, respectively.

\*\*Each respondent could have ever used more than one FP methods; hence the frequencies and percentages didn't add up 294 and 100%, respectively.

**Figure 1. Proportion of sexually active teenagers among each age category (n=450), Assosa General Hospital, 2014.**



**Figure 2. Proportion of ever married teenagers among each age category (n=180), Assosa General Hospital, 2014.**



**Early Marriage and Teenage Pregnancy:** Out of 180 ever married teenagers interviewed, 108 had their first marriage before 18 years of age making the prevalence of early marriage 60%. The minimum and maximum age of teenagers at their first marriage was 14 and 19 years respectively. Nearly two third of ever married teenagers 108 (60.0%) had their first marriage between the age group of 14-17 years (Figure 2).

As shown in Figure 3, among teenagers interviewed, 157 had their first pregnancy in the age range of 13-19 years, making the magnitude of teenage pregnancy 20.4%. Of these, almost half 78 (49.7%) got their first pregnancy between the age group of 15-17 years and nearly one tenth of them 13 (8.3%) between the age group of 13-14 years. The earliest age and the median age at first pregnancy was 13 and 17 years respectively (Figure 3).

Among 157 teenagers who ever got pregnant, 82 (52.2%) were pregnant at the time of interview. Of these 69 (84.1%) were pregnant for the first time while 13 (15.9%) were pregnant for the second or more times. Of the 157 first time pregnancies 103 (65.6%) were unwanted. The proportion of unwanted pregnancy disaggregated by age showed that it was 100% between teenagers 13-14 years, 70.5% among 15-17 years, and 53% among 18-19 years. Method non-use 67 (65%), sexual violence 27 (26.3%) and method failure 9 (8.7%) were the main reported reasons for conception among teenagers who has got unwanted pregnancy.

Among 88 teenagers who had history of previous pregnancy, 48 (54.5%) ended in abortion, 33 (37.5%) with a live birth and 7 (8%) in still birth. Nearly one third (62.5%) of deliveries and abortions were at health institutions. Psychological trauma (self-blame and fear of laboring) 55 (62.5%), Vaginal bleeding 42 (47.7%), infection 19 (21.6%), difficult laboring 15 (17%) and pregnancy related hypertension 2 (2.3%) were the main health problems encountered during/after termination or delivery of the first pregnancy among these group of teenagers. Over three fourth (76.4%) teenagers got tested or knew about their HIV sero-status, among which 18 (3.1%) teenagers tested reactive.

**Determinants of teenage pregnancy:** Socio demographic, history of family planning use and other variables were checked if they have association with teenage pregnancy. In bivariate analysis, family income, ever had sexual intercourse, age, being married, being Oromo, house wives, house maids were found to have association with teenage pregnancy. However, after controlling confounders in multivariate analysis the following factors reduced the risk of teenage pregnancy: young adolescents age between 13-14 AOR 0.21(CI=0.06-0.67), single teenagers AOR 0.06(CI=0.03-0.12), teenagers with family income of less than 600 birr/month AOR 0.47 (CI=0.24-0.96); whereas housemaids AOR 3.93 (CI=1.71-9.04) being Oromo ethnicity AOR 2.64 (CI=1.35-5.15), and non use of family planning AOR 2.39(1.20-4.75) have increased chance of having teenage pregnancy (Table 5).



Table 4: Characteristics of age at first marriage and pregnancy experience of teenagers visiting Assosa General Hospital, Assosa, Northwest Ethiopia, 2014.

Variables	Frequency	Per- cent
<b>Ever has got pregnant? (n=770)</b>		
Yes	157	20.4
No	613	79.6
<b>Currently pregnant? (n=157)</b>		
Yes	82	52.2
No	75	47.8
<b>Currently pregnant for the first time? (n=82)</b>		
Yes	69	84.1
No	13	15.9
<b>First pregnancy planned and wanted? (n=157)</b>		
Yes	54	34.4
No	103	65
<b>Reason for unplanned and unwanted pregnancy (n=103)</b>		
Method non-use/unsafe sex/	67	65.0
Sexual violence	27	26.3
Method failure	9	8.7
<b>Outcome of the first pregnancy (n=88)</b>		
Abortion/miscarriage	48	54.5
Still birth	7	8.0
Live birth	33	37.5
<b>Place of termination/delivery of the first pregnancy (n=88)</b>		
Health institution	55	62.5
Traditional healers	11	12.5
Home	22	25.0
<b>Problems encountered during/after termination/delivery of first pregnancy (n=88)*</b>		
Psychological trauma (self-blame, fear of laboring, any others)		
Vaginal bleeding (anemia)	55	62.5
Infection (localized/systemic)	42	47.7
Obstructed labor (difficult laboring)	19	21.6
Pregnancy related hypertension	15	17.0
	2	2.3
<b>HIV serostatus of the respondent known? (n=770)</b>		
Yes	588	76.4
No	182	23.6
<b>HIV serostatus of the respondent (n=588)</b>		
Non-Reactive (NR)	570	96.9
Reactive (R)	18	3.1

\* Each respondent could have encountered more than one problem; hence the frequencies and percentages didn't add up 88 and 100%, respectively.

**Figure 3. Proportion of first pregnancy of teenagers among each age category (n=157), Assosa General Hospital, 2014.**

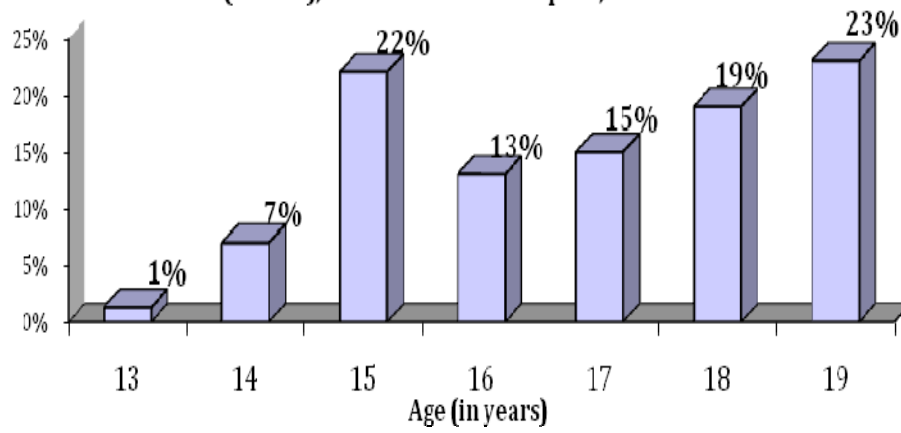


Table 5: Teenage pregnancy and explanatory variables among teenage females visiting Assosa General Hospital, (N= 770), Assosa, Northwest Ethiopia, 2014.

Variables	Teenage preg-nancy		COR(95%CI)	AOR(95%CI)	P. value
	Yes	No			
<b>Age</b>					
13-14	4	122	<b>0.11(0.04- 0.29)</b>	<b>0.21(0.06-0.67)</b>	.009
15-19	153	491	1.00	1.00	
<b>Marital status</b>					
Single	46	544	<b>0.05(0.03-0.08)</b>	<b>0.06(0.03-0.12)</b>	<0.000
Married	111	69	1.00	1.00	
<b>Ethnicity</b>					
Berta	38	163	1.17(0.73-1.86)	1.43(0.74-2.77)	.051
Gumuz	5	22	1.14(0.41-3.15)	1.15(0.31-4.32)	
Shinasha	10	58	0.86(0.41-1.80)	0.64(0.23-1.76)	
Others	9	49	0.92(0.42-1.99)	0.96(0.36-2.55)	
Oromo	46	76	<b>3.03(1.88-4.88)</b>	<b>2.64(1.35-5.15)</b>	
Amhara	49	245	1.00	1.00	
<b>Educational status</b>					
Illiterate	15	11	2.47(0.91-6.64)	0.46(0.10-2.08)	.071
Grade 5-8	62	298	0.38(0.19-0.74)	0.65(0.24-1.79)	
Grade 1-4	14	48	0.53(0.25-1.24)	0.59(0.15-2.32)	
Grade 9-12	50	227	<b>0.40(0.20-0.79)</b>	<b>0.33(0.13-0.83)</b>	
Grade12+	16	29	1.00	1.00	
<b>Occupation</b>					
Housewife	53	21	<b>23.23(13.0-41.55)</b>	2.08(0.90-4.78)	.039
Government employee	12	18	<b>6.14(2.80-13.46)</b>	1.79(0.61-5.26)	
Self employee	5	29	1.59(.59-4.28)	1.68(0.49-5.82)	
Merchant	14	21	<b>6.14(2.95-12.80)</b>	1.88(0.69-5.14)	
Housemaid (Servant)	21	45	<b>4.30(2.38-7.77)</b>	<b>3.93(1.71-9.04)</b>	
Student	52	479	1.00	1.00	
<b>Family income</b>					
<600	48	256	<b>0.60(0.40-0.89)</b>	<b>0.47(0.24-0.96)</b>	.100
601-1200	34	118	0.92(0.58-1.46)	0.84(0.42-1.67)	
> 1200	75	239	1.00	1.00	
<b>Use of family planning</b>					
No	48	276	<b>0.54(0.37-0.78)</b>	<b>2.39(1.20-4.75)</b>	.013
Yes	109	337	1.00	1.00	

## DISCUSSION

In this study, the magnitude and factors associated with teenage pregnancy among teenage females visiting Assosa General Hospital were studied. The survey showed that the magnitude of teenage pregnancy was 20.4% among teenage females in the study community, which is consistent with the report of EDHS 2011 that showed 19.3% for BGRS (20). Of the study participants, 58.4% of teenage females were sexually active, which is comparable with the figure for Sub Saharan African countries that ranges from 30% in Zimbabwe to 73% in Cote d'Ivoire (21).

The median age of teenagers at first sexual intercourse and at first marriage was 16 and 17 years, which is similar with the national EDHS 2011 figure of 16.6 and 17.1 years respectively. This indicates that adolescent sexual activity and early marriage are common among teenage females in the study area (20). Nearly half (46.8%) of teenagers had engaged in premarital sexual relation, which is much higher than the 31% from Zambia and the 45% from Cote d'Ivoire (21). Our finding on forced sexual intercourse, 46.7% among sexually active teenage females was higher than studies done in Africa that showed that 24-32% of sexually active young women had their first sexual encounter by coercion (22). This indicates the severity of the problem where girls are forced in to sex against their will.

In this study attempts were made to find out the most contributing factors for teenage pregnancy. It was found that teenage pregnancy was significantly associated with older age (15-19), marital status, Oromo ethnic group, not using family planning and house maids by occupation, which is consistent with the findings of studies from other Sub Saharan African countries (17).

### Conclusions:

- The study has found that teenage pregnancy is common in the study area;
- Adolescents in Assosa have high likelihood of early sexual debut, early marriage, and low rate of use of contraceptive methods which have led to the observed level of teenage pregnancy;
- Sexual coercion is an important factor that predisposes adolescents to premarital sexual engagement and related negative consequences; and
- Teenage pregnancy was significantly associated with older age (15-19), marital status, being Oromo ethnic group, house maids by occupation and not using family planning.

### Recommendations:

- In the revised family law of Ethiopia, the legal age for marriage is 18 for both boys and girls; but significant proportions of adolescents are getting married earlier. Measures should be taken to enforce the legal age of marriage by the concerned bodies in the region;
- Besides, programs focusing on increasing opportunities for education and empowerment in decision making for young women should be considered, which are likely to result in delayed marriage and if pregnant will use existing maternal health services;
- The regional government and stakeholders should promote youth friendly sexual and reproductive health and proactively work against sexual coercion programs in schools, colleges, university and community settings to encourage safer sex practice, enhance the utilization of family planning and other reproductive and maternal health services; and
- The current programs being implemented by various NGOs and governmental bodies should include parents, males and adolescents to create favorable environment for the teenagers to use existing reproductive health services and to facilitate open discussion.

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