

Teenage pregnancy and its associated factors among teenage females in Farta woreda, Northwest, Ethiopia, 2020: A community-based cross-sectional study

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ABSTRACT

INTRODUCTION Teenage pregnancy is associated with poor maternal and perinatal health outcomes, and also has a major social and economic impact. Its magnitude and determinants in Ethiopia are not well understood, therefore the aim of this study was to assess the prevalence and associated factors of teenage pregnancy among teenagers in northwest, Ethiopia, 2020.

METHODS A community-based cross-sectional study was conducted among 343 teenagers from 15 February 2020 to 24 March 2020. Multistage sampling technique was used to select study participants. Data were collected using a structured and pretested questionnaire. Bivariable and multivariable logistic regression models were fitted to identify factors associated with teenage pregnancy.

RESULTS The prevalence of teenage pregnancy among respondents in Farta woreda was 25.4% (95% CI: 21.3–

30.3). Residence (AOR=0.46; 95% CI: 0.11–0.80), early age at 1st sexual intercourse (AOR=1.68; 95% CI: 1.57–4.21), not knowing family planning methods (AOR=2.14; 95% CI: 1.54–2.54), not utilizing contraception (AOR=2.31; 95% CI: 1.06–4.99) and did not know a place where contraceptive methods are provided (AOR=3.46; 95% CI: 1.89–11.06) have significant association with teenage pregnancy.

CONCLUSIONS Residence, early age at 1st sexual intercourse, not knowing family planning methods, not utilizing contraception and not being aware of a place where contraceptive methods are provided were associated with teenage pregnancy. The creation of awareness for the timing of safe sexual intercourse, the types and locations where family planning methods are available, and the promotion of family planning use for postponing pregnancy, should be taken into account within family planning.

INTRODUCTION

Teenage pregnancy is described as pregnancy in girls aged 10–19 years. It is estimated that 16 million girls aged 10–19 years give birth every year, accounting for almost 11% of all births worldwide¹. Teenage pregnancy is more likely to occur in disadvantaged populations worldwide, frequently motivated by poverty and lack of education and work opportunities².

Pregnancy and childbirth are expected and desired for certain teenagers. In some cases, however, girls will face social pressure to marry and, once married, have children. Every year, about 15 million girls are married before the age of 18 years, and 90% of girls aged 10–19 years are married^{3,4}.

Teenagers face obstacles in accessing contraception

including discriminatory laws and regulations on the availability of contraceptives based on age or marital status and stigma against health workers. Also, they face obstacles that prohibit contraception from being used and/or used reliably and appropriately, even though adolescents can obtain contraceptives⁵.

Girls between 10 and 19 years of age account for 11% of births worldwide. Of this 11%, almost all births, 95%, are in low- to middle-income countries, like Ethiopia^{6,7}. Approximately 16 million girls aged 10–19 years and 2.5 million girls aged <16 years give birth annually in developing regions^{8,9}. Complications during pregnancy and childbirth are the leading cause of death for girls aged 10–19 years worldwide¹⁰.

Industrialized and developing countries have distinctly

different rates of teenage pregnancy. In developed regions, teenage parents appear to be unmarried and adolescent pregnancy is seen as a social problem. Teen parents in developing regions, on the other hand, are often married and the family and community can accept their pregnancy. However, early pregnancy in these cultures can be combined with malnutrition and inadequate health care to cause medical problems¹¹. Worldwide, teenagers suffer from early marriage, sexually transmitted infections including HIV/AIDS, female genital mutilation, malnutrition, anemia, infertility, sexual and gender-based abuse, unwanted pregnancy, and illegal abortion^{12,13}.

The reviewed literature showed that age, marital status, residency, maternal education, partner education, lack of parent to adolescent communication on sexual and reproductive health issues and inadequate opportunity at community level for positive youth development, illiteracy, age at marriage and contraceptive utilization, have significant association with teenage pregnancy¹⁴⁻¹⁷.

In Ethiopia, teenage mothers are more likely to experience adverse pregnancy outcomes like high incidence of unwanted pregnancies and incomplete and unsafe/septic abortions. According to the Ethiopian Demographic and Health Survey (EDHS) 2016, 13% of women aged 10–19 years have begun childbearing. As expected, the proportion of women aged 10–19 years who have begun childbearing rises rapidly with age, from 2% among women at age of 15 years to 28% among those aged 19 years. Teenage childbearing is more common in rural than in urban areas (15% vs 5%, respectively) and among women in Amhara (8.3%)¹⁴.

Even though different studies were conducted at the national level, there is a scarcity of studies in the study area. Additionally, much of the focus of fertility and use of maternal health services are directed to the general population of reproductive age rather than this specific age group. Hence, we intended to assess the magnitude and the associated factors of teenage pregnancy in the Farta district.

METHODS

Study design and setting

A community-based cross-sectional study design was conducted from 15 February 2020 to 24 March 2020 among female adolescents aged 10–19 years in Farta district, south Gondar zone in Amhara region, northwest Ethiopia. Farta district is one of the 15 districts in South Gondar Zone, situated in Amhara National Regional State, Ethiopia and located 660 kilometers northwest from the capital city of Ethiopia, Addis Ababa. The district is subdivided into 31 rural and 2 urban kebeles (smallest administrative units of Ethiopia). Based on the 2015 demographic survey projection, amongst the 276144 population in the woreda, 136221 are females. The current estimate of adolescents aged 10–19 years between 1 February and 1 March 2019, were 18984. In Farta district there were 10 health centers, 56 health posts and 4 private health clinics¹⁸.

Participants

The source population was all female adolescents aged 10–19 years in Farta district. The study population was all female adolescents aged 10–19 years in randomly selected kebeles and had been living at least six months in the study area of the selected kebeles.

Inclusion and exclusion criteria

All women who have lived in the study area for a minimum of 6 months and female teenagers aged 10–19 years were included. Whereas the exclusion criteria were female teenagers aged <10 years and >19 years, seriously ill, and unable to communicate during the study period.

Variables

Dependent variable

Teenage pregnancy was measured by the item: 'Have you ever been pregnant', which was asked of all female respondents regardless of their age. The answer options were: Yes (1) and No (0).

Independent variables

Sociodemographic variables included age, religion, ethnic group, marital status, education level, occupational status, monthly family income; and history of sexual and reproductive health, age at first sexual intercourse, contraceptive use, age at marriage (early marriage), age at 1st pregnancy, planned pregnancy, perception on teenage pregnancy.

Operational definition

Teenage pregnancy: pregnancy in teenagers aged 10–19 years confirmed by a healthcare provider¹³.

Sample size determination

Single population proportion formula was used to determine the sample size. A 95% confidence interval (CI), a margin of error of 5% and 28.6% proportion of teenage pregnancy among females¹⁷ aged 10–19 years was considered. We used a design effect of 1.5 to avoid the effect of the design that decreases the representativeness of the study. To compensate for non-response, 5% of the determined sample was added and the final sample size was 343.

Sampling techniques

We used the multistage sampling technique to select the sampling unit. First, all kebeles were stratified into urban and rural areas. The district constitutes 31 rural and two urban kebeles. A simple random sampling technique was used to select one out of two urban kebeles and eight out of 31 rural kebeles. Finally, the census was conducted at each selected kebele to register all women aged 10–19 years and to create a sampling frame. The final calculated sample size was allocated proportionally to each selected kebele after the population size of each selected kebele was identified.

The starting point from the sampling frame was obtained by using lottery methods, then the study participants were selected from each kebele by using systematic random sampling techniques until the desired sample size was obtained. When the eligible woman was not available in the household, the data collector went to their house repeatedly within the study period, as the household was labelled and mapped before data collection, rather than going to the next home to fulfill the sample size; whereas when there was more than one eligible woman in a household, the interviewed woman was selected via lottery methods.

Data collection procedure and quality assurance

The data collection tool comprised structured questionnaires that were prepared after a thorough literature review and the local situation of the study area and purpose of the study were considered. Questionnaires were prepared first in English then translated to Amharic, which is the vernacular language of the respondents, by a language expert for ease of understanding by the respondents. Data were collected via face-to-face interview technique. To assure the quality of the data, technical training was given before data collection for data collectors, and pre-testing was conducted on 10% of a sample size to pilot test the survey tool on kebeles outside the actual data collection site that have characteristics similar to the study population. Data collection was done by 5 trained diploma midwives and was supervised by three BSc midwives. Throughout the data collection period, the supervisor monitored data collection and checked each filled questionnaire for completeness. Finally, the data were cleaned after entry to ensure completeness.

Statistical analysis

Data were coded, cleaned and entered by Epidata version 3.1 and analyzed using computer database software and exported to the SPSS version 23 statistical software. Descriptive statistics, bivariable and multivariable logistic regression analyses were used to identify associated factors. Variables having $p \leq 0.2$ in the bivariable analysis were fitted into multiple logistic regression models to control the effect of confounding. Crude and adjusted odds ratios with their 95% CI were calculated to determine the strength and presence of association. A $p \leq 0.05$ was considered to declare a level of significance.

RESULTS

Sociodemographic characteristics of the respondents

A total of 343 teenagers were interviewed, with a response rate of 100%. There were 297 (86.6%) respondents aged 15–19 years with a mean age 16.73 ± 1.75 years. Eighty-seven per cent of respondents lived in rural areas. More than half of the respondents (53.1%) were married, and 84% of respondents were Orthodox. More than one-third of respondents, 123 (35.9%), were unable to read and write, and 74 (21.6%) had attended grade 9 and above. The median monthly family

income of respondents was 4000 ± 2900 birr (Table 1).

Sexual and reproductive health characteristics of respondents

One hundred and ninety (55.4%) respondents had sexual intercourse and 39 (20.5%) started before 15 years of age. Out of those who had sex, 144 (75.8%) used contraceptives. More than half of the respondents (53.6%) had a history of premarital sex. More than one-third (32.2%) of respondents' age at 1st pregnancy was less than 18 years. The proportion of teenage pregnancies among respondents in Farta district was 25.4% (87) (95% CI: 21.3–30.3). Almost all (93%) of respondents knew a place where contraceptive methods

Table 1. Sociodemographic characteristics of respondents in Farta district, south Gondar zone, Northwest Ethiopia, 2020 (N=343)

Characteristics	n	%
Age (years)		
13–14	46	13.4
15–19	297	86.6
Residence		
Urban	45	13.1
Rural	298	86.9
Marital status		
Single	182	53.1
Married	135	39.4
Divorced	26	7.6
Religion		
Orthodox	288	84
Muslim	48	14
Protestant	7	2
Ethnicity		
Amhara	266	77.6
Tigrie	40	10.8
Oromo	37	11.7
Educational status		
Grade 12+	4	1.2
Grade 9–12	70	20.4
Grade 5–8	83	24.2
Grade 1–4	63	18.4
Illiterate	123	35.9
Income (Birr)* (n=303)		
<1000	48	15.8
1000–5000	194	64
≥5000	61	20.1

*Ethiopian Birr: 1000 Birr about 23 US\$.

Table 2. Sexual and reproductive health characteristics of respondents in Farta district, Northwest Ethiopia, 2020

Characteristics	n	%
Age at 1st sexual intercourse (years) (n=190)		
13-14	39	20.5
15-17	84	44.2
18-19	67	35.3
Premarital sex		
Yes	184	53.6
No	159	46.4
Age at marriage (years) (n=161)		
<18	46	28.6
≥18	115	71.4
Age at 1st pregnancy (years) (n=87)		
<18	28	32.2
≥18	59	67.8
Do you know about FP?		
Yes	296	86.3
No	47	13.7
Type of FP methods you know (n=296)		
Pills	81	27.4
Depo-Provera	84	28.4
Condom	34	11.5
Implants	36	12.2
IUD	33	11.1
Other	28	9.5

Continued

Table 2. Continued

Characteristics	n	%
Do you know where FP methods are provided?		
Yes	319	93
No	24	7
Do you ever use FP methods?		
Yes	144	74.8
No	46	25.2
Have you ever been pregnant?		
Yes	87	25.4
No	256	74.6
Pregnancy planned and wanted? (n=87)		
Yes	49	56.3
No	38	43.7
Reason for unplanned and unwanted pregnancy (n=38)		
Unsafe sex	20	52.6
Sexual violence	7	18.4
Method failure	11	28.9

FP: family planning.

were provided, and for 38 (11.1%) of respondents the pregnancy was unplanned (Table 2).

Factors associated with teenage pregnancy

Multivariable logistic regressions revealed that residence, age at first sexual intercourse, knowing about family planning methods, utilization of contraception and knowing

Table 3. Bivariable and multivariable analysis of factors associated with teenage pregnancy in Farta district, south Gondar zone, Northwest Ethiopia, 2020

Variable	Teenage pregnancy		OR (95% CI)	AOR (95% CI)
	Yes	No		
Age (years)				
15-19	81	216	2.5 (1.02-6.12) *	0.405 (0.148-1.107)
13-14 (Ref.)	6	40	1	1
Marital status				
Single	47	135	0.406 (0.18-0.94) *	0.933 (0.410-2.824)
Married	28	107	0.305 (0.127-0.733) *	2.320 (0.628-8.576)
Divorced (Ref.)	12	14	1	1
Residence				
Urban	9	36	0.705 (0.325-1.53)	0.464 (0.119-0.808) **
Rural (Ref.)	78	220	1	1

Continued

Table 3. Continued

Variable	Teenage pregnancy		OR (95% CI)	AOR (95% CI)
	Yes	No		
Age at first sexual intercourse (years)				
13–14	7	32	1.829 (0.711–0.804)	1.681 (1.571–4.213) *
15–17	24	60	1.554 (0.58–4.165)	0.303 (0.04–2.273)
18–19 (Ref.)	17	50	1	1
Did you know about FP method?				
Yes (Ref.)	71	225	1	1
No	16	31	1.636 (0.846–3.164)	2.140 (1.54–2.547) *
Did you know where FP methods are provided?				
Yes (Ref.)	78	241	1	1
No	9	15	1.854 (0.781–4.403)	3.469 (1.088–11.061) **
Did you ever use FP methods?				
No	35	64	2.02 (1.21–3.37) *	2.305 (1.063–4.998) **
Yes (Ref.)	52	192	1	1

AOR: adjusted odds ratio. *Significant on binary analysis. **Significant on multivariable analysis. Ref.: reference category.

a place where family planning methods are provided, were significantly associated with teenage pregnancy.

Respondents who live in urban areas were less likely to have had a teenage pregnancy compared to those respondents who lived in rural areas (AOR=0.46; 95% CI: 0.12–0.81). Age between 13 and 14 years at first sexual intercourse was associated with a higher likelihood of teenage pregnancy compared to those who had their first sexual intercourse at an age between 18 and 19 years (AOR=1.68; 95% CI: 1.57–4.21). Respondents who were not aware of family planning methods were two times more likely to have had a teenage pregnancy (AOR=2.14; 95% CI: 1.54–2.55).

Respondents who were not aware of a place to obtain family planning methods were more likely to have had a teenage pregnancy (AOR=3.47; 95% CI: 1.09–11.06), while respondents that did not use contraception were more likely to have a teenage pregnancy (AOR=2.31; 95% CI: 1.06–4.99) (Table 3).

DISCUSSION

This cross-sectional study revealed that the overall prevalence of teenage pregnancy in the study area was 25.4% (95% CI: 21.3–30.3); which is in line with the cross-sectional studies conducted in northeast Ethiopia where the prevalence was 28.6%¹⁷. This may be due to the similarity of study design, sociodemographic factors and the study population.

The finding of this study was low compared with the finding from Kampala, Uganda, which found that four in every ten teenagers attending Naguru teenage Centre are

pregnant¹⁹ and that from northwest region of Cameroon (60.75%)²⁰. This is mainly due to differences in the study population; the previous study was conducted on teenagers, which may significantly increase the prevalence of teenage pregnancy. Also, the finding of this study was lower than that of Kibuku Town, Eastern Uganda, which was 35.8%²¹. This might be due to the sociocultural, norm and economic differences.

This finding was higher with studies conducted in Latin America (19.1%)²², Vietnam (4%)²³, South Africa (19.2%)²⁴, 2016 EDHS finding which was 13%¹⁴, Assosa general hospital which was 20.4%²⁵, and Arba Minch Town 7.7%¹². Sociodemographic and cultural differences may explained the values. On another perspective, this difference may be due to the time gap between studies.

In addition to estimating the prevalence of teenage pregnancy, this study tried to determine factors associated with teenage pregnancy. Teenagers who live in the urban area had a 53.6% lower occurrence of pregnancy compared to their rural counterparts, which is similar to the study done in northeast Ethiopia¹⁷. This could be because teenagers from the rural areas have limited access to information, education, accessibility and availability of youth reproductive services especially family planning methods.

Age at first sexual intercourse was another factor associated with teenage pregnancy. Teenagers aged 13–14 years were more likely to become pregnant compared to those aged 18–19 years; which is supported by studies in Assosa Ethiopia²⁵ and Brazil²⁶.

But the finding of this study was inconsistent with an EDHS report in 2011²⁷ and systematic reviews from three

consecutive EDHS reports²⁸ that showed that the national median age at first sexual intercourse for women aged 25–49 years is 16.6 years. This study is different to a cross-sectional study conducted in five Vietnamese provinces²⁹. While teenagers who did not know about family planning methods were more likely to get pregnant compared to those who were familiar; which is supported by studies in California³⁰ and Brazil²⁶.

The result of this study also showed that women who did not use contraception were more likely to become pregnant than those who had experience of contraceptives. This finding is similar to the study conducted in Assosa, Ethiopia²⁵, Wogedi, Wollo Ethiopia¹⁷, and South Sudan³¹. This could be explained by the fact that proper utilization of contraception can delay the pregnancy until wanted, and also from the contraception service they obtained information about the best time for a first pregnancy.

Respondents who did not know the place where family planning methods were provided were more prone to a teenage pregnancy compared with those who knew. These findings are supported by a study in Iran³². These findings will provide relevant information for zonal, regional and national health organizations for future planning and designing strategies to decrease teenage pregnancies in the community. Health professionals will also understand the gaps that exist in reproductive issues in teenagers.

Strengths and Limitations

There are two limitations to this analysis. First, the research results are cross-sectional, which restricts the ability to assess the causal path between independent variables and dependent variables. Second, most importantly, there could be under-reporting of teenage pregnancy by survey participants due to stigma associated with early sexual activity and pregnancy during adolescence. Future studies should overcome these limitations and incorporate quantitative and qualitative studies.

CONCLUSIONS

The prevalence of teenage pregnancies in the study area was high. Residence, age at first sexual intercourse, not knowing family planning methods, not utilizing contraception and not knowing a place that provides family planning methods, were significantly associated with teenage pregnancy. Creating awareness of the timing of safe sexual practice, family planning methods, places where family planning methods are provided, and promoting family planning utilization to delay pregnancy, are needed.

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CONFLICTS OF INTEREST

The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none was reported.

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ETHICAL APPROVAL AND INFORMED CONSENT

Ethical clearance was obtained from the ethical review committee of Bahir Dar University College of Medicine and Health Science (IRB reference number: CHS/IRB 03-008). Both written and verbal informed consent was obtained from each study participant. Written informed consent was obtained from parents/guardians for participants younger than 16 years.

DATA AVAILABILITY

The datasets collected and analyzed for the current study are available

from the corresponding author on a reasonable request.

AUTHORS' CONTRIBUTIONS

BG: conceived and designed the study, conducted statistical analysis and results interpretation; BG, HG and AD: prepared and edited the manuscript, assisted with data analysis and interpretation. All authors read and approved the manuscript.

PROVENANCE AND PEER REVIEW

Not commissioned; externally peer reviewed.