Magnitude of induced abortion and associated factors among female students of Hawassa University, southern region, Ethiopia, 2019.

Addisu T Sahile[1*], Mieraf Sh Beyene[2]

[1]Department of Social and Population Health, Unity University, Addis Ababa, Ethiopia

[2]Department of Public Health, Universal Medical College, Addis Ababa, Ethiopia

Abstract

Objectives: This study was aimed at assessing the magnitude of induced abortion and associated factors among students in Hawassa University, southern region, Ethiopia, 2019.

Methods: An institution based cross-sectional study was conducted among a total of 422 students selected on the bases of probability simple random sampling method. Pre-tested structured questionnaire was used to collect data. Analysis was made with SPSS 20. Descriptive summary and inferential statistics (Binary logistics regression) were used with a 95% CI and p-value of less than 5% as level of significance. Findings were presented in tables, figure and texts. Confidentiality of information was also secured.

Results: The prevalence of induced abortion in the study setting was found at 68.7% (95% CI: 64.15%-73.2%). Participants who used emergency contraceptives had 12 times higher odds of undergoing abortion than those who didn't use emergency contraceptives at (AOR: 11.95, 95% CI: 5.615-25.326, P<001). Participants who had sexual intercourse had 3 times more odds of undergoing abortion than their counterparts (those who hadn't have) at (AOR:3.287, 95% CI: 1.434-7.532, P<05).

Conclusions: A higher prevalence of induced abortion was observed in the study area. Contraceptive use and experience of sexual intercourse were identified predictors of induced abortion. Concerned bodies were recommended to work on the identified determinants of induced abortion in the study settings.

Keywords: Induced abortion, Associated factors, Maternal deaths, Mental disabilities.

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Introduction

Abortion has been an old experience carried out so far by human beings. It has been practiced throughout the world illegally. Globally it was estimated that around 30 million induced abortions was performed annually. Globally, from 210 million pregnancies that occur annually, about 22% end up in induced abortion.

In Sub-Saharan Africa (SSA) many women use abortion as means of family planning methods. With restrictive abortion laws and limited contraceptive access, unsafe abortion accounted for 13% of maternal deaths in SSA [1].

An estimated 620,300 induced abortion were performed in Ethiopia annually. The annual abortion rate was 28 per 1,000 women aged 15-49, with highest in urban regions. Ethiopia is one of the country that allowed women to obtain safe, legal abortion under some conditions if from rape, physical or mental disabilities, would put women on physical health or life risk, or younger than 18 and unprepared to give birth. About 9% of maternal deaths in Sub-Saharan Africa are attributed of complications of unsafe abortion. Induced abortion is one of the mechanisms to deal with unwanted pregnancy. University students in Ethiopia dealt unwanted pregnancy by undertaking induced abortion in that they wanted to terminate pregnancy in secretly for avoiding of stigma following premarital pregnancy.

Though most studies in Ethiopia were health facility based on patients seeking health service; reproductive health service aspects; particularly abortion related aspects of the university students were not given as such attention. So, the current study assessed the magnitude of induced abortion and associated factors among students at Hawassa University in 2019 [2].

Methods and Materials

Study setting and period

The study was conducted in Hawassa University, located in Southern Nation Nationalities and People Region (SNNPR). It is located at 278 kilometer south from Addis Ababa; capital of Ethiopia. The university is one of the governmental university located in southern region of the country; Ethiopia. The university has 7 colleges, with a total of 155, 965 populations of which 19,500 were female population. The study was conducted. An institutional based cross sectional study was done among female students in Hawassa University. The female students in Hawassa University during the year were the source population whereas female students of Hawassa University who were available during were the study population. Participants to the study were selected on the basis of simple random sampling technique, where sampling frame was once determined from registrars of the university [3]. Though there were conducted studies, the researcher took 50%;

as an estimator of prevalence of induced abortion, to have the maximum sample. Single population proportion formula was utilized to compute the sample size with its respective standard deviation and margin of error. Accordingly, with the consideration of 10% non-response rate the final sample was found at 422. A structured pre-tested self-administered questionnaire was employed to the participants in Amharic (Original language) after checked for consistency with the English one by linguistic professionals. The tool was first developed by the researchers after rigorous reviewing of literatures on the topic, and then inputs of senior researchers with an academic rank of Assistant professors to Associate Professors were incorporated to the developed tool. To the coherence, clarity and conciseness of the questionnaire, native speakers reviewed the tool. The outcome variable was induced abortion measured as follows: Abortion is termination of pregnancy before 28 weeks of pregnancy. For the purpose of the current study Induced abortion is "students who terminated their pregnancy intentionally either on their own or by another person [4].

Data was entered and further analyzed with SPSS version 20. Descriptive statistics were employed as a summary measure. Associations between covariates and independent variable was found out with binary logistics regression with a 95% Confidence interval (95% CI), and p-value less than 5% as level of statistically significant association. Bivariate logistic regression was done first then to make control of effects of confounding variables multivariate logistics regression was also done [5].

Results

Socio demographic characteristics

Four hundred twenty-two female students were participated in this study with all responded to distributed questionnaires. Regarding years of education 17%, 41.2%, 30.6%, 8.8% and 5.5% of the students were 1st year, 2nd year, 3rd year, 4th year, and 5th year students respectively. Concerning the departments, 32% were engineering, 15.6% were health, 33.4% were social science and the remaining 11.1% were Agricultural students. More than half (61.6%) of students lived in the campus dormitory, 37.7% students lived outside the campus. Less than half (42.2%) of students got income from their parents, 29.9% of the students got an income from relatives, and 27.7% of students got income from other sources (Table 1) [6].

Table 1. *Socio demographic characteristics of students in Hawassa University, Ethiopia, April 2019.*

Characteristics		**Number**	**%**
Age of the respondents	18-20	25	5.9
	21-23	344	81.5
	24-26	53	12.6
Year of education	1st year	74	17.5
	2nd year	174	41.2
	3rd year	129	30.6
	4th year	37	8.8
	5th year	8	1.9
Respondent department	Engineering	135	32
	Health	66	15.6
	social science	141	33.4
	Agriculture	47	11.1
	Other	33	7.8
Respondents places they live	In the campus dormitory	260	61.6
	outside the campus	159	37.7
	with my parents	3	7
Respondents source of income	Parents	179	42.4
	Relatives	126	29.9
	Others*	117	27.7
*Friends, boyfriends, sugardaddy.			

Behavioral characteristics of participants

Eighty-two percent of female students had history of sexual intercourse. Of the reasons behind the start of sexual intercourse among the participants were; 59.%, 46.4%, 44.1%, 38.9% and 34.8% of the cases, were influenced by economic problems, peer pressure, alcohol consumption, personal desire and khat or drugs respectively in a descending order (Table 2) [7].

Table 2. *Behavioral characteristics of students at Hawassa University, Ethiopia, April 2019.*

Variables	**Options**	**Frequency**	**%**
Respondents history of sexual intercourse	Yes	347	82.2
	No	75	17.8
Peer pressure as the reason for intention to have sexual intercourse	Yes	196	46.4
	No	226	53.6
Personal desire for intention to have sexual intercourse	Yes	164	38.9
	No	258	61.1
Influence of alcohol for initiation to have sexual intercourse	Yes	186	44.1
	No	236	55.9
Influence of chat or drug for initiation for sexual intercourse	Yes	147	34.8
	No	275	65.2

Economic problem for initiation for sexual intercourse	Yes	170	40.3
	No	252	59.7
Other factors for initiation for sexual intercourse	Yes	169	40
	No	253	60

Participant's knowledge about abortion

As to respondents view about whether participants had heard about emergency contraceptives, majority 406(96%) had an information about, with most 326(77%) of respondents had used the drugs [8]. More than half 265(62%) and 156(53%) of respondents reported they knew where abortion is legally conducted and abortion was done with medication respectively (Table 3).

Table 3. *Participant's knowledge on place and complication of Abortion at Hawassa University, SNNPR, Ethiopia, April 2019.*

Characteristics		**Number**	**%**
Does you heard about emergency counteractive drug?	YES	406	96.2
	No	9	2.1
	Not sure	7	1.7
Did you use emergency contraceptive?	YES	326	77.3
	No	96	22.7
Have you had an abortion?	YES	290	68.7
	No	132	31.3
Reasons for undertaking abortion	Because it affects my education	98	33.7
	Because I can't raise a child	96	33.1
	To protect social stigma	65	22.4
	Because I got pregnant due to sexual assault	22	7.6
	Others	11	3.2
Did you know where abortion is performed legally?	Yes	265	62.8
	No	156	37
	Am not sure	1	0.2
Respondents place of performing abortion	Community pharmacy	76	26.4
	Health center	104	35.8
	Private clinic	109	37.5
	Traditional	1	0.3
How long since of undertaken abortion?	1 month	72	24.8
	2 months	114	39.3
	3 months	90	31
	Don't know	14	4.9
Did you face infection during abortion?	Yes	87	30
	No	203	70
Did you face bleeding during abortion?	YES	15	5.1
	NO	275	94.9
Type of procedure	Medication	156	53.8
	Instrument	134	46.2
If your partner didn't volunteer to use condom what are you doing?	Stop sexual intercourse	222	52.6
	Try to convince them to use condom	177	41.9
	Practice sexual intercourse without using condom	23	5.5

Magnitude and associated factors of induced abortion

The magnitude of induced abortion in the study setting was observed at 68.7% (95% CI: 64.15%-73.2%). Whereas only less than one third (31.3%) didn't have undergone abortion (Figure 1).

Figure 1. *Magnitude of abortion at Hawassa university students, SNNPR, Ethiopia, April 2019.*

For identification of factors associated with occurrence of abortion, binary logistic regression was done as with a 95% confidence intervals (95% CI) and p-value of less than 5% as a level of significance. Bivariate logistic regression was done. To make a control over effects of confounding variables multivariate logistics regression was also done.

Accordingly, age of participants, year of education, Alcohol use, use of emergency contraceptives, and having had sexual intercourse were independently shown a statistically associated with occurrence of abortion at p-value less than 5%. But to the multivariate logistics regression, only use of emergency contraceptive and having had of sexual intercourse had shown an association with abortion as an outcome variable at p-value of less than 5% [9].

Participants who used emergency contraceptives had 12 times higher odds of undergoing abortion than those who didn't use emergency contraceptives at (AOR:11.95, 95% CI: 5.615-25.326, P:000). Participants who had sexual intercourse had 3 times more odds of undergoing abortion than their counterparts (those who hadn't have) at (AOR:3.287, 95% CI: 1.434-7.532, P:004) (Table 4).

Table 4. *Factors associated with induced abortion.*

Characteristics		Abortion	COR(95% CI)		P-value	AOR(95 %CI)	p-value
	Yes		No				
Age(Grouped)	18-20	11	14	1	0.015	1	0.369
	21-23	238	106	.350(.154-.796)	0.012	2.546(.682-9.505)	0.164
	24-26	41	12	.230(.083-.637)	0.005	2.717(.588-12.558)	0.201
Years Of Education	1st year	34	40	1	0	1	0.023
	2nd year	122	52	.362(.207-.635)	0	7.862(.437-141.384)	0.162
	3rd year	96	33	.292(.160-.535)	0	4.276(.249-73.451)	0.317
	4th year	31	6	.165(.061-.441)	0	3.753(.219-64.422)	0.362
	5th year	7	1	.121(.014-1.037)	0.054	.816(.040-16.617)	0.895
Monthly Income in birr	300-500	48	29	1	0.561	1	0.27
	501-700	117	52	.736(.418-1.294)	0.287	.571(.274-1.190)	0.135
	701-900	106	42	.656(.366-1.175)	0.156	.473(.216-1.032)	0.06
	>901	19	9	.784(.313-1.962)	0.603	.837(.269-2.607)	0.759
Alcohol use	Yes	152	34	3.175(2.018-4.994)	0	.730(417-1.278)	0.271
	No	138	98				
Use of Emergency contraceptives	Yes	272	54	21.827(12.101-39.370)	0	11.95(5.615-25.326)	0
	No	18	78				
Had sexual Intercourse	Yes	274	73	13.841(7.522-25.468)	0	3.287(1.434-7.532)	0.004
	No	16	59				
Have reproductive health Education	Yes	79	29	1.330(.818-2.163)	0.251	.846(.453-1.580)	0.6

Discussion

The current study found that a higher prevalence of induced abortion among University students observed at 68.7%, that was much higher than the findings of the health facility based study in Guraghe zone of Ethiopia, which revealed the magnitude of induced abortion at 12.3% [10]. This variationmight be due to variation in study settings. The other study in Ethiopian University students revealed the rate of induced abortion was found at 65 per 1000 women. Students with history of alcohol use, and first year students had higher risk ofabortion than their counterparts. About 23.7% of students reported experience of sexual intercourse and less than half (44%) of respondents reported ever heard of emergency contraception, of which 36% of those were sexual experience ever used condom [11].

The prevalence of induced abortion among pre-college students in Ethiopia was observed at 13.6%, which was lower than findings of the current study. The finding from this study was much higher than the findings 8.13%, Cameroon 21%, in Ethiopia 43.4%. Whereas the current finding was almost consistent with the study in Ghana 64%.

Having more than four pregnancies (AOR=4.28, 95% CI=1.24-14.71), and age 30-34 years (AOR=0.15, 95% CI=0.04-0.55) were found to be statistically associated with induced abortion [12]. But in the current study history of sexual intercourse and contraceptive use were predictors of induced abortion. In the other study, being in rural areas (OR=1.21, 95 % CI: 1.04–1.39), ages 18-25(OR=0.84, 95% CI:0.72–0.99), and 30 or older (OR=1.63, 95% CI:1.42–1.86), and single individuals (OR=1.72, 95% CI:1.05–2.83) were more likely to experience induced abortion.

Evidences suggested that history of abortion and use of contraceptive methods were statistically interrelated to each other. Women who had history of abortion were more likely to be those used any methods of contraceptives. A study in Luanda Angola supported that history of induced abortion was associated with use of contraceptive method. Those women who had a history of induced abortion were 1.23 times more likely to use a modern contraceptive method as compared to those who never had abortion (RR:1.23, 95%CI:1.10-1.36) [13].

Desire to stay in school (28%), fear of parents (24%), shame of being pregnant (26%) were the major depicted determinants of induced abortion. Most of participants were not aware of where abortion is allowed and some of them had undertaken illegal abortion. The other study in Cameroon depicted that the prevalence of induced abortion was found at 25%, of which both findings were found at a lower rate than findings of the current study.

A study at Felege Hiwot Hospital, Ethiopia, revealed that being non-married, student, age less than 24 years, having previous history of induced abortion and low monthly income were identified independent predictors of induced abortion.

In the current study, participants who used emergency contraceptives had 12 times higher odds of undergoing abortion than those who didn't use emergency contraceptives. Participants who had sexual intercourse had 3 times more odds of undergoing abortion than their counterparts (those who hadn't have) [14].

Conclusion

A higher prevalence of induced abortion was observed in the study area. Regarding predictors of induced abortion, age of participants, year of education, Alcohol use, use of emergency contraceptives, and having had sexual intercourse were independently shown a statistically associated with occurrence of abortion at p-value less than 5%. But to the multivariate logistics regression, only use of emergency contraceptive and having had of sexual intercourse had shown an association with abortion as an outcome variable at p-value of less than 5%. Accordingly, participants who used emergency contraceptives had 12 times higher odds of undergoing abortion than those who didn't use emergency contraceptives and participants who had sexual intercourse had 3 times more odds of undergoing abortion than their counterparts (those who hadn't have). Interventions focused on identified determinants could be recommended.

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Availability of Data and Materials

All the required data has been included within the manuscript.

Author's Contribution

Addisu Tadesse Sahile was involved in the design, implementation, data collection, statistical analysis and drafted the manuscript. Mieraf Shiferaw Beyene was involved in the design, data collection and review of scientific content of the manuscript. Both authors read and approved the final manuscript.

Competing Interests

The authors declare that they have no competing interest.

Consent for Publication

Consent for publication was secured from the study participants.

Ethics Approval and Consent to Participate

Ethical approval was obtained from Ethical clearance committee of Universal Medical College, prior to commencement of the study. Permit to undertake the study was also sought from Hawassa University Research Review Committee. Confidentiality of the participants was secured through coding system. The ethics approval was given in accordance with the Declaration of Helsinki. Briefing about the study was highlighted by the data collector.

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***Correspondence to**

Dr. Addisu T. Sahile

Department of Social and Population Health

Unity University

Addis Ababa

Ethiopia

E-mail: sahdis91@gmail.com