Prevalence and Determinants of Abortion among Women Attending Jinja Regional Referral Hospital, Jinja District

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ABSTRACT

Abortion is one of the major factors contributing to the high maternal mortality in the low- and middle-income countries. The aim of this study was to determine the prevalence of abortion its determinants among the women of the reproductive age (15-49 years) attending JRRH, Jinja district. A simple random sampling method was used to select 104 women who had at least one birth in the last five years. Abortion was measured on the basis of the reason provided by the women for having their last abortion. Likewise, unsafe abortion was measured on the basis of provider providing the service to women. Prevalence of abortion and the association of abortion and unsafe abortion with various factors were assessed using Odds Ratio (OR) with their 95% Confidence Interval (CI) using binary logistic regression models. The prevalence of abortion was found to be 4.8 percent among women with 20 percent of them conducted using unsafe methods. Women in the age group 30-34 were more likely (OR=4.59, 95% CI 1.8311.50) to perform abortions compared to women of the youngest age group (15-19 years). Women having secondary level of education were more likely (OR=2.58, 95% CI 1.62-4.09) to conduct abortions compared to illiterate women. Finally, richest women in urban settings were more likely (OR=2.97, 95% CI 1.71-5.17) to have abortions compared to women from rural settings. Also from the logistic regression models, women in the age group 30-34 were less likely (OR=0.08, 95% CI 0.01-0.89) to have unsafe abortions compared to the youngest age group (15-19 years) and the women from urban settings had lesser (OR=0.25, 95% CI 0.07-0.89) likelihood of conducting unsafe abortion compared to those from rural settings. From our study it was identified that one in every twenty women of reproductive age attending JRRH abort their child and nearly one in five of those are unsafe. Further studies should consider the relationship between the use of contraception and abortion to identify if women were aborting due to lack of access to contraception or due to other reasons.

Keywords; prevalence, determinants, abortion, women

INTRODUCTION

Globally a high number of women die due to birth and pregnancy related complications and of the total nearly 99 percent maternal death occurs in the low- and- middle income countries [1]. The global maternal mortality decreased to 216 as of 2020 compared to 385 per 100,000 live births in 1990 but the rate is still high in low- and middle-income countries 239 versus 12 per 100,000 live births in the high-income countries [2-5]. Of the 95 countries categorized with having high (MMR> 100) MMR in 1990 only 10 countries had made a significant change in MMR as of 2020 and the rest still have high MMR [2]. Of the numerous causes of high maternal mortality abortion is one of the leading causes. The recent research has identified that of the total maternal death occurred in 115 countries during the period of 2015 and 2018, 7.9% of the deaths occurred due to abortions [6-9]. The deaths due to abortion might be higher than mentioned here as the deaths due to abortions are highly underreported [10-12]. One of the most important factors contributing to the maternal mortality and maternal death in low- and middle-income country is unsafe abortion [13-17]. Therefore, abortion accounts directly and

indirectly in the increase in maternal mortality in low- and middle- income countries.

Abortion means a procedure to drive out fetus inside women before the birth. Sometimes abortion occurs spontaneously whereas sometimes it occurs intentionally also known as induced abortion. Induced abortion generally known as abortion is performed both safely and in unsafe manner. Abortion performed in an unsafe manner may lead to various consequences related to economy, society and health [18]. Many women in the low-income countries die due to unsafe abortion. Many health consequences are caused due to abortion such as hemorrhage, sepsis, infection perforation and even death (Diedrich & Steinauer, 2018).

The rate of abortion has been almost constant during the period of 2015 to 2008 globally where the rate is 29 in 2015 and 28 in 2008 per 1000 women aged 15-44 and the rate is 29 per 1000 women in the low- and middle-income countries excluding China [19]. Whereas the proportion of unsafe abortion was reported to be increased from 44% in 1995 to 49% in 2008 [19]. It has also been estimated that five million women are admitted to the hospitals due to various complications resulting from abortions yearly in the low- and middle-income countries [20] with 20 % to 50 % due to unsafe abortion [21]. However, this study will assess the prevalence and determinants of abortion among women attending jinja regional referral hospital.

METHODOLOGY

Study Design

A quantitative cross-sectional hospital based analytical study design was conducted in one selected hospital (JRRH).

Study Area

This research took place in Jinja Regional Referral Hospital's GOPD and Wards in Jinja Municipality, Jinja District, in Uganda's eastern region. Jinja Regional Referral Hospital, or simply Jinja Hospital, is a hospital located in Jinja, Uganda's Eastern Region. It has 600 beds, making it the largest hospital in eastern Uganda.

Study Population

Study population in this study was limited to those women who had given birth in the last five years, who were attending Jinja Regional Referral Hospital (JRRH) within the study period.

Inclusion Criteria

Women aged ≥ 15 years who attended any ward in JRRH and or those admitted at Medical wards of JRRH during the time of study, who consented to the study were included in the study.

Exclusion Criteria

Respondents in deteriorating health state (critically ill) to actively and freely participate, and those who declined or gave partial information required for this study were excluded.

Sampling method

Simple random sampling method was applied. This was because we could later generalize about the population. Major advantages include its simplicity and lack of bias. Among the disadvantages are difficulty gaining access to a list of a larger population, time, costs, and that bias can still occur under certain circumstances.

Sample size Calculation

Using **Kirsch** and **Leslie formula**; sample size was:

$$n = \frac{Z^2_{\propto/2} \times P(1-P)}{\delta^2}$$

Where;

$Z_{\propto/2}$ = confidence level at 95% (standard value of 1.96);

p = 7.3%; Aborting prevalence among women of reproductive age in Eastern Uganda (Guwatudde et al., 2020)

δ= margin of error at 5% (standard value of 0.05).

Thus, sample size was;

$$n = \frac{[(1.96)^2 \times 0.927(0.073)]}{(0.05)^2}$$

$\approx$ 104 women

Methods of Data collection
Questionnaires

Data were collected using structured questionnaire in an interview during hospital visit. Questionnaire were adapted from DHS six core questionnaire to reflect the population and health issues relevant to Jinja. The questionnaires were designed with the study objectives and conceptual framework in mind. The questionnaires were standardized while considering the

respondents' domain, validity/relevance to the study objectives, sensitivity of questions, and ethical issues. One week before data collection, questionnaires were pretested for validity and relevance in accordance with the guidelines of the Research committee (IREC; JRRH).

Data Analysis Techniques

Frequency and percentage were used to describe the distribution of the study participants and the study variables. Similarly, distribution of outcome and major independent variables were also presented in frequency and percentage. Chi-square test was used to test the association of the outcomes with independent variables and also the association of outcomes with demographic variables.

The association of abortion as an outcome with independent variables and other demographic variables were further examined by calculating odds ratio (OR) with their 95% confidence interval (CI) using binary logistic regression models. Three different models were constructed. Model I, was the bivariate crude association of the outcomes with the exposure (independent) variables. In the second model (Model II), all the variables were entered into the model simultaneously to adjust the effect of each other variables. And in the final model (Model III) only the variables which were statistically significant at the level 0.05 in Model II were entered together. Therefore, the Model III presents the independent associations of the outcomes with independent variables. All the analysis were performed in Statistical package for Social Sciences (SPSS) version 22 for windows.

Ethical considerations

Official approval and administrative approvals were requested from the relevant offices, including the Faculty of Clinical Medicine and Dentistry at KIU-WC, health facility/medical ward heads, and attending practitioners at the GOPD/MOPD. All respondents were told in the best language possible about the kind, interest, and purpose of the study, and their free agreement were asked in writing. Neither the participants' names nor initials were recorded anywhere during the data gathering process. All data obtained were kept secret.

RESULTS

Table 1 describes the demographic characteristics of the study population. Almost one-third of the women were in the young age group (20-24 year) and only 8% were in the youngest (15-19 year) age group. Forty four percent of the women had no education, while only 6% had the higher educational background. The majority of the women (90 %) reside in the rural areas of Jinja.

Table 1: Demographic characteristics of study population

Characteristics	N=104	Percentage(%)
Age		
15-19	8	8.0
20-24	33	32.0
25-29	1310	31.6
30-34	33	16.1
35 and above	13	12.2
Types of residence		
Urban	11	10.1
Rural	93	89.9
Education		
No education	46	43.9
Primary	21	20.1
Secondary	31	29.6
Higher	7	6.3

The overall prevalence of abortion was 4.8% in this study population. The overall prevalence of unsafe abortion among the women who had abortions was 17.9%. The prevalence of abortion by demographic characteristics of the women are presented in Table 2. The prevalence of abortion was significantly different (<0.001) in different age group of women with the highest prevalence (6.5%) in the young (20-24 years) age group of women followed by 30-34 age group (6.3%). The youngest age group of women (15-19 years) had the least abortion prevalence (1.5%). Abortion prevalence also significantly (p<0.01) differed by educational status of women. Women with higher education had the highest prevalence of abortion (9.5%) and the women with no education had the least prevalence (2.3%). Prevalence of abortion was significantly higher among urban residents (7.9%).

Table 2:   Prevalence of abortion by demographic characteristics of women

Characteristics	Abortion Prevalence		P-value
	Yes (N=5, %)	No (N =99, %)	
Age			<0.01
15-19	0(0.0%)	8(98.5%)	
20-24	1(3.8%)	32(96.2%)	
25-29	2 (6.5%)	31(93.5%)	
30-34	1 (6.3%)	16(93.7%)	
35 and above	1(5.7%)	12(96.8%)	
Types of residence			0.002
Urban	1(7.9%)	15(92.1%)	
Rural	4(4.5%)	89(95.5%)	
Education			<0.01
No Education	1(2.3%)	46(97.7%)	
Primary	1(5.9%)	21(94.1%)	
Secondary	2(6.9%)	30(93.1%)	
Higher	1(9.5%)	6(90.5%)	

Table 3 describes the distribution of the major independent variables (determinants of abortion) among women who had an abortion. More than two third (70%) of the women had known that abortion was illegal in Uganda. Most of the women (93%) who recently had abortion had not known the place for safe abortion. Similarly, of the varied reason for performing abortions, child spacing was reported by highest number of women (20%), whereas the least was reported due to child's sex (4.5%). A little more than one third of the abortion were conducted in the private sector (35.5%) followed by NGO (31.0%) and in other places (16.5%).

Table 3: Distribution of abortion related factors among women who had abortion

Characteristics	N=5	(%)
Knowledge on abortion is illegal		
Yes	4	80
No	1	20
Don't know	0	0.0
Knows place for safe abortion		
No	4	80
Yes	1	20
Don't know	0	0
Reason for abortion		
Health risk of mother and child		14.1
Delaying child bearing		15.1
Wanted to space child		20.1
Child's sex		4.5
Partner did not want child		9.0
Did not want any more children		14.1
No money to take care of baby		11.6
Others		11.6
Place where abortion was conducted		
Government sector	1	20
Private	1	20
NGO	2	40
Others	1	20

Table 4 describes the distribution of Safe and Unsafe abortion by demographic characteristics of the women. The overall prevalence of unsafe abortion among the women who had abortions was 17.9%. Unsafe abortion was the highest in the youngest (15-19 years) age groups (60%) although no significant age difference in unsafe abortion was found. The prevalence of unsafe abortion in both rural and urban area was the same (18%). The prevalence of unsafe abortion was not significantly different according to the educational level of women but the highest prevalence was reported among women with no education (26.8%) and the least in women with higher education (12.5%).

Table 4:   Prevalence of safe and unsafe abortion amoong the women who had abortion by demographic characteristics

Demographic Characteristics	Abortion		P-value
	Safe N (%=80.0)	Unsafe N (%=20.0)	
Age			0.060
15-19	0(0.0%)	0(0%)	
20-24	1(20%)	0(0%)	
25-29	2(40%)	1(20%)	
30-34	2(40%)	0(0%)	
35 and above	0(0%)	0(0%)	
Types of residence			0.976
Urban	1(20%)	0(0%)	
Rural	3(60%)	1(20%)	
Education			0.350
No Education	0 (0%)	1(20%)	
Primary	1(20%)	0(0%)	
Secondary	1(20%)	0(0%)	
Higher	1(20%)	0(0%)	

Table 5 shows the crude and adjusted association of the studied demographic variables with prevalence of unsafe abortion.

Women in the age group, 25-29 years were less likely (OR= 0.16, 95% CI =0.02-0.95) to perform unsafe abortion compared to the youngest age group of women. In Model II, women's age still remained significantly associated with the unsafe abortion with the age group 25- 29 were less likely (OR= 0.08, 95% CI =0.01-0.95) compared to youngest age group. In Model III, only the association of the age group, 30-34 remained statistically significant (OR=0.08,95% CI=0.01-0.68) with lesser likelihood of unsafe abortion compared to youngest age group. Place of residence, educational level of women, religion, ethnicity and ecological region were not significantly associated with an unsafe abortion.

Table 5: Odds ratio (OR) and their 95% confidence intervals (CIs) for unsafe abortion due to various demographic characteristics

Demographic characteristics	OR,95% CI for Unsafe Abortion		
	Model I	Model II	Model III
Age range			
15-19	1.00	1.00	1.00
20-24	0.16 (0.02-1.04)	0.09(0.01-1.13)	0.21(0.03-1.53)
25-29	0.16 (0.02-0.95)	0.08(0.01-0.95)	0.18(0.03-1.25)
30-34	0.10(0.01-0.70)	0.04(0.00-0.53)	0.08(0.01-0.68)
35 and above	0.40(0.05-2.95)	0.07(0.00-1.24)	0.18(0.02-1.59)
Types of residence			
Urban	1.00	1.00	
Rural	1.01(0.38-2.67)	0.36(0.09-1.84)	
Education			
No Education	1.00	1.00	
Primary	0.46(0.16-1.30)	0.42(0.09-1.84)	
Secondary	0.50(0.21-1.23)	1.51(0.37-6.13)	
Higher	0.41(0.11-1.58)	1.13(0.17-7.26)	

DISCUSSION

In our study the prevalence of abortion was 4.8 percent and the prevalence of unsafe abortion was 17.9 percent. Similar prevalence rates have been reported in an earlier study for e.g., one Ghanaian study reported 10 percent prevalence of abortion and of the total abortion conducted 45% of were conducted unsafely [22]. The findings are comparable despite being countries from two different regions as both of these studies are nationally representative. However, the higher rate of abortion and unsafe abortion in Ghanaian study compared to our study can be due to the different socio-economic circumstances of the countries.

Another study conducted in the district of the India has identified the rate of abortion as 3.8% per all the pregnant women. The rate is low compared to our study and the study constitutes women of only one district [23]. Another study from China have also reported 22% prevalence of abortion in their study [24] which is quite high compared to our study. The high prevalence was probably due to one child policy in China due to which they may have aborted girl child. Moreover, study constituted data from rural women of a province in China may lead to over estimation of the abortion rate in their study [24-26].

Our study identified that the age of women was significantly associated with the rate of abortion. Lower rates of abortion were found among the women of the youngest age group and higher rate among older age group of women. In our study the population of the younger women is low compared to older women who may lead to less prevalence among them.

Also, in our study it was identified that residence has effects on the women in conducting unsafe abortion. Women who came from urban settings had lesser chances of having unsafe abortion compared women from rural settings. As the women who have economic problems do not have sufficient to pay for the abortion services so they choose unsafe ways of abortion at home by self or from traditional healers in the community. Because of the stigma attached to abortion in Uganda, generally women cannot come open in the society and choose for clandestine abortions which are mostly unsafe. A study conducted in Ghana also identified that compared to women in the rural settings, the women in the urban settings have higher chances of having abortion safely done [22].

CONCLUSION

Our study focused on prevalence of abortion and unsafe abortion and determinants of occurrences of abortion and unsafe abortion among women attending JRRH. From our study it was identified that one in every twenty women of reproductive age (15-49) abort their child. Similarly, of the total abortion nearly one in every five-abortion taking place in among women attending JRRH is unsafe. The abortion was found to be associated with the age of the women, education of the women, the development region where the women resides and the economic condition of women. Similarly, age of women and economic condition of the women were significantly associated with occurrences of unsafe abortion.

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