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Unsafe abortion and associated factors among women in reproductive age group in Arsi Zone, Central Ethiopia

Legesse Tadesse Wodajo*, Solomon Tejineh Mengesha and Teresa Kisi Beyen

Department of Public Health, College of Health Sciences, Arsi University, Ethiopia.

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Unsafe abortion is one of the major medical and public health problems in developing countries including Ethiopia. Yet, there is no reliable information on induced abortion distribution and its determinant factors in the country. This study assesses the determinants of unsafe abortion among women of reproductive age group in Arsi Zone, Central Ethiopia. Institution based cross-sectional study was conducted in four health facilities in Arsi zone. Client exit interview was conducted on 268 patients using a structured questionnaire and semi-structured guide for in-depth interview with key informants. Bivariate and multivariate logistic regression analyses were performed to identify the factors associated with unsafe abortion. Thematic analysis was done in this study. For variables having association in bivariate logistic regression, multivariate logistic regression test was employed. About 115 (42.9%) underwent unsafe abortion; they were about 15 to 19 years (AOR = 12.5; 95% CI: 3.24, 48.3), 20 to 24 years (AOR= 3.98; 95% CI: 1.27, 12.4) and had no formal education (AOR = 4.3; 95% CI: 1.67, 11.14). The study shows the high level of unsafe abortion to capture the attention of programmers and implementers to prevent unwanted pregnancy and make post abortion care accessible.

Key words: Unsafe abortion, maternal health, Arsi, Ethiopia.

INTRODUCTION

An abortion is said to be unsafe when unintended pregnancy is terminated by unskilled persons and in an environment with no medical standard or both (Singh et al., 2009). Unsafe abortion is an important factor that leads to morbidity and mortality to women of reproductive age group. Globally, 13% of all maternal deaths are attributable to unsafe abortion among which 44% are in Africa. Unsafe abortion endangers the health and life of women from a number of complications (Center for reproductive rights, 1992-2009; IPPF, 2010). Medium and long-term complications range from reproductive tract infections and pelvic inflammatory disease to chronic pain and infertility; delayed complications include increased risk of ectopic pregnancy, miscarriage or premature delivery in later pregnancies.

There are different reasons why women induce abortion. In many situations sexual intercourses are done without thinking and sometimes contraceptives may fail or not be available. Women may not know how to use contraceptives (IPPF, 2010; WHO, 2004). The fact is that, women in different parts of the world especially in developing countries still do not have access to good

*Corresponding author. E-mail: legesset2008@gmail.com. Tel: +251911367083.

quality contraceptive services and have no capability to control the circumstances when they become pregnant. Young and poor women may find it difficult to have induced abortion in the hands of skilled persons in an environment with minimum medical hygiene standard. To rise up a child who is born outside wedlock is socially stigmatizing in some communities (Center for reproductive rights, 1992-2009; IPPF, 2010).

In Africa, 25% of all those who underwent unsafe abortion are adolescent girls (Deborah, 2005). In Nigeria about half of the 20,000 women who die from unsafe abortion are adolescents where abortion complications are responsible for 72% of all deaths among teenagers below the age of 19 (Guttmacher Institute, 2006; UKaid, 2010). A study in Uganda showed almost 300,000 induced abortions were done yearly; it resulted in 85,000 abortion related complications as well as 1,200 deaths. These inflict not only morbidity and mortality burden, but also economic cost (Joseph, 2010). In Tanzania 67% of women admitted in hospitals is to due to unsafe abortion that is significantly large in magnitude (Rasch et al., 2014).

In Ethiopia health institutions based study was done on 1075 women who did abortion; one fourth was found to have induced abortion. The mean age of the women who had induced abortion was 22±5; they were younger than the women who had spontaneous abortion (ESOG, 2000). In 2008 in Ethiopia 382,000 abortions were performed of which only 27% were safely induced in health facilities (Singh et al., 2008).

Abortion care report on 2003 mid-year Ethiopian health related indicator shows that 39.7% of national and 37.9% of Oromia State of the year target were given safe abortion services respectively. The 2001 Fiscal Year of Ethiopian Health Related Indicator reported that the number of national and Oromia abortion care given was 66,780 and 25,377 respectively. The reported number of safe abortion shows only slant of the total number of unwanted or unplanned pregnancies. Besides the existence of wide range of unsafe abortion practice, to the investigators' knowledge, no similar study has been done in this area. The output of the study can be done by programmers and implementers of maternal health services.

MATERIALS AND METHODS

Study design and setup

Institutional based cross-sectional quantitative study including qualitative in-depth key-informant interview was conducted in the Gynecology Ward of Asella Hospital, Asella Health Center Maternity Unit, Sagure and Huruta Health Centers, Arsi Zone, Oromia Regional State, located at 175 km South-east of Addis Ababa, from May to September 2012. According to the 2010 population profile Arsi Zone has a total population of over 2.9 million with geographical health coverage of 89%; it has one teaching referral hospital, three district hospitals, 91 health centers and 357 health posts.

Sample size determination

The sample size was calculated by single population proportion formula using 25.6% prevalence of induced abortion from the study conducted by Ethiopia society of Obstetrics and Gynecology (ESOG) from June 1, 2000 to December 31, 2000. It was done in fifteen hospitals of nine of the eleven administrative regions of the country (ESOG, 2000). Considering the 5% non-response rate, the final sample size was 293. From the source population, all the reproductive age (15 to 44) women who visited the selected health facilities during the study period for safe abortion or post abortion, and who can communicate and volunteer were included in the study. Eligible study participants who visited these facilities during the study period were interviewed consecutively after the service was given using an exit interview technique.

Data collection procedure

Asella Teaching Referral Hospital and three Health Centers were taken conveniently taking into consideration the availability of safe abortion and trained staffs. The study sample was divided proportionally among the health institutions after the performance of safe abortion and post abortion care in one year prior to the current study. The performance was taken from the record log books of the selected health facilities. Accordingly from the total 293 study sample, 230 (78.5%) was assigned to Asella Teaching Referral Hospital, 33 (11.26%) to Asella Health Center, 16 (5.46%) to Huruta Health Center and 14 (4.78%) was given to Sagure Health Center. Data were collected from women who intentionally terminated their pregnancies and who visited health institutions for safe abortion or post abortion care. Information was collected on exit from service consecutively until the sample size was reached during the study period from May 1 to September 30, 2012. Questionnaire was prepared in English language and translated to local language by professionals; it was finally re-translated to English language to recheck for possible contextual change. It was pre-tested on 5% of total sample size of clients on other health institutions. Adjustments were made based on the assessment of its appropriateness. The data collectors were trained on how to use data collection tools and techniques. Throughout the data collection supervision was done by supervisors and the principal investigator to keep the quality of the data. To enrich the information obtained by quantitative study, individual key informant in-depth interviews were held between the principal researcher and four nurses/midwives from health centers and hospital gynecology ward.

While the dependent variable was unsafe abortion, the independent variables included important socio-demographic characteristics, number of current alive children, and income of the women or relatives. Response was coded and entered into EPI info 3.5.0. Data were cleaned and then exported to SPSS version 16.0 for windows for analysis. Frequency distributions of dependent and independent variables were worked out; bivariate logistic regression analysis was done to get COR and 95% confidence interval was derived. Then variables which had $p = 0.05$ or less in Bivariate logistic regression were taken to multiple logistic regression module to avoid confusion and show associations between target variables such as; age of respondents, marital status, religion, parity, socio-cultural factors occupational status, educational status etc. Results were reported using adjusted odd ratio and 95% confidence interval. Significance level was declared at p value of 0.05.

Ethical consideration

Ethical approval was secured from the College of Health Sciences of the Adama Science and Technology University, and permission for data collection was obtained from the director office of Assela

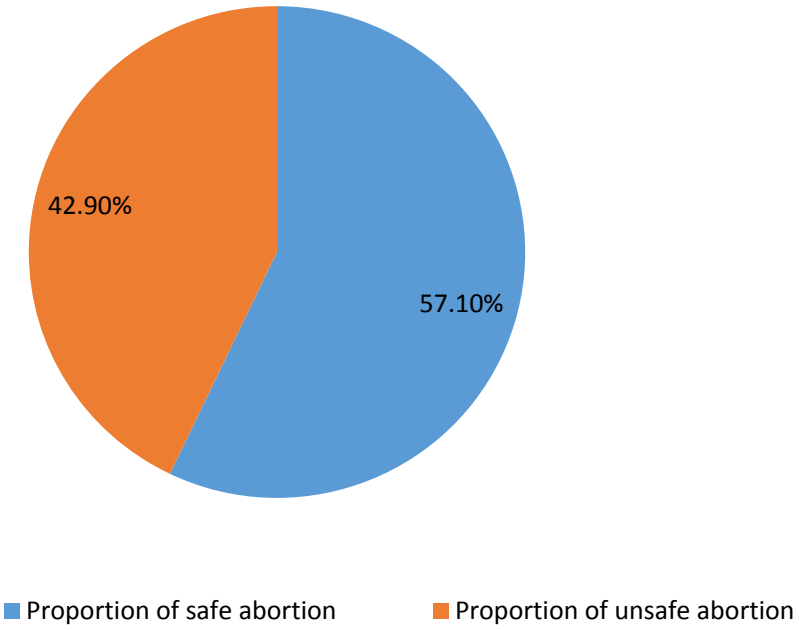

Figure 1. Magnitude of unsafe abortions among the women who intentionally terminated their pregnancies in Arsii zone, Central Region, Ethiopia, in 2012 (n=268).

Teaching Referral Hospital. All issues of ethical consideration, participants' autonomy, privacy, confidentiality, response and non-response, withdrawing at any step were given due attention.

RESULTS

Socio-demographic characteristics of the women who had abortion or post abortion care, Arsi, Oromia, Ethiopia, 2012

Age category distribution shows 46 (17.20%) were age group of 15 to19 years old, 100(37.30%) were 20 to 24 years old age group, 54(20.10%) were 25 to 29 years old age group, and 33(12.30%) were 35 to 44 years old age group. Marital status shows majority 187(69.80%) were currently married, 38(14.20%) were non-married but were either living alone or cohabiting with their partners, 31(11.60%) were single, and 12(4.50%) were divorced or widowed. Educational status shows 120(44.77%) had primary education or at least could read and write, 67(25.00%) were unable to read and write and 81(30.22%) had achieved secondary or above education. Occupational status shows that 107(39.93%) were house- wives, 42(15.70%) were farmers, 41(15.30%) were students, 37(13.80%) were daily laborers, 26(9.70%) were employees of government or other institutions, and 15(5.60%) were merchants. Religion of the study subjects shows that 132(49.30%) were Muslim, 123(45.90%) were orthodox and 13(4.90%) were protestants. For ethnicity, 217(81%) were from Oromo; 44(16.40%) for Amhara and 7(2.60%) for Guragie or Tigrie. The incomes of the women or family as reported by their relatives are as follows: 110(41%) had less than 500 ETB per month; 73(27.20%), 500 to 1000 ETB; 28(10.40%), 1000 to 2000 ETB, while 21(7.80%) had 2001 to 4000 ETB and 36(13.40%) had more than 4000 ETB per month (Table 1). For the women who intentionally terminated their pregnancies, 57.10% underwent unsafe abortion whereas 42.90% undertook safe abortion (Figure 1).

Qualitative results (Key Service providers' interview)

1.30/M

A 30 years old male health professional (Health Officer) in a health center stated that some health service providers trained to do safe abortion including MVA are currently not doing their work due to lack of misoprostol and equipment. Some clients especially students of high school visit health center to know their status of pregnancy when they miss their period. When tested positive for pregnancy, they leave saying they will come back. They appear after some time to recheck their Human chorionic gonadotropin (HCG) or if they have complication from incomplete abortion.

26/F

A female health worker (midwife) explained that when

Table 1. Socio-demographic characteristics of the women who had abortion or post abortion care, Arsi, Central Ethiopia, 2012.

Variable	Age category	Frequency (n)	Proportion (%)
Age of the woman	15-19	46	17.20
	20-24	100	37.30
	25-29	54	20.10
	30-34	35	13.10
	35-44	33	12.30
Marital status of the woman	Currently married	187	69.80
	Cohabiting or none cohabiting partner	38	14.20
	Currently single	31	11.6
	Widowed or divorced	12	4.50
Educational level of the woman	Unable to read and write	67	25.00
	Primary or read and write	120	44.78
	Secondary and above	81	30.22
Occupation of the woman	House wife	107	39.90
	Farmer	42	15.70
	Student	41	15.70
	Daily laborer	37	13.40
	Employee	26	9.70
	Merchant	15	5.60
Religion of the woman	Muslim	132	49.30
	Orthodox or catholic	123	45.90
	Protestant	13	4.90
Ethnicity of the woman	Oromo	217	81.00
	Amhara	44	16.40
	Other (Tigrie or Guragie)	7	2.60
Income category of the woman (ETB)	<500 ETB	110	41.00
	500-1000 ETB	73	27.20
	1001-2000 ETB	28	10.40
	2001-4000 ETB	21	7.80
	>4000 ETB	36	13.4

misoprostol is available at the health center they perform safe abortion for women who conceive after rape or incest at least two to three cases per week. They do not perform dilatation and curette with metal instrument. They interrupt when MVA or medical termination method is unavailable in the health center.

25/M

A male midwife of 25 years old stated that their maternity unit does give abortion care for incomplete abortion. He and another female health officer do not perform safe abortion due to religious reasons. The health center does HCG screening and refers the victim women to other hospitals.

35/F

A 35 years old female nurse in the hospital explained all types of abortion care. Incomplete abortion and safe abortion are performed by trained health service providers and referrals are from all government health institutions and private clinics as well both non-government and non-private associations.

Association of unsafe abortion among women who intentionally terminate their pregnancies with some selected factors, in Arsi Zone, Oromia, Ethiopia, in 2012

Thirty four (83.9%) adolescents of 15 to 19 years and 46 (46%) 20 to 24 years old women underwent unsafe abortion. Among the age group of 25 to 29 years and 30 to 34 years old, 18 (33.3%) and 12 (34.3%) underwent unsafe abortion, respectively. The older group, 34 to 44 years 5(15.2 %) opted for unsafe abortion. Educational status shows that 34(48.4%) women who did not go to school at all, 54(45%) who have primary education or can read and write and 27(33.3%) who have secondary or above education did unsafe abortion. Marital status showed that 55(29 %) of currently married, 33(86.8 %) of those non- married either leaving alone or cohabiting with their partners had unsafe abortion while the singles who have causal sex and are divorced or widowed did unsafe abortion by 19(61.3%) and 8(66.7%), respectively. Occupational status showed that students, merchants and daily laborer did unsafe abortion by 29(70.7%), 10(66.7%), and 22(59.5%), respectively. Sixty two (56.4%) women with income of less than 500 ETB and 12(42.9%) women with monthly income of 1001 to 2000 ETB did unsafe abortion. In a multivariate analysis, adolescents of 15 to 19 years old are more likely (AOR=12.5, 95% CI =3.24, 48.3) to undergo unsafe abortion, while 20 to 24 years old women are also more likely (AOR=3.98, 95% CI =1.27, 12.4) than older (34-44) women to undergo abortion. Education level showed that those illiterate women were more likely (AOR = 4.3, 95 % CI =1.67, 11.14) to undergo unsafe abortion (Table 2).

DISCUSSION

This study is a cross sectional one carried out in selected public health institutions to determine the magnitude and associated factors of unsafe induced abortions in the study area. Age group and educational status were found to have strong association with unsafe abortion. Even though there was an association between unsafe abortion and marital status and occupation in bivariate analysis, these were not statistically significant at the multivariate level.

During the data collection period, a total of 268 reproductive age women were involved making the response rate of 91.47% of the 293 total sample calculated for the study; the proportion of unsafe abortion was 42.91%. The result is almost comparable with Global Report in 2009, which was 48%. However, the result was lower than 55% report for developing countries in the same report (Kebede et al., 2000; Shah and Åhman, 2009). The previous finding in Ethiopia was 25.6% which was lower than the current finding (ESOG, 2000). The discrepancy might be due to small number of facilities with close supervision of data collection and uncovering more cases of unsafe procedures, which otherwise were missed. In Ethiopia the total induced abortion level as seen from facility based studies showed significant decline from 2008 to 2015, from more than 90% (Singh et al., 2008) to 35.6% (Gebeyehu et al., 2015). Though the current result data were generated at the middle of the two findings, the decline is reasonably acceptable due to socio-economic changes happening during the period. But it should be remembered that the methodology for the 2008 country wide estimation for incidence of abortion in Ethiopia was not facility based as in the current study.

Moreover, the interview from the key informants [nurse, midwives, and Health officer] shows that most young pregnant students resort to undergo abortion out of health institutions. After sometime some persons tested negative for pregnancy while some others come with complication from abortion. This is evidence that the cases which come to public health service are only tip of the iceberg of large number undergoing clandestine unsafe abortion. This shows the magnitude of unsafe abortion underestimates the real occurrence similar to other reports (Shah and Åhman, 2009; Singh et al., 2009). It may obviously arise from social, ethical and legal factors that impose difficulty to prevention of unsafe abortion.

Discussion with the health service providers shows that women who conceive out of wedlock do not use health facilities in order to hide their pregnancy from the society. In Uganda, it was found that 23% of women seeking abortion go to traditional practitioners, many of whom employee unsafe techniques and 15% try to do self-induced abortion using highly dangerous methods (Singh et al., 2009).

The mean age of the women who underwent induced abortion was 25.6 while the mean age of the women in the previous study was 22 years (ESOG, 2000). The current study reveals that 86.9% of 15 to 19 years age group and 46% of 20 to 24 years old age group underwent unsafe abortion, which shows the younger age had the highest proportion. There was also a support by multivariate analysis result that the younger groups were more than 12 times likely to undergo unsafe abortion while the 20 to 24 years age groups were nearly four times more likely to undergo unsafe procedure. In Africa the two age groups of 15 to 24 make 60%of women who undergo unsafe abortion; this is comparable to the current finding (Shah and Åhman, 2009).

Among the females involved in the study 17.2% were teenagers. A finding in Pakistan showed that the proportion of adolescents who had unsafe abortion was 11.49%. This shows the significant magnitude of young adolescents trapped in this problem though less than that of the current finding (Rashid, 2017). The current study depicted that women who were not able to read and write were more than four times prone to undergo unsafe

Table 2. Factor associated with unsafe abortion among pregnant women who intentionally terminated their pregnancy in Arsi Zone, Central Ethiopia, 2012 (n=268).

Characteristic	Abortion		COR (95% CI)	AOR (95% CI)	P<0.05
	Safe	Unsafe			
Age group (years)					
15-19	12	34	15.90(4.99.50.46)*	12.50(3.24.48.30)**	0.000
20-24	54	46	4.80 (1.70.13.36)*	3.98(1.27.12.4)**	0.018
25-29	36	18	2.80 (0.93.8.47)	2.90(0.88.9.4)	0.08
30-34	23	12	2.90 (0.89.9.50)	1.96(0.55.7.06)	0.30
35-44	28	5	1.00		
Educational status					
Unable to read and write	33	34	2.06(1.10.4.01)*	4.3(1.67.11.14)**	0.002
Informal education and primary	66	54	1.6(0.91.2.94)	2.1(0.96.4.6)	0.07
Secondary and above	54	27	1.00		
Marital status					
Married	132	55	0.2(0.06.0.72)*		
Non-married cohabiting/ Non-cohabiting partner	5	33	3.3(0.72.15.16)		
Single	12	19	0.8(0.20.3.21)		
Divorced/widowed	4	8	1.00		
Occupation					
Student	12	29	5.4(1.87.0.86)*		
Merchant	5	10	4.5(1.16.0.56)*		
House wife	80	27	0.8(0.3.1.94)		
Daily laborer	15	22	3.3(1.14.0.53)*		
Farmer	23	19	1.9(0.66.5.21)*		
Employee	18	8	1.00		
Woman/family Income					
<500 ETB	48	62	2.6(1.17.5.69)		
501-1000 ETB	50	23	0.9(0.39.2.15)		
1001-2000 ETB	16	12	1.5(0.54.4.16)		
2001-4000 ETB	15	6	0.80(0.25.2.59)		
>4000 ETB	24	12	1.00		

* Has significant association by bivariable logistic regression. **Has significant association by multivariable logistic regression.

abortion than those schooled up to secondary or above level. Among this group of women, 48.4% underwent unsafe abortion and had statistically significant association compared to those who had secondary and above education. This relation is supported by the study in Nigeria in which 84% of women who undergo abortion are illiterate (Guttmacher Institute, 2006).

The study assessed the relation of marital status and occupation to unsafe abortion. Currently, married women were 69.8% of the total study group of which 29.4% undergo unsafe procedure; 86.8% of non-married but either living alone or cohabiting with their sexual partners undergoes similar procedure. The finding is in line with the study in Tanzania that revealed women who conceive from casual sex opt for abortion because they do not want to spoil their chance of getting married again later (WHO, 2004). In Nigeria also 27% of women nationwide who terminated unwanted pregnancy did so because they were not married at the time. Nineteen percent said that they were too young or still in school, 19% said that their partners did not want the child, claiming they were not responsible for the pregnancy, and then left them (Guttmacher Institute, 2006).

More than seventy percent women/girls engaged in schooling resort to terminate their pregnancy in unsafe procedure. The key informant health service providers also indicated that secondary school students practice unsafe abortion more frequently. Several findings support

this finding, providing reasons for abortion: fear of dropping out of school, students not wanting to face ridicule from the society and not wanting to bear the burden of single parenthood (Rashid, 2017; Guttmacher Institute, 2006) Similarly, in Philippines 72%of women with unintended pregnancy undergo abortion due to the economic cost of raising children (Singh et al., 2006).

Forty one percent of the women in the current study have lower monthly income of their own; their relatives or families (56.4%) undergo unsafe abortion more than the proportion of women with better income. These women of low income also found in Uganda having clandestine abortions experience health complications more than the better off women (55 versus 38%) (Singh et al., 2009). Similarly, Nigerian study shows women who had abortion and least likely to use contraceptives are poor (80%) (Guttmacher Institute, 2006); especially at personal level, economic issue plays a central role in countries like Philippines (Singh et al., 2006). These indicate that poor women are more exposed to unsafe abortion and its grave consequences.

The qualitative study also showed that lack of safe abortion materials in the facility makes young females turn back to abortion out of health facility. This is in congruent with different findings that adolescents are mostly at high risk of abortion as conception occurs frequently during unplanned and unexpected sexual intercourse and in a number of developing countries where reproductive health family service is not equitably and sustainably provided; where policies and resource assignment are not drawn toward family planning, safe abortion and counseling (Shah and Åhman, 2009; Singh et al., 2009; UN: Center for reproductive rights, 1999; Grimes et al., 2006)

Strengths and limitation

The study used pre- test on 5% similar population at different places to test the consistency of the tools. This cross sectional study cannot explore the temporal relationship.

CONCLUSION AND RECOMMENDATION

The magnitude of the unsafe abortion is greater than that of the National Survey Result in Ethiopia. Uneducated women as well as those between 15 and 24 were more prone to unsafe abortion: the younger the age the more the risk of undergoing unsafe procedure. It would be better if the health systems of the country give more emphasis to the younger uneducated women.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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REFERENCES

Center for reproductive rights (1992-2009). In harmed way: The Impact of Kenya's Restrictive abortion Law. Available at: https://www.reproductiverights.org/feature/in-harms-way-the-impact-of-kenyas-restrictive-abortion-law

Deborah M (2005). Unsafe abortion Facts and figures, Washington D.C, USA. Population Reference Bureau. Available at: http://www.prb.org/pdf05/unsafeabortion.pdf

Ethiopian Society of Obstetrics and Gyenacology (ESOG) (2000). Survey of unsafe abortion in selected Health facilities in Ethiopia, Addis Ababa. Available at: esog@ethionet.et

Gebeyehu D, Admassu B, Sinega M, Haile M (2015). Assessment of Prevalence and Reasons for Termination of Pregnancy at Jimma University Teaching Hospital, Ethiopia. Universal J. Public Health 3(6):251-255. Available at: http://www.hrpub.org/download/20151130/UJPH4-17604743.pdf

Grimes DA, Benson J, Singh S, Romero M, Ganatra B, Okonofua FE, Shah IH (2006). Unsafe abortion: the preventable pandemic. Lancet 368(9550):1908-1919.

Guttmacher Institute (2006). Facts on Unwanted Pregnancy and Induced Abortion in Nigeria. Available at: https://www.guttmacher.org/sites/default/files/factsheet/fb_nigeria.pdf

International Planned Parenthood Federation (IPPF) (2010). The health dangerous of unsafe abortion, Addis Ababa, Ethiopia. http://apps.who.int/iris/bitstream/10665/44529/1/9789241501118_eng.pdf

Joseph BB (2010). Economic Impact of Unsafe Induced Abortion in Uganda. University of Washington, USA. Available at: http://poppov.org/Projects/2010/Economic-Impact-of-Unsafe-Induced-Abortion-in-Uganda.aspx

Kebede S, Jira C, Miriam DW (2000). A survey of illegal a abortion, Jimma Hospital, South-western Ethiopia. Ethiop. Med. J. 38(1):35-42.

Rasch V, Sørensen PH, Wang AR, Tibazarwa F, Jäger AK (2014). Unsafe abortion in rural Tanzania–the use of traditional medicine from a patient and a provider perspective. BMC Pregnancy Childbirth 14(1):419.

Rashid M (2017). Unsafe abortion: unnecessary maternal morbidity and mortality. Biomedica 26(2):114-117.

Shah I, Åhman E (2009). Unsafe abortion: global and regional incidence, trends, consequences, and challenges. J. Obstet. Gynaecol. 31(12):1149-1158.

Singh S, Fetters T, Gebreselassie H, Abdella A, Gebrehiwot Y, Kumbi S, Audam S (2008). The incidence of induced abortion in Ethiopia, AA, Volume 36, No 1. Available at: http://aphrc.org/abortionresearch/index.php/other-resources/item/846-the-estimated-incidence-of-induced-abortion-in-ethiopia-2008

Singh S, Juarez F, Cabigon J, Ball H, Hussain R (2006). Unintended pregnancy and induced abortion in the Philippines: causes and consequences. Available at: http://www.popline.org/node/563307

Singh S, Wulf D, Hussain R, Bankole A, Sedgh G (2009). Abortion Worldwide: A decade of uneven progress, New York: Guttmacher Institute. New York, New York, Guttmacher Institute, 2006. 40p. Available at: https://www.guttmacher.org/report/abortion-worldwide-decade-uneven-progress

UKaid Department for International Development (2010). UK's policy position on safe and unsafe abortion in developing countries. https://www.gov.uk/government/publications/safe-and-unsafe-abortion-uks-policy-position-on-safe-and-unsafe-abortion-in-developing-countries

UN: Center for reproductive rights (1999). CIPD+5: Center for reproductive rights; gains for women against opposition, 1999. Available at: https://www.reproductiverights.org/document/icpd-5-gains-for-women-despite-opposition

World Health Organization (WHO) (2004). Unsafe abortion: Global and regional estimates of the incidence of unsafe abortion and associated mortality in 2000: Fourth edition, Geneva. Available at: http://www.who.int/reproductivehealth/publications/unsafe_abortion/9241591803/en/