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4

5 Abstract

6 Background: Unwanted pregnancies and unsafe abortions are serious public health problems
7 in the developing world, including Ethiopia. Until recently, safe abortion services were not
8 available in Ethiopia, and little is known about the health providers' attitude who is currently
9 working in the abortion service provision. Assessing health care providers' attitude and
10 factors affecting their attitude towards safe abortion will help to focus on their solutions and
11 facilitate of future safe abortion services. Objective: Was To assess health providers' attitude
12 and associated factors towards safe abortion service at Public Hospitals in Mekelle City,
13 Tigray, Ethiopia. Methods: Institution based cross sectional study design was conducted using
14 a quantitative method in Public hospitals, at Mekelle City, Tigray, Ethiopia. A self
15 administered questionnaire was used to collect the data. Pre-test was done for assuring Data
16 quality. Data collectors were 5 nurses. The study population included: health officers, nurses,
17 midwives, general practitioners, Obstetrician and Gynecologists. A probability proportional to
18 size allocation was done. Systematic random sampling was employed to select the intended
19 study subjects. Sample size was 243. Bivariate and multivariate logistic regression analysis
20 was run to interpret and identify factors associated with attitude. OR, 95

21

22 **Index terms**— abortion, health care providers, attitude, public hospital.

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24 developing world, including Ethiopia. Until recently, safe abortion services were not available in Ethiopia, and
25 little is known about the health providers' attitude who is currently working in the abortion service provision.
26 Assessing health care providers' attitude and factors affecting their attitude towards safe abortion will help to
27 focus on their solutions and facilitate of future safe abortion services.

28 Objective: Was To assess health providers' attitude and associated factors towards safe abortion service at
29 Public Hospitals in Mekelle City, Tigray, Ethiopia.

30 Methods: Institution based cross sectional study design was conducted using a quantitative method in Public
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32 Pre-test was done for assuring Data quality. Data collectors were 5 nurses. The study population included: health
33 officers, nurses, midwives, general practitioners, Obstetrician and Gynecologists. A probability proportional to
34 size allocation was done. Systematic random sampling was employed to select the intended study subjects.
35 Sample size was 243. Bivariate and multivariate logistic regression analysis was run to interpret and identify
36 factors associated with attitude. OR, 95% confidence interval and p-value was calculated. Data entry, cleaning
37 and analyzing was done by using SPSS version16 statistical software.

38 Result: A total of 230 health providers' had participated with a response rate of 94%. The odds of favorable
39 attitude among the respondents who had good knowledge on abortion were 6.87 times the odds of the respondents
40 who had poor knowledge on abortion [AOR=6.87, 95% CI (1.2, 39.90)].

41 Similarly the odds of favorable attitude among the respondents who didn't agree on the current Ethiopian
42 law on abortion due to religious reason were 92% lower than the odds of the respondents who had agreed on
43 the current Ethiopian law on abortion [AOR= .08, 95% CI (.02, .37)]. The odds of favorable attitude among the
44 respondents who didn't agree Introduction bortion is defined as the termination of pregnancy by the removal or
45 expulsion from the uterus of a fetus or embryo prior to viability. WHO defines "unsafe abortion" as a procedure
46 for terminating an unintended pregnancy either by individuals without the necessary skills or in an environment

47 that does not conform to minimum medical standards, or both. As reported in WHO's reproductive Health
48 Strategy, 13% of all pregnancy-related deaths are due to unsafe abortion. According to WHO, approximately 20
49 million unsafe abortions are performed worldwide every year and are considered as major public health problems
50 since it alone causes about 13% of the global burden of maternal mortality in developing countries. The most
51 significant current discussions about unsafe abortion and unwanted pregnancy are the denial of women's health
52 rights and the disproportional number of maternal deaths in developing countries. Annually, it is estimated about
53 80, 000 worldwide deaths from unsafe abortions, over 99% of these deaths occur in the developing countries of
54 sub-Saharan Africa, Central and Southeast Asia, and Latin America and the Caribbean (1,2,3).

55 Ethiopia has the fifth highest number of maternal deaths in the world: One in 27 women dies from complications
56 of pregnancy or childbirth annually. In 2008, an estimated 382,000 induced abortions were performed in Ethiopia,
57 and 52,600 women were treated for complications of such abortions. There were an estimated 103,000 legal
58 procedure in health facilities nationwide 27% of all abortions. Nationally, the annual abortion rate was 23 per
59 1,000 women aged 15-44, and the abortion ratio was 13 abortions per 100 live births. The abortion rate in Addis
60 Ababa (49 per 1,000 women) was twice the national level. Overall, about 42% of pregnancies were unintended,
61 and the unintended pregnancy rate was 101 per 1,000 women. About half of all health facilities in Ethiopia
62 provide induced abortion services. However, the proportion is much higher for public hospitals (76%) and private
63 or nongovernmental organization facilities (63%) than for public health centers (41%). Starting in 2007, the
64 Tigray Health Bureau and Ipas conducted a two-year project using the safe abortion care monitoring framework
65 to assess progress on implementing the FMOH mandate for improved abortion and post abortion contraception
66 and services. This conducted baseline assessment showed limited availability of SAC services in Tigray, largely
67 because many facilities were not yet providing safe induced abortion services (4,5,6).

68 Studies identify a wide range of factors impacting the attitude and perception of health professionals towards
69 abortion. Illegal abortion and laws in general have led to a large degree of mortality, morbidity and socioeconomic
70 losses. For instance most illegal abortion in sub-Saharan Africa is conducted on young girls not yet married which
71 mostly is associated with the possible end of going to school and consequently leading to female illiteracy and
72 poor awareness about reproductive rights. Unsafe abortion in Ethiopia is exercised in different risky ways that
73 range from the traditional remedies such as toxic chemicals, insertion of contaminated, unsterilized instruments
74 into the uterus and swallowing pills from traditional healers (7,8,9).

75 Health Providers' attitude is a major barrier to women's access to care. Many individual remain unaware
76 that termination of pregnancy is permitted under certain condition where some services are available, limited
77 resources, lack of adequate provider training and stigma surrounding abortion further limits women's access
78 to quality care. In such environment providers may also have less training and experience with methods of
79 termination of pregnancy, further contributing to misinformation and stigma, which can translate into poor
80 quality information, and counseling. The infrastructure to provide legal and safe abortion lags behind in some
81 developing countries. Abortion is now legal in Ethiopia in certain circumstances. However, legalization only, does
82 not guarantee the required care. Factors like poverty; inaccessibility of health service, social, cultural, economic
83 and religious pressures can also prevent a woman from getting SAC by a skilled practitioner even in countries
84 with legal abortion. The service of abortion care is conducted by several providers with different backgrounds
85 (10,11,12,13,14).

86 Health care Providers' attitude and readiness for quality of services potentially influences, to offer services,
87 offer a choice of methods and provide clients with access to safe abortion services. In Ethiopia very few researches
88 has been done regarding to the attitude of health providers and associated factors towards safe abortion. The
89 same is true for our region. Consequently, little is known about the providers' attitudes and associated factors
90 towards safe abortion. This study will try to fill the gap and help to focus on their solutions and facilitate of
91 future abortion services. The purpose of this study is to assess health providers' attitude and associated variables
92 towards safe abortion. Abortion is now legal in Ethiopia in cases of rape, incest or fetal impairment, if her life
93 or her child's life is in danger, or if continuing the pregnancy or giving birth endangers her life, if she is unable
94 to bring up the child, owing to her status as a minor or to a physical or mental infirmity. Even though abortion
95 is legal in some circumstances unsafe abortion remains common in Ethiopia. This shows legalization does not
96 give guarantee for availability of safe abortion service. Provider' background and attitude do have potential
97 consequences for women's with scarce access to safe abortion services.

98 Availability of safe abortion services is influenced by the providers' willingness to offer service. Therefore, it is
99 important to assess health providers' attitude and associated factors towards safe abortion. The author strictly
100 believes that studying on this issue and identifying the main factors influencing providers' attitude towards safe
101 abortion will help to focus on their solutions. The result of this study will facilitate to assess the attitude
102 and experiences of health care workers and can offer important information for the planning and improvement of
103 abortion care and by providing baseline information for implementation of the law regarding abortion services. By
104 there, it might bring a significant change on reducing maternal morbidity and mortality caused by complications
105 of unsafe abortion.

1 II.

2 Methodolog a) Study Setting

The study was conducted at Mekelle the capital city of the Tigray regional state lies 783 km north of Addis Ababa. The town is also divided into seven administrative parts: Hawelty, Hadnet, Ayder, Semen, Kedamay weyane, Adihaki, and Quiha. There are four governmental hospitals in Mekelle. Two of them are under Regional health Bauru (Quiha and Mekelle hospital), one under the ministry of defense (North command referral hospital), one referral hospital (Ayder referral hospital). There are also four other private hospitals in the town. In addition there are eight health centers and 38 private clinics in Mekelle (35). Study period was from May to December 2012, an institution population was all health care providers' who are working under Public hospitals in Mekelle City. Study Population was all sampled eligible health care providers' with six months and above work experience in their respective public hospitals. Inclusion criteria was all Health care providers' who have six months and above work experience in their respective public hospitals and participants exclude from the study were Those who are unable to here and understand the national language Amharic.

3 b) Sample size and sampling procedures

The sample size was determined by using a formula for estimating a single population proportion. Prevalence was taken as 37% from a previous similar study conducted in Addis Ababa, Ethiopia (19). Since the study population was less than 10,000 finite population correction formulas was applied finally after adding 10% non response rate, the total sample size required for this study appears to be 243 health care providers'. c) Sampling procedure A probability proportional to size allocation was done, Systematic random sampling was employed to select the intended study subjects, from each public hospital which are found in the City. Those were: Ayder referral hospital, North command referral hospital, Mekelle hospital, and Queha hospital. A probability proportional to size allocation of the study subjects for each hospital was done:

4 d) Data collection techniques, Instrument

This study was used a structured, quantitative self administered questioner among governmental hospital workers in Mekelle City.

A structured questionnaire was designed by reviewing previous similar studies in such a way that consists all the variables that can meet the objectives of the study. It includes all questions related to attitude and factors influencing health care providers' attitude towards safe abortion. The principal investigator together with the supervisor were strictly followed the overall activities on daily base to ensure the completeness of the questionnaire, to give further clarification and support. Pre-testing of the questionnaire was done to ensure the data quality, its clarity, understandability and completeness prior to data collection, at governmental hospital in Wukro town for individuals with the same inclusion criteria.

5 e) Study Variables

Dependent variables was Attitude of Health care provider and Independent variables were Socio demographic factor: Sex, Age, Marital status, Religion, Profession, Individual Factor: Knowledge ,previous experience, training, work experience, Environmental Factor : Law, Policy, Socio cultural issue, ethic. f) Operational definitions Abortion is defined as the termination of pregnancy before 28 weeks of gestational age by the removal or expulsion from the uterus of a fetus or embryo prior to viability. Unsafe abortion is a procedure for terminating un-wanted pregnancy before 28 weeks of gestational age either by persons lacking the necessary skills or in an environment lacking the minimal medical safety standards or both (36). Safe abortion is the termination of pregnancy before 28 weeks of gestational age by qualified and skilled persons using correct techniques in sanitary conditions. Attitude refers to the participants' response as "favorable" or "unfavorable" towards negative and positive attitudinal statements. The health care provider (also known as health provider) those professionals are Oby and Gyn specialists, GPs, nurses (diploma and degree), midwives (diploma and degree) and HO.

6 g) Data quality and management

Pre-test was done on 5% of the questionnaire of professionals with the Sa me inclusion criteria at Wukro town. Depending on the result of the pre-test, correction and modification were made on the questionnaire before applying on the study population. One professional supervisor and the principal investigator had supervised data collection processes, check for completeness of the data, correctness of the data collection procedure and as necessary correction were done.

7 h) Data processing and analysis

Data analysis was started by sorting and performing quality control checkup at the field. The data was checked in the field to ensure that all the information if properly collected and recorded. Before and during data processing the information was checked for completeness. SPSS version 16 statistical software was employed for data entry and analysis. All data were coded in terms of numbers. The analysis included checking errors and describing

161 the collected data by numerical summary measure tables, charts and measures of association, all of which are
 162 instruments for interpretation of the collected data. Bivariate analysis was done at a confidence limit of 95%
 163 to calculate the crude odds ratio with the outcome variable. The significance was checked using p-value 0.05
 164 and 95% confidence interval. Multivariate logistic regression analysis was used to identify factors associated with
 165 outcome variables attitude. Hosmer and Lemeshow model was used to check the goodness of fit.

166 8 i) Scoring Methods

167 To assess attitude of health care providers towards safe abortion was developed by presenting respondents with
 168 a series of negative and positive statements that reflect different aspects of the underlying attitude in a variety of
 169 ways. Attitude statements have five possible responses. The responses was labeled as "favorable" or "unfavorable"
 170 as follows; "favorable" responses were responses including strongly agreeing and agree for positive statements and
 171 strongly disagree, disagree for negative statements. "Unfavorable" responses' are responses including "strongly
 172 agree", "Agree" and uncertain for negative statements, and disagree, strongly disagree and uncertain for positive
 173 statements. Marking the total attitude score out of hundred, those with scores of greater than 50% was rated to
 174 have favorable attitude and those with a score below 50% as unfavorable attitude. Knowledge of the respondents
 175 towards safe abortion was measured by marking the correct answers of subjects out of a hundred. Knowledge
 176 scores 50% or less was labeled as "poor knowledge", knowledge scores between 50% and 70% was labeled as
 177 moderate knowledge" and knowledge score above 70% was labeled as "good knowledge" (37).

178 9 j) Ethical Considerations

179 The study proposal was approved by the ethical clearance committee of Mekelle University and Regional health
 180 Bauru. Written permission of these hospitals was secured for their employees to participate in the study and;
 181 each health care provider within these hospitals was given a written consent to participate in the study after a
 182 thorough explanation of the objectives and the procedures of the study. Specifically, respondents were informed
 183 about the objectives of the study and that their participation was purely voluntary and they can be free to decline
 184 or withdraw at any time during the course of the study. So only those willing to participate were included in
 185 the study. Confidentiality and beneficences were insured by making the questionnaires anonymous. Personal
 186 identification of the respondents was not asked. They were also be assured that the information provided in
 187 writing would be used only for research purpose and would therefore be strictly anonymous and data was entered
 188 as confidential, aggregate analysis and reporting system was put secured and in place.

189 10 III.

190 Result a) Socio-demographic characteristics About 243 self administered questionnaire were prepared to be
 191 distributed into respondents of all public hospitals in Mekelle town. About 13(6%) of health care providers were
 192 either could not available at the time of data collection or refused to participate in this study. Therefore, only
 193 about 230 of health care providers were participated with a total response rate of 94%.

194 Table-1 shows an overview of the socio demographic characteristics of sampled health care providers. Of these
 195 230 health practitioners who had participated, 107 (46.5%) were BSc nurses. More than half, 142 (61.7%) of
 196 the respondents were females. The median age of the respondents were 28 + 6.65 and overall, 64% were younger
 197 than 30 years of old, 27.8% were between 31 and 40 years, and 7.3% were between 41-50 years old. Nearly half,
 198 111(48.3%) of the respondents were married and the majority of the respondents, 219(95.2%) were orthodox
 199 followers. The majority, 181 (78.7%) of the respondents primary work place were government hospitals and 63
 200 (27.4%) of the respondents had more than ten years of work experience. e) Individual factor of the respondents
 201 cross tabulated with attitude category Of the total 107 BSc. nurses majority of them 100 (93.5%) had a favorable
 202 attitude for safe abortion. The majority, 191(83%) of the respondents had no training for safe abortion and 180
 203 (94.2%) of them had favorable attitude. The majority of the respondents 186 (81%) had never performed safe
 204 abortion. And of these 176 (94.6%) of them had a favorable attitude to safe abortion. One of the reasons
 205 that they were not ever performed safe abortion was due to lack of training (43.5%). Of the total respondents
 206 207(90%) of them have good knowledge and of these, 96.6% of them had a favorable attitude to safe abortion .
 207 To specify associated factors that affect favorable attitude regarding to safe abortion at the institutions, bivariate
 208 and multivariate analysis had done at an alpha level of 0.05. Accordingly, the independent variables that were
 209 significant and non significant are shown below. Based on the analysis using binary logistic regression all the
 210 variable of socio demographic characteristics, profession and experience of the respondents were statistically
 211 insignificant.

212 The odds of favorable attitude among the respondents who had good knowledge on abortion were 6.87 times
 213 the odds of the respondents who had poor knowledge on abortion other things being equal [AOR=6.87, 95% CI
 214 (1.2, 39.90)].

215 The odds of favorable attitude among the respondents who didn't agree on the current Ethiopian law on
 216 abortion due to religious reasons was 92% lower than the odds of the respondents who had agreed on the current
 217 Ethiopian law on abortion other things being equal [AOR = .08, 95% CI (.02, .37)].

218 Similarly, the odds of favorable attitude among the respondents who didn't agree due to more than two reasons
219 on the current Ethiopian law on abortion was 89% lower than the odds of the respondents who had agreed on
220 the current Ethiopian law on abortion other things being equal [AOR= .11, 95% CI (.02, .66)] [Table ??5]. IV.

221 11 Discussion

222 The main purpose of this study was to assess health care providers' attitude and associated factors towards
223 safe abortion at public hospitals, in Mekelle town. Providers' perception would have potential consequences for
224 women's already with scarce access to safe abortion services. Deferent research result suggests that sensitizing
225 health providers to the essential nature of safe abortion services may be essential for improving the quality of
226 such services (7).

227 In this study about 230 of health care providers were participated. This tried to address results that access
228 providers' attitude and associated factors towards safe abortion. According to the results that were trying to assess
229 the attitude of health providers for safe abortion, majority of the respondents (94.8%) had a favorable attitude.
230 The result was consistent with a study done at same region in 2011; 87% of respondent health practitioners had
231 a positive attitude for TOP with an incest case though it was specific. Nearly similar, a qualitative study done
232 on health providers at South Africa also showed that, in all providers had a positive view on abortion perceived
233 if unplanned pregnancy due to rape or incest (20,21).

234 In this study, when the respondents tried to answer for the question that if they had any formal training for
235 safe abortion, of the total 230 respondents, majority of them (83%) had no training for safe abortion. This study
236 result had a similar result of trained providers to the study done at same region in 2011. That was only 20%
237 of the respondents from that study had taken SAC training while the majority (80%) did not get training. On
238 the contrary on a study done at Latin America, majority of health providers (79%) had taken training either
239 for surgical or medical methods. This big gap may be because of economical, social difference as well as lack of
240 financial and fund for training of health providers for safe abortion in our country. In countries where legislation
241 permits termination of pregnancy access to safe induced abortion may be restricted due to limited numbers of
242 trained health care providers (7,20,23).

243 The majority of the respondents (81%) had never performed safe abortion. And of these, 94.6% of them had a
244 favorable attitude for safe abortion. This result showed that although the majority of the respondents had never
245 performed safe abortion, they had favorable attitude towards it. Lack of training was one of the reasons that
246 forced them not to perform safe abortion. Similarly, a qualitative study done at South Africa reported that lack
247 of SAC training practitioners, halted the SAC practice. Many centers only sporadically provide service for safe
248 abortion either because shortage of trained physicians or functioning equipment (21,33). Religious reason was
249 another factor of the respondents that hinder them to perform safe abortion. This was statistically significant
250 with attitude [COR=.10, 95% CI (.02, .62)]. But the same variable turned insignificant after adjustment [AOR=
251 0.17, 95% CI (0.03, 9.4)]. The most important personal factor influencing physician's decision not to perform
252 abortions includes lack of training and religious beliefs (34).

253 Another finding based on the analysis using binary logistic regression all of the variable of socio demographic
254 characteristics were statistically insignificant with the outcome variable attitude. Similar result was found on
255 a study done on health care provides at Addis Ababa, accordingly the variables were statistically insignificant
256 in explaining changes in mean attitude score (19). Multivariate logistic regression analysis was done to assess
257 associated factors to attitude with regard to safe abortion. Accordingly, the significant variables were good
258 knowledge (with a reference of poor knowledge), did not agree on the current Ethiopian law for safe abortion
259 due to religious reason as well as due to more than two reasons (religious, personal, cultural and due to other
260 reasons) with a reference of these respondents who were agreed on the Ethiopian current law for safe abortion
261 were the significant variables.

262 The odds of favorable attitude among the respondents who didn't agree on the current Ethiopian law on
263 abortion due to religious reasons was 92% lower than the odds of the respondents who had agreed on the current
264 Ethiopian law on abortion other things being Reasons were asked for those who were against the low. Religious
265 reason 33.3%, personal and cultural reason 16.6%, religious, cultural and personal reason 32% and due to other
266 reasons 18.1% .The religious reason was statistically significant for the outcome variable attitude. The result
267 was nearly similar with a study done at Addis Ababa in which those who were aware of the prevailing law were
268 1.77 times more likely to have this favorable attitude than those who were not aware of the law (19). Majority
269 of the respondents who had good knowledge about safe abortion were significantly associated with the out come
270 variable attitude. The odds of favorable attitude among the respondents who had good knowledge on abortion
271 was 6.87 times the odds of the respondents who had poor knowledge on abortion other things being equal; it
272 was found that [AOR =6.87, 95% CI (1.2, 39.90)]. This result showed that those who had good knowledge on
273 abortion had more favorable attitude towards safe abortion compare to those who had poor knowledge. One well
274 recognized barrier to the provision of optimal care of survivors was that health workers themselves lack knowledge
275 and skills (22).

276 V.

12 Conclusion

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The study was tried to assess health providers' attitude and associated factors towards safe abortion at public hospitals, in Mekelle town, Tigray, Ethiopia. From the study findings the following conclusion are drawn: Majority of the respondents had a favorable attitude for safe abortion. Even though majority of the respondents never performed safe abortion in their past experience, they had a favorable attitude towards safe abortion. Lack of training and religious reasons were some of the reasons that forced them not to practice safe abortion. In general the significant variables were good knowledge (with a reference of poor knowledge), did not agree on the current Ethiopian law for safe abortion due to religious as well as due to more than two reasons (religious, personal, cultural and due to other reasons) with a reference of these respondents who were agreed on the Ethiopian current law for safe abortion were the significant variables and are the factors that affect attitude of health providers towards safe abortion VI.

13 Recommendations

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Based on the above conclusions, the following points are recommended: Efforts may be required from Regional health Bauru, Ministry of defiance, and Federal health office for improving knowledge health providers' regarding safe abortion. Regional health Bauru, None governmental organizations and other fund raising agents need to prepare enough budgets for training of health providers' regarding to a safe abortion and related costs. Further researches including qualitative methods related to this topic at all health institutions are recommended.

14 VII.

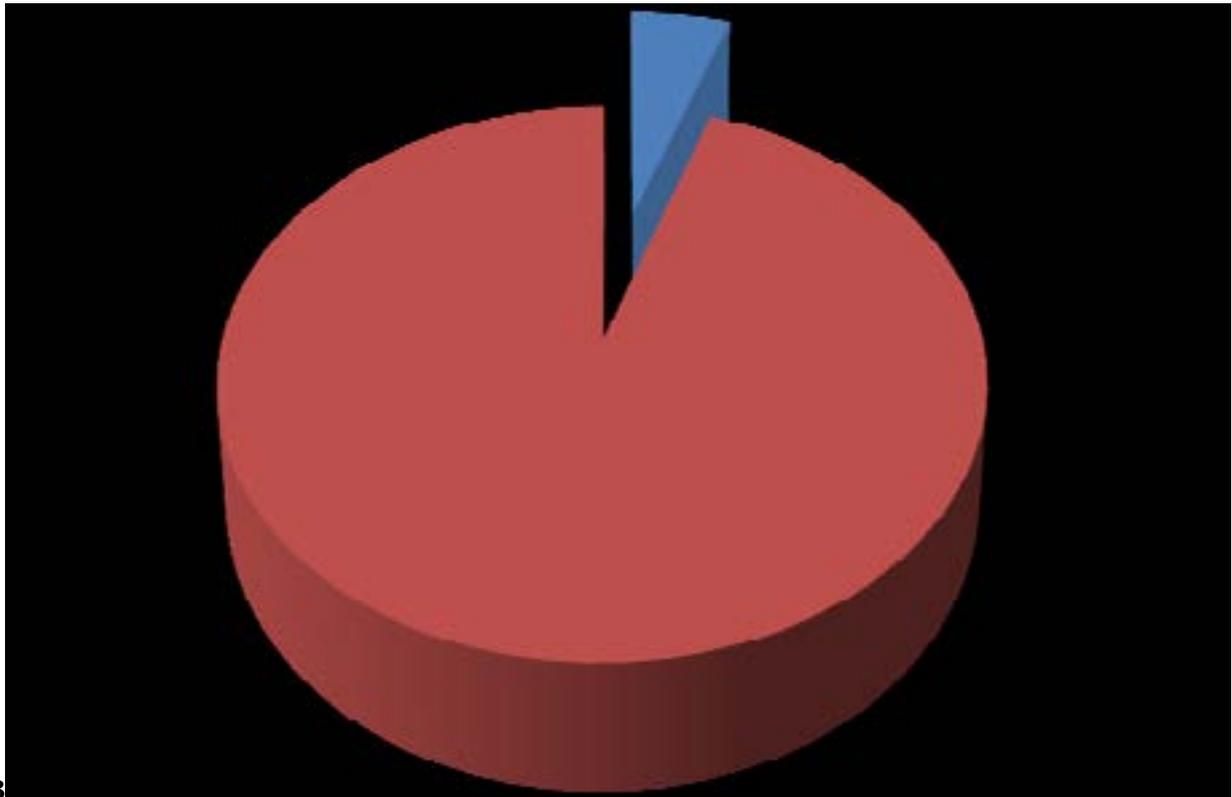
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Figure 1:

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Figure 2: Figure 3 :

Figure 3:

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Sex of the respondent
 Female
 Male
 Age category

Figure 4: Table 1 :

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Variable	Attitude		Total	P-value
	Favorable n(%)	Unfavorable n(%)		
Sex of the respondents				
Female	133(93.7)	9(6.3)	142	.381
Male	85(96.6)	3(3.4)	88	
Total	218(94.8)	12(5.2)	230	
Religion of the respondents				
Orthodox	208(95)	11(5)	219	.035
Muslim	6(2.8)	0(.0)	6	
Protestant	1(50%)	1(50%)	2	
Catholic	3(100%)	0(.0%)	3	
Total	218(94.8)	12(5.2)	230	

d) Environmental factor of the respondent HCP cross tabulated with attitude category
Of the total respondents majority of them, 164(71%) were agreed on the current Ethiopian law. Of

these 161(98.2%) had a favorable attitude for safe abortion. Reasons were asked for those who were against the law 22(33.3%) religious reason, 11(16.6%) personal and cultural reason [Table-3].

Figure 5: Table 2 :

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Mekelle City from May to December, 2012 (n=230)

Variable	Attitude		Total	P-value
	Favorable n(%)	Unfavorable n(%)		
Agree on the Ethiopian current law				
Yes	161(98.2)	3(1.8)	164	.000
No due to religious reason	17(77.3)	5(22.7)	22	
No due to personal and cultural reason	10(90.9)	1(9.1)	11	
No due to religious, personal & cultural reason	18(85.7)	3(14.3)	21	
No due to another reason	12(100)	0(.0)	12	
Total	218(94.8)	12(5.2)	230	

Figure 6: Table 3 :

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Variable	Attitude		Total	P-value
	Favorable n(%)	Unfavorable n(%)		
Profession Nurse degree Nurse diploma	100(93.5)	7(6.5)	107	.728
Physician	67(93.1)	5(6.9)	72	
Midwifery degree				
Midwifery diploma	6(100)	0(.0)	6	
Health officer	17(100)	0(.0)	17	
Oby& Gyn specialist	13(100)	0(.0)	13	
	14(100)	0(.0)	14	
Total	1(100)	0(.0)	1	
	218(94.8)	12(5.2)	230	
Formal training No Yes Total Ever perform safe abortion Yes No due to religious factor No due to lack of training No due to personal & educational level No due to facility factor & work overload No due to more than 2 reasons of the above	180(94.2)	11(5.8)	1(2.6)	.696 Volume XIV
	38(97.4)	12(5.2)	2(4.5)	
	218(94.8)	5(31.2)	1(1)	Is-sue III
	42(95.5)	11(68.8)	0(.0)	
	100(99)	14(100)	3(10)	Version I
	6(100)	27(90)	14	
			6	
			30	
No due to other reasons	18(94.7)	1(5.3)	19	
Total	218(94.8)	12(5.2)	230	
Knowledge				
Poor knowledge	5(71.4)	2(28.6)	7	.001
Moderate knowledge	13(81.2)	3(18.8)	16	
Good knowledge	200(96.6)	7(3.4)	207	
Total	218(94.8)	12(5.2)	230	

Figure 7: Table 4 :

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to December 2012

Figure 8: Table 5 :

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