

Attitude towards Safe Abortion and Associated Factors among Health Care Professionals at the Public Health Facilities of Bahir Dar city, Northwest, Ethiopia, 2021

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Abstract

Background

Negative attitude towards abortion among health care professionals providing abortion services could be an obstacle even under a law, which permits abortion on request. Health care providers are expected to perform and be change agents of abortion services. However, little information is known about the attitude towards safe abortion among health care providers in Ethiopia.

Objective

This study aimed to assess attitude towards safe abortion and associated factors among health care providers in the public health facilities of Bahir Dar city, Northwest Ethiopia.

Methods

A health facility-based cross-sectional study was employed from March 1–30/2021 among 416 health care providers. The data were collected by computer-based generated simple random sampling technique, entered, coded, and cleaned using Epi data version 4.2 and analyzed using Statistical Package of Social Sciences version 25.0. Bivariate and multivariable logistic regression analyses were employed to estimate the crude and adjusted odds ratio with a confidence interval of 95% and a P-value of less than 0.05 considered statistically significant. Frequency tables, figures, and descriptive summaries were used to describe the study variables.

Results

In this study, 70.2% [95% CI: 65.6–74.6] of health care professionals had favorable attitude towards safe abortion. The age group of 25–29, 30–34, and ≥ 35 years [AOR = 3.34, 95% CI = 1.03–10.85], [AOR = 4.58, 95% CI = 1.33–15.83] and [AOR = 5.30, 95% CI = 1.43–19.66] respectively, male health care providers [AOR = 3.20, 95% CI = 1.55–6.60], midwives [AOR = 6.50, 95% CI = 2.40–17.44], working at hospital [AOR = 4.77, 95% CI = 1.53–14.91], trained on abortion [AOR = 5.09, 95% CI = 2.29–11.32], practicing of an abortion procedure [AOR = 2.52, 95%, CI = 1.13–5.60], knowledge on safe abortion [AOR = 7.35, 95% CI = 3.23–16.71], awareness on revised abortion law [AOR = 6.44, 95% CI = 3.15–13.17] and need further legalization of abortion law [AOR = 11.78, 95% CI = 5.52–24.26] were associated with favorable attitude towards safe abortion.

Conclusion

In the present study, health care providers who had a favorable attitude towards safe abortion were relatively high compared to the previous studies. Age, sex, profession, working place, training, knowledge, and practice-related factors were associated with a favorable attitude towards safe abortion. Thus, health institutions considered a need for sensitization for health professionals about safe abortion to improve and sustain a positive attitude.

Background

Abortion is defined as the termination of pregnancy by the removal or expulsion of the fetus or embryo from the uterus before viability [1–3]. An abortion can be spontaneous abortion or induced [4], and induced abortion is further classified into, safe or unsafe, legal or illegal, surgical or medical [5]. Unsafe abortion is described by World Health Organization(WHO) as a procedure for ending an unintended pregnancy, either by people without the requisite expertise or in a setting that does not comply with minimum medical requirements, or both [6, 7].

Globally, unsafe abortions account for over 47,000 maternal deaths per year (13% of total maternal mortality) and contribute to significant morbidity among women, especially in low-income countries [8, 9]. Sub-Saharan African countries account for 86% of the world's illegal abortion [6, 10]. In Ethiopia, 38% of illegal abortions take place every year [11, 12]. In 2005, Ethiopia approved a liberalized abortion law [13], and this law allowed women to procure safe and legal abortion under certain conditions; these conditions included the following: if the pregnancy was due to abuse, if there was physical or mental disability, if it put women at risk of physical health or life, or if the woman was younger than 18 years of age and unprepared to give birth [14].

To reduce unsafe abortion and its harmful complications article 551 of the penal code of the Federal Democratic Republic of Ethiopia allows termination of pregnancy under some conditions [15]. In June 2014, the Federal Ministry of Health also revised the technical and procedural guidelines for safe abortion facilities to assess the standard of care and also permits the first-trimester pregnancy-safe abortion care can be given at the health center level as part of task sharing and task-shifting [16]. In the provision of abortion services, health care providers have an important role. However, the lack of health care providers in low-income countries is still critical and compounded by some health care providers' refusal to provide abortion services and this is again exacerbated by religious and cultural factors [17, 18].

Safe abortion is an important component of reproductive health care, providing a variety of medical and related health services, including therapy, contraception, and, where necessary, referrals to other reproductive health services [19]. Health care providers' attitudes have potential consequences for women already with scarce access to safe abortion services [20]. Health care providers are responsible for the provision of comprehensive abortion care services and are authorized to perform abortion procedures on women whose medical conditions warrant the immediate termination of pregnancy [21].

Health care providers play a key role in the identification, treatment of complications, and minimizing the burden of induced abortion. However, the attitude of healthcare providers is one of the key obstacles

preventing women from obtaining safe abortion services [22]. A study in southern Uganda shows that positive attitudes and behavior of healthcare professionals regarding safe abortion is contributing factors both for themselves and for the community [23]. Another study conducted in Nigeria shows nurses' attitudes are crucial in gaining and promoting patients' uptake of care and help to improve women's confidence [24]. Providers with negative attitudes towards safe abortion may cause women with unplanned pregnancies to endanger their lives and pursue illegal abortions by untrained health workers [25, 26].

According to the study conducted in different parts of Ethiopia, the attitude of health care providers towards safe abortion ranged from 48.1–95% [27, 28]. Different factors affect the attitude of health care providers towards safe abortion like age, religion, work experience, profession, awareness of the revised abortion law, knowledge of abortion, having training on abortion, practicing of abortion, availability of service in the health facility and working facility [23, 27–31]. In general, healthcare providers' attitudes play a key role in the care and prevention of unsafe abortion and treatment of abortion-related complications [32]. However, there is little information on attitude and its associated factors of safe abortion among health care providers in our country and study area.

Objectives

1. To determine the attitude towards safe abortion and associated factors among health care providers in the public health facilities of Bahir Dar city, Northwest Ethiopia.
2. To identify factors associated with attitude towards safe abortion and associated factors among health care providers in the public health facilities of Bahir Dar city, Northwest Ethiopia.

Methods

Study design and period

A health facility-based cross-sectional study design was employed from March, 1-30/2021 at the public health facilities of Bahir Dar city.

Study area

The study was conducted in the public health facilities of Bahir Dar city. Bahir Dar City is the capital city of the Amhara Region. The city is located approximately 565km northwest of Addis Ababa, the capital city of Ethiopia. The city has a total population of 518,193 of which 265,156 are females [3]. In the city, there are 3 public hospitals and six public health centers, 4 private general hospitals, 34 private medium clinics, 6 private lower clinics, and 3 Nongovernmental Organization clinics. All the public health facilities provide comprehensive abortion care services and the service are free for all women. There are 1757 health professionals in the three public hospitals and six health centers of the city. Of these, 973 were female health workers.

Source population

All health care providers who were working at the public health facilities of Bahir Dar city.

Study population

All randomly selected health care providers who are working at the public health facilities of Bahir Dar city during the data collection period.

Inclusion and exclusion criteria

Health professionals who are working in clinical departments such as general nurses, midwives, health officers, integrated emergency surgery officers, General practitioners, and specialists who were present during data collection time were included, while health care providers like pharmacy, medical laboratory, radiology, environmental health, and free service health care providers were excluded.

Sample size determination

The sample size was calculated using a single population proportion formula by considering the following assumptions: the proportion of health care providers who had a good attitude towards safe abortion taken from the previous study 56.7% [33], $Z_{\alpha/2}$ = critical value for normal distribution at 95% confidence level, which is equal to 1.96 (Z value of $\alpha=0.05$) or 5% level of significance ($\alpha=0.05$) and a 5% margin of error ($\omega=0.05$). The sample size was adjusted by adding a 10% non-response rate and the final sample size was 416 health care providers.

Sampling procedure and technique

All public health facilities of Bahir Dar city are included in this study. The total sample size was proportionally allocated for each public health facility of the city based on their total number of health care providers. Before data collection, the census was conducted to identify health care providers in each public health facility. After the census, the total number of health care providers in the public health facility of the city was 1,757. The numbers of health care providers in Felege Hiwot Comprehensive Specialized Hospital (n=847), Tibebe Gion specialized hospital (n=576), Addisalem Primary Hospital (n=154), and the six public health centers, including Bahir Dar health center, Han health center, Dagimawi Minilik health center, Shimbit health center, Shumoabo health center and Abaymado health center (n=181). The total sample size was proportionally allocated for each health facility, based on their population size, by using the following formula;

$$\text{Sample in the hospital} = \text{total sample} \times \frac{\text{population in the health facilities}}{\text{total population}}$$

The total sample size after proportional allocation was 201 for Felege Hiwot Comprehensive Specialized Hospital, 136 for Tibebe Gion specialized hospital, 36 for Addisalem Primary Hospital, and 43 for the six

public health centers of the city. The study participants were selected by a computer-based generated simple random sampling technique.

Dependent variable

The attitude of health care providers towards safe abortion (favorable/ unfavorable).

Independent variables: includes socio-demographic factors (age, sex, marital status, and religion), health facility-related factor (type of health facilities, profession, work experience, and work unit), knowledge of safe abortion and awareness of the revised law, and practice-related factors (having training and practicing abortion procedure)

Operational definitions

Attitude towards safe abortion: refer to the attitude of health care providers towards safe abortion and assessed using 20 questions by assigning +1 for strongly disagree, +2 for disagree, +3 for neutral, +4 for agree, and +5 for strongly agree. Health care provider was considered to have a favorable attitude towards safe abortion if he/she correctly answered greater than or equal to the mean score of the total attitude towards safe abortion assessing questions and those who scored less than the mean score were considered as having an unfavorable attitude towards safe abortion. [33].

Knowledge: refers to the knowledge of health care providers about abortion and it has been assessed using 48 composite variables by assigning +1 for a correct answer and 0 for an incorrect answer. Health care provider was considered to have good knowledge of abortion if he/she correctly answered greater than or equal to the mean score of the total knowledge of abortion assessing questions and those who scored less than the mean score were considered as having poor knowledge of abortion [34].

Further revision of abortion law: legalization of abortion which is open or unrestricted law as compared to the current law [33].

Awareness: refers to the awareness of the revised abortion law of the country and it has been assessed using 5 composite variables by assigning +1 for a correct answer and 0 for an incorrect answer. Health care provider was considered to have a good awareness of the revised abortion law if he/she correctly answered greater than or equal to the mean score of the total awareness of the revised abortion law assessing questions and those who scored less than the mean score were considered as having of poor awareness of the revised abortion law of the country.

Health care provider: A health care provider is an individual health professional licensed to provide services to the patient which includes midwives, nurses, health officers, general practitioners, integrated emergency surgery officers, and specialists [27, 35].

Data collection tools and procedures

A structured self-administered questionnaire was used to collect the data which were adapted from relevant works of literature and modified to the local context [23, 27, 29, 33]. The questionnaires were prepared in the English language. The questionnaire consisted of socio-demographic characteristics, source of information-related factors, health facility-related factors, attitude, knowledge, and practice-related factors questions. A Pre-tested structured interviewer-administered questionnaire was used for data collection purposes. The data were collected by six diploma midwives and supervised by two BSc midwives.

Data quality control

Data were collected by trained data collectors and pretesting of the instrument was done before the actual data collection. The questionnaire was pre-tested before the actual data collection period on 21 health care providers, or (5%) of the sample size at Dangila primary hospital, to assess the reliability, clarity, sequence, consistency, understandability, and the total time it takes to finish the questionnaire. Data collectors and supervisors were trained for two days by the investigator. After necessary modifications and correction was done to standardize and ensure its reliability and validity additional adjustments were made based on the results of the pre-test. The completeness of the data was checked by data collectors during data collection and daily supervision was done for data completeness by supervisors.

Data Processing, analysis, and interpretation

The data were entered into Epi data 4.2, edited and cleaned for inconsistencies, missing values, and outliers, then exported to SPSS version 25.0 for analysis. During analysis, all explanatory variables which have a significant association in bivariate analysis with a P-value <0.25 was entered into a multivariable logistic regression model to get AOR, and those variables with 95% of CI and a P-value of < 0.05 was considered as statistically significant with a favorable attitude of health care provider. The multicollinearity test was done using the variance inflation factor and there was no collinearity between the independent variables. The model goodness of the test was checked by using Hosmer- Lemeshow goodness of the fit and its P-value was 0.215. Frequency tables, figures, and descriptive summaries were used to describe the study variables.

Results

Socio-demographic characteristics of health care providers

A total of 413 health care providers participated in the study with a response rate of 99.3%. The mean age of the health care provider was 30.28 years. Of the total health care providers, 221 (53.5%) are female and 201 (48.7%) of the participants were nurses. Nearly half ($n = 204, 49.4\%$) of the health care providers had 6–10 years of work experience (Table 1).

Table 1

Socio-demographic characteristics of health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n = 413).

Variables	No. (%)
Age in years	
20–24	35 (8.5)
25–29	158 (38.3)
30–34	138 (33.4)
35–39	48 (11.6)
≥ 40	34 (8.2)
Sex of health care providers	
Female	221 (53.5)
Male	192 (46.5)
Religion	
Orthodox	343 (83.1)
Muslim	41 (9.9)
Protestant	23 (5.6)
Catholic	6 (1.4)
Marital status	
Married	281 (68.0)
Single	126 (30.5)
Others*	6 (1.5)
Profession	
Nurse	201 (48.7)
Midwives	111 (26.9)
Health officer	28 (6.7)
General practitioner	52 (12.6)
Specialists	19 (4.6)
Integrated emergency surgery officer	2 (0.5)

*Widowed and divorced, **Emergency, Neonatal intensive care unit, Recovery, and Operation room

Variables	No. (%)
Working facility	
Health center	42 (10.2)
Hospital	371 (89.8)
Working unit	
Maternal and Child Health	106 (25.7)
Outpatient department	95 (23.0)
Medical ward	54 (13.1)
Surgical ward	32 (7.7)
Pediatric ward	26 (6.3)
Gynecology ward	45 (10.9)
Others**	55 (13.3)
Work experience	
Less than 1 year	14 (3.4)
1–5 years	119 (28.8)
6–10 years	204 (49.4)
More than ten years	76 (18.4)
*Widowed and divorced, **Emergency, Neonatal intensive care unit, Recovery, and Operation room	

Knowledge Of Health Care Providers On Safe Abortion

In this study, 354 (85.7%) of the health care provider had good knowledge of abortion and 380 (92.0%) of the participants knew the definition of abortion in the Ethiopian context. Nearly 79% responded that safe abortion is the termination of pregnancy before 12 weeks of gestational age and 365 (88.4%) responded that raped women should submit evidence of rape. About 95.0% of the participants responded that medical abortion is one of the abortion methods and 306 (74.1%) responded that equipped health facilities with trained staff are authorized to perform the procedure were the place for terminating a pregnancy as permitted by the revised abortion law of Ethiopia. More than three fourth of the health care provider responded that manual vacuum evacuation, medication abortion, dilatation and evacuation, and 2nd -trimester abortion procedures have to be performed by a specialist. In our study, 376 (91.0%) of the participants responded that referral arrangement for social support and care is an integral part of overall abortion care and nearly 80.0% answered that health centers expected to give 1st -trimester safe abortion

services. Over 92.0% of the participants responded that midwives can provide education on the legal provision of safe abortion services (Table 2).

Table 2

Knowledge measuring question on safe abortion among health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n = 413).

Variables	No. (%)
Abortion in Ethiopia's context	
Before 20 weeks of gestational age	33 (8.0)
Before 28 weeks of gestational age	380 (92.0)
Best time for safe termination of pregnancy	
After 12 weeks of gestational age	87 (21.1)
Before 12 weeks of gestational age	326 (78.9)
Raped women should submit evidence of rape	
Yes	365 (88.4)
No	46 (11.6)
Women who become pregnant by incest should submit evidence	
Yes	282 (68.3)
No	131 (31.7)
The health care provider has to be secure on informed consent using a standard consent form	
Yes	331 (80.1)
No	82 (19.9)
The health care provider has to be confidential not to be disclose the information	
Yes	324 (78.5)
No	89 (21.5)
Abortion should be performed in equipped health facilities with trained staff that are authorized to perform the procedure	

Variables	No. (%)
Yes	306 (74.1)
No	107 (25.9)
Types of abortion methods	
Manual vacuum aspiration	304 (73.6)
Medical abortion	392 (94.9)
Dilatation and evacuation	153 (37.0)
Oxytocin induction	206 (49.9)
Components of safe abortion care	
Counseling	324 (78.5)
Provider partnership	148 (35.8)
Treatment of complications of unsafe abortion	361 (87.4)
Contraceptive and family planning service provision	289 (70.0)
Integration into reproductive health and other services	154 (37.3)
Manual vacuum aspiration performed by	
Specialist	374 (90.6)
Integrated emergency surgery officer	371 (85.5)
General practitioner	353 (87.4)
Health officer	269 (65.1)
Midwives	319 (77.2)
Nurses	251 (60.8)

Variables	No. (%)
Medication abortion performed by	
Specialist	380 (92.0)
Integrated emergency surgery officer	271 (65.6)
General practitioner	281 (68.1)
Health Officer	148 (35.8)
Midwives	254 (61.5)
Nurses	144 (34.9)
Dilatation and evacuation performed by	
Specialist	361 (87.4)
Integrated emergency surgery officer	186 (45.0)
General practitioner	53 (12.8)
Health Officer	30 (7.3)
Midwives	39 (9.4)
Nurses	29 (7.0)
2nd -trimester abortion procedures performed by	
Specialist	362 (87.7)
Integrated emergency surgery officer	329 (79.7)
General practitioner	326 (78.9)
Health Officer	211 (51.1)
Midwives	271 (65.6)

Variables	No. (%)
Nurses	146 (35.4)
The referral is an integral part of overall abortion care	
No	37 (9.0)
Yes	376 (91.0)
Health centers expected to give 1st -trimester safe abortion	
No	84 (20.3)
Yes	329 (79.7)
Education on laws of abortion should be given by	
Specialists	361 (87.4)
Integrated emergency surgery officer	372 (90.1)
General practitioner	353 (85.5)
Health Officer	332 (86.0)
Midwives	355 (92.3)
Nurses	266 (64.4)
Knowledge of abortion	
Good knowledge	354 (85.7)
Poor knowledge	59 (14.3)

Awareness Of Health Care Providers On The Revised Abortion Law Of Ethiopia

Regarding the revised abortion law of the country, 355 (86.0%) of the health care providers responded that rape is one of the revised laws, and overall, 301 (72.9%) had a good awareness of the revised

abortion law of the country (Fig. 1).

The Practice Of Safe Abortion Procedure

Less than half, 173 (41.9%) of the health care providers had trained on abortion, and 145 (35.1%) practiced abortion procedures. Among health care providers who have practiced abortion procedures 78 (53.8%) were currently performing the safe abortion procedure and 115 (79%) performed manual vacuum aspiration (Table 3).

Table 3
Practice of safe abortion procedure among health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n = 413).

Variables	No. (%)
Trained on safe abortion	
No	240 (58.1)
Yes	173 (41.9)
Ever practiced a safe abortion procedure	
No	268 (64.9)
Yes	145 (35.1)
If you are practicing, when did you perform (n = 145)	
I am currently working	78 (53.8)
In the last six month	22 (15.2)
In the last two years	22 (15.2)
More than two years	23 (15.9)
Types of procedure performed (n = 145)	
Manual vacuum aspiration	115 (79.3)
Medication abortion	110 (75.9)
Oxytocin induction	41 (28.3)
Dilatation and Evacuation	28 (19.3)

Reasons For Not Practicing Safe Abortion Procedures

Among health care providers who have not performed the abortion procedure, lack of training on abortion technique was responded by 233 (86.9%) of participants as a major reason for not practicing abortion

procedure and followed by personal reason 98 (36.6%) (Fig. 2).

The Attitude Of Health Care Providers Towards Safe Abortion

Overall, in this study, 290 (70.2%) of the health care provider had a favorable attitude towards safe abortion. Nearly 33.0% of the health care providers agreed that working in a facility/unit where termination of pregnancy is performed gives comfort. About, 185 (44.8%), 181 (43.8%), 219 (53.0%), 166 (40.2%), 149 (36.1%), and 202 (48.9%) of the health care providers strongly agreed that safe abortion should be performed for raped women, pregnancy because of incest, if the pregnancy endangers the health or life of the woman, women with mental disabilities, age under 18 years and in cases of fatal congenital anomaly respectively. From the total health care provider, 152 (36.8%) agreed that abortion services should be accessible under any circumstance and 159 (38.5%) agreed that abortion should be legalized further. Of the health care providers 159 (38.5%) agreed that all health care providers should be able to provide medical abortion for first-trimester pregnancy and 148 (35.8%) disagreed for all health providers should be able to provide surgical abortion for first-trimester pregnancy (Table 4).

Table 4

Attitude of health care providers towards safe abortion in public health facilities of Bahir Dar city, Northwest, Ethiopia, 2021, (n = 413).

Variables	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Having inadequate knowledge of abortion makes the women abort	38.3%	36.3%	4.1%	14.3%	7.0%
The economical constraint is one of the reasons making that women abort	41.9%	40.7%	4.6%	10.4%	2.4%
Women used abortion as a contraceptive method	30.5%	29.8%	9.9%	16.2%	13.6%
Women abort the fetus to avoid unwanted pregnancy	41.6%	40.0%	5.6%	10.2%	2.7%
Women seek abortion services for health reasons	38.3%	37.5%	5.1%	14.0%	5.1%
Women abort the fetus because of partner pressure	32.2%	32.9%	9.2%	17.2%	8.5%
Not being married is a reason for an abortion	34.1%	34.1%	8.7%	15.7%	7.3%
Working in abortion unit gives comfort	28.6%	32.7%	14.5%	18.6%	5.6%
Abortion should be performed for raped women	44.8%	39.7%	2.7%	6.3%	6.5%
Abortion should be performed for women who become pregnant because of incest	43.8%	38.5%	5.1%	7.0%	5.6%
Abortion should be performed if the pregnancy endangers the health of the woman	53.0%	38.7%	3.9%	3.4%	1.0%
Abortion should be performed for women with mental disabilities	40.2%	37.8%	6.3%	9.0%	6.8%
Abortion should be performed if she seeks and her age is under 18 years	36.1%	34.4%	7.3%	10.9%	11.4%
Abortion should be performed if the fetus has a congenital anomaly	48.9%	42.4%	3.6%	4.1%	1.0%
Abortion service should be accessible under any circumstance	16.2%	36.8%	10.7%	26.4%	9.9%
Legal/safe abortion should be legalized further	17.2%	38.5%	8.7%	25.7%	9.9%
Abortion should be legal for unplanned pregnancy	7.0%	35.6%	13.1%	31.7%	12.6%

Variables	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Performing medical abortion give comfortable than surgical abortion	11.4%	49.4%	12.1%	18.9%	8.2%
Medical abortion during 1st trimester of pregnancy should be performed by all health care provider	14.5%	38.5%	5.8%	32.2%	9.0%
A surgical abortion in 1st trimester of pregnancy should be performed by all health care providers	1.0%	26.2%	2.4%	35.8%	34.6%
Attitude towards safe abortion					
Favorable attitude	290 (70.20)				
Unfavorable attitude	123 (29.80)				

Reason For The Need For Further Legalization Of Abortion Law

In the present study, 230 (55.7%) health care providers need further legalization of the country abortion law and among them, 210 (91.3%) responded abortion is the major women's health problem in the country as their main reason (Fig. 3).

Reason For No Need For Further Legalization Of Abortion Law

About one-third (n = 147, 35.6%) of the health care providers said that no need for further legalization of the country abortion law, and their main reason was it may encourage pre/extramarital sex 118 (80.30%), and increase the numbers of unwanted pregnancy 109 (74.2%) (Fig. 4).

Factors Associated With The Attitude Of Health Care Providers Towards Safe Abortion

In bivariate analysis: age, sex, profession, working facility, work experience, working unit, training on abortion, practicing of an abortion procedure, awareness of revised abortion law of the country, need for further legalization of the country abortion law, and knowledge of abortion were significantly associated with the favorable attitude of the health care providers towards safe abortion at a P-value of < 0.25.

In a multivariable analysis health care providers who are found in the age group of 25–29, 30–34, and greater than or equal to 35 years [AOR = 3.34, 95% CI = 1.03–10.85], 4.58 [AOR = 4.58, 95% CI = 1.33–15.83], and 5.30 [AOR = 5.30, 95% CI = 1.43–19.66] respectively, male health care providers [AOR = 3.20, 95% CI = 1.55–6.60], midwives health professionals [AOR = 6.50, 95% CI = 2.40–17.44], trained health care providers on abortion [AOR = 5.09, 95% CI = 2.29–11.32], practicing abortion procedures [AOR = 2.52, 95%,

CI = 1.13–5.60], health care provider who is working at a hospital [AOR = 4.77, 95% CI = 1.53–14.91], having good knowledge of abortion [AOR = 7.35, 95% CI = 3.23–16.71], having a good awareness of the revised abortion law of the country [AOR = 6.44, 95% CI = 3.15–13.17] and need further legalization of abortion law [AOR = 11.78, 95% CI = 5.52–24.26] were significantly associated with a favorable attitude of the health care providers towards safe abortion at a P-value of less than 0.05 (Table 5).

Table 5

Logistic regression analysis for the attitude towards safe abortion among health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n = 413).

Variables	Attitude towards safe abortion		COR (95%-CI)	AOR (95%-CI)	P-value
	Favorable	Unfavorable			
Age in years					
20–24	9	26	1	1	
25–29	107	51	6.06 (2.65–13.87)	3.34 (1.03–10.85)	0.045*
30–34	110	28	11.35 (4.78–26.93)	4.58 (1.33–15.83)	0.016*
≥ 35	64	18	10.27 (4.09–25.80)	5.30 (1.43–19.66)	0.013*
Sex					
Female	135	86	1	1	
Male	155	37	2.67 (1.70–4.18)	3.20 (1.55–6.60)	0.002*
Profession					
Nurse	118	83	1	1	
Midwives	99	12	5.80 (2.99–11.25)	6.47 (2.40–17.44)	0.001*
Health officer	14	14	0.70 (0.32–1.55)	0.57 (0.17–1.99)	0.381
GP/Specialist/IESO	59	14	2.96 (1.55–5.66)	1.60 (0.60–4.25)	0.345
Working unit					
Outpatient department	46	49	1	1	
Medical ward	37	17	2.32 (1.15–6.67)	2.33 (0.80–6.79)	0.122
Surgical ward	24	8	3.20 (1.31–7.83)	2.55 (0.60–10.79)	0.202
Pediatrics ward	20	6	3.55 (1.31–9.62)	3.24 (0.74–14.23)	0.199

*Significant at a P-value of < 0.05, **Neonatal intensive care unit, Emergency, Operation room, and Recovery unit

Variables	Attitude towards safe abortion		COR (95%-CI)	AOR (95%-CI)	P-value
	Favorable	Unfavorable			
Maternal and child health	92	14	7.00 (3.51–13.98)	3.28 (0.72–14.98)	0.125
Gynecology ward	38	77	5.78 (2.35–14.24)	3.78 (0.96–14.85)	0.570
Others**	33	22	1.60 (0.82–3.13)	2.31 (0.74–7.19)	0.150
Work experience					
Less than 1 year	8	6	1	1	
1–5 years	74	45	1.23 (0.40–3.79)	2.04 (0.32–12.93)	0.451
6–10 years	149	55	2.03 (0.67–6.12)	1.49 (0.25–8.77)	0.662
More than 10 years	59	17	2.60 (0.79–8.54)	1.23 (0.18–8.28)	0.829
Working facility					
Health center	19	23	1	1	
Hospital	271	100	3.28 (1.71–6.28)	4.77 (1.53–14.91)	0.007*
Trained on abortion					
No	136	104	1	1	
Yes	154	19	6.20 (3.61–10.64)	5.09 (2.29–11.32)	0.001*
Practiced abortion procedure					
No	169	99	1	1	
Yes	121	24	2.95 (1.79–4.89)	2.52 (1.13–5.60)	0.042*
Awareness of revised law					
Poor awareness	42	70	1	1	
Good awareness	248	53	7.80 (4.81–12.66)	6.44 (3.15–13.17)	0.001*

*Significant at a P-value of < 0.05, **Neonatal intensive care unit, Emergency, Operation room, and Recovery unit

Variables	Attitude towards safe abortion		COR (95%-CI)	AOR (95%-CI)	P-value
	Favorable	Unfavorable			
Need further legalization of abortion law					
No	87	96	1	1	
Yes	203	27	8.30 (5.05–13.62)	11.78 (5.72–24.26)	0.001*
Knowledge of abortion					
Poor knowledge	19	40	1	1	
Good knowledge	271	83	6.87 (3.78–12.51)	7.35 (3.23–16.71)	0.001*
*Significant at a P-value of < 0.05, **Neonatal intensive care unit, Emergency, Operation room, and Recovery unit					

Discussion

The current study shows that 70.2% [95% CI: 65.6–74.6] of the health care providers had a favorable attitude towards safe abortion. The favorable attitude of health care providers towards safe abortion is higher than the studies conducted in East Gojjam (56.7%) [33], Addis Ababa health centers (54.1%) [36], Addis Ababa health facilities (51.8%) [20], and Adama health facilities (48.1%) [27]. The possible reasons for the better attitude of health care providers towards safe abortion in this study might be due to the time gap of the year of the studies. Similarly, it is also higher than studies conducted in Zambia (21.4%) [30], Uganda 48% [23], Jamaica (64%) [37], Bengal, India (61.9%) [38], India (40%) [39] and Iran 13.1% [40]. The possible reason might be the difference in the place of residence and the socio-demographic characteristics of the study population.

However, the attitude of health care providers towards safe abortion is lower than a study conducted in Mekelle shows that 95% of respondents have a favorable attitude towards safe abortion [41]. The possible reason for this discrepancy might be the working area of the health care providers. The study done in Mekelle included only health care providers who are working in the hospital, while our study includes health care providers who are working in hospitals and health centers. As seen in our study, among health care providers who are working in the hospital, 73% have a favorable attitude towards safe abortion and only 45.0% of the health care providers working in health center had a favorable attitude.

In this study, socio-demographic characteristics, knowledge, and practice-related factors were significantly associated with a favorable attitude of health care providers towards safe abortion.

Health care providers who are found in the age group of 25–29, 30–34, and greater than or equal to 35 years were 3.34, 4.58, and 5.30 times more likely to have favorable attitudes towards safe abortion respectively. This finding is in line with studies conducted in different parts of Ethiopia [27, 33]. This finding of this study is also supported by studies conducted in Nigeria and Ghana [42], Zimbabwe, Uganda, Zambia, and Chile [23, 29, 30, 43]. The possible reason might be those who are found in the age group above 25 years may have more work experience and this could increase their chance of developing a favorable attitude towards safe abortion. There is a supporting report from studies conducted in Mekelle, Asella, and Uganda, which show that health care providers who had more experience in work had a favorable attitude towards safe abortion [23, 41, 44].

Male health care providers were 3.20 times more likely to have a favorable attitude towards safe abortion. This study finding is in line with studies conducted in Addis Ababa health centers and Chile [36, 43]. The possible reason might be, as we know female health care providers are also part of the general population and they may encounter abortion in their life. Because of this, they may have more understanding of abortion and its complications than males, additionally, as a mother, they may want to continue the pregnancy rather than abort it. Thus, all this might make them have a less favorable attitude towards abortion than male health care providers. On the other hand, the finding of this study disagrees with the studies conducted in South Africa, Uganda, and Zambia showing that female health care providers had a favorable attitude towards safe abortion [23, 30, 45]. The reason might be value clarification and sensitization among female health care providers.

Midwives were 6.49 times more likely to have a favorable attitude towards safe abortion. This finding agreed with another study [36]. This may be due to midwives' daily activity being with the maternal side, which may help them to have a better understanding related to abortion. Workings in the hospital were increasing the odds of having a favorable attitude toward safe abortion by 4.77 times. This finding is in line with a study conducted in east Gojjam [33]. The possible reason for this might be health care providers who are working in hospitals could have a high chance of getting adequate and functional equipment for abortion procedures relative to those who are working in health centers. There is a supporting report from studies conducted in Adama and Mekelle shows that the presence of adequate and functional equipment in the facility is positively associated with the attitude of health care providers towards safe abortion [27, 41].

Having trained on abortion was increasing the odds of having a favorable attitude towards safe abortion by 5.09 times. This finding is congruent with another study [33]. The possible reason might be that trained personnel may be more aware of the benefit and revised legal abortion laws of the country than those who are not trained. As well as, because of having the training they are maybe certified and value verified, thus may increase their chance of having a favorable attitude towards safe abortion. Practicing abortion procedures was increasing the odds of having a favorable attitude towards safe abortion 2.52 times. This finding was supported by another study [20]. The possible reason for this might be that health care providers who practiced/performed abortion procedures may have a high chance of getting information about abortion and it may make them have a favorable attitude towards safe abortion.

Health care providers who had a good awareness of the revised abortion law of Ethiopia were 6.44 times more likely to have a favorable attitude toward safe abortion. This finding is supported by a study conducted in Addis Ababa that shows that providers who know the law governing abortion were more likely to have a favorable attitude than those who lack this knowledge [20]. Those who need further legalization of abortion law were 11.78 times more likely to have a favorable attitude. It is consistent with studies conducted in East Gojjam and Adama [27, 33]. The reason may be those health care providers who know the present revised abortion law have a positive outcome and because of this, they may want to have an additional law that will strengthen the present law.

Health care providers who had good knowledge of safe abortion were 7.35 times more likely to have a favorable attitude towards safe abortion. This finding is consistent with studies conducted in East Gojjam [33], Asella [44], South Africa [46], and Nepal [47]. The possible reason might be those health care providers who had good knowledge of abortion, might know the benefits of performing safe abortion procedures for the health of the women as well as for the general population.

Limitations Of The Study

The limitation of this study was the exclusion of private clinic health care providers.

Conclusion And Recommendation

In our study, health care providers who had a favorable attitude towards safe abortion were higher compared to the majority of the studies conducted in different parts of Ethiopia. Age greater than 25 years, male sex, midwives profession, working at the hospital, having abortion training, practicing abortion procedure, having a good awareness of the revised abortion law of the country, need of further legalization of the country abortion law and having good knowledge of abortion were predictors of favorable attitude towards safe abortion. Access to training and further opportunities for health care providers to attend onsite values clarification workshops and safe abortion training needs to be encouraged and strengthened. It is better to consider the need for sensitization for health care professionals about safe abortion and to create a safe/comfortable environment to perform the safe abortion. In general attitude, transformation is a key intervention to help improve the attitude of health care providers, especially those working in reproductive healthcare points including termination of pregnancy when medically indicated.

Abbreviations

AOR
Adjusted Odd Ratio
CI
Confidence Interval
COR

Crude Odd Ratio

WHO

World Health Organization

Declarations

Ethical Approval and consent to participate

Ethical clearance was obtained from the Institutional Review Board of Bahir Dar University, College of medicine and health sciences. Further approval was also granted from Amhara public health institutions and respective health facilities. The purpose of the study was explained to each health care provider. At the time of data collection, written consent was obtained from each study participant. All respondents were assured that the data would not have any negative consequences on any aspect of their life.

Consent for publication

Not applicable

Conflicts of Interest

The author declares that they have no conflict of interest regarding this work or the publication of this paper.

Authors' Contribution

AT, AM, and MB were responsible for the conception of the research idea, study design, data collection, analysis and interpretation, and supervision. AT, WF, FA, AT, and AA participated in the data collection, entry, analysis, and manuscript write-up. All authors have read and approved the final manuscript.

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Data availability statement

All related data have been presented within the manuscript. The data set supporting the conclusion of this article is available from the corresponding author upon reasonable request. Wondu Feyisa:

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References

1. Wilkins., L.W., The Johns Hopkins Manual of Gynecology and Obstetrics (4 ed.). Archived from the original on September 10, 2017, 2012(ISBN 9781451148015.): p. pp. 438–439.
2. Ganatra, B., et al., From concept to measurement: operationalizing WHO's the definition of unsafe abortion. 2014, SciELO Public Health.
3. Ababa, A., Federal Democratic Republic of Ethiopia central statistical agency population projection of Ethiopia for all regions at Wereda level from 2014–2017. Addis Ababa: Central Statistical Agency, 2014.
4. Dictionaries., A.n.O.L., The deliberate termination of a human pregnancy, most often performed during the first 28 weeks of pregnancy. Archived from the original on 28 May 2018. Retrieved 8 June 2018. [mass noun]
5. Paul, M., et al., Management of unintended and abnormal pregnancy: comprehensive abortion care. 2011: John Wiley & Sons.
6. Organization, W.H., Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group, and the United Nations Population Division. 2019.
7. Singh, S., et al., Abortion worldwide: a decade of uneven progress. 2009, Guttmacher Institute.
8. FREDRICK, B., et al., Induced abortion: estimated rates and trends worldwide. Commentary. *Lancet* (British edition), 2007. **370**(9595).
9. Abdella, A., Maternal mortality trend in Ethiopia. *Ethiopian Journal of Health Development*, 2010. **24**(1).
10. Fawcus, S.R., Maternal mortality and unsafe abortion. *Best practice & research Clinical obstetrics & gynecology*, 2008. **22**(3): p. 533–548.
11. Ipas, Facts about Abortion.. (2010).
12. Tesfaye, G., M.T. Hambisa, and A. Semahegn, Induced abortion and associated factors in health facilities of Guraghe zone, southern Ethiopia. *Journal of pregnancy*, 2014. **2014**.
13. Gebreselassie H, F.T., Singh S, Abdella A, Gebrehiwot Y, Tesfaye S, et al., Caring for women with abortion complications in Ethiopia: national estimates and future implications.. *Int Perspect Sex Reprod Health.*, 2010;. **36**(1):: p. 6–15.
14. Bayeh, E., Human Rights in Ethiopia: An Assessment on the Law and Practice of Women's Rights. *Humanities and Social Sciences*, 2015. **3**(2): p. 83–87.
15. Del Barco, R., Monitoring birth preparedness and complication readiness. Tools and indicators for maternal and newborn health. Baltimore, MD: Jhpiego, 2004.
16. Ababa, A., Federal democratic republic of Ethiopia ministry of health. Ethiopia: Postnatal Care, 2003.

17. Ulrika Rehnström Loi, K.G.-D., Elisabeth Faxelid, and Marie Klingberg-Allvin, Health care providers' perceptions of and attitudes towards induced abortions in sub-Saharan Africa and Southeast Asia: a systematic literature review of qualitative and quantitative data Rehnström Loi et al. *BMC Public Health* DOI 10.1186/s12889-015-1502-2, (2015). **15**: p. 139
18. Holcombe, S.J., A. Berhe, and A. Cherie, Personal beliefs and professional responsibilities: Ethiopian midwives' attitudes toward providing abortion services after a legal reform. *Studies in family planning*, 2015. **46**(1): p. 73–95.
19. Iyengar, K., et al., "Who Wants to Go Repeatedly to the Hospital?" Perceptions and Experiences of Simplified Medical Abortion in Rajasthan, India. *Global qualitative nursing research*, 2016. **3**: p. 2333393616683073.
20. Abdi, J. and M.B. Gebremariam, Health providers' perception towards safe abortion service at selected health facilities in Addis Ababa. *African Journal of Reproductive Health*, 2011. **15**(1).
21. Revised technical and procedural guidelines for safe abortion in Ethiopia, 2014.
22. Chaturachinda, K. and N. Boonthai, Unsafe Abortion: an Inequity in Health Care, Thailand Perspective. *Journal of Population and Social Studies [JPSS]*, 2017. **25**(3): p. 287–297.
23. Pebalo, F.P., A.A. Grace, and O.J. Henry, Healthcare providers' practice and attitude towards abortion service provision in Gulu city, Northern Uganda. 2020.
24. Lamina., M.A., Health care providers' attitudes towards termination of pregnancy: A qualitative study in Western Nigeria. (<http://www.scirp.org/journal/ojog/>) *Open Journal of Obstetrics and Gynecology*, 2013, p. 400–410.
25. Chaturachinda, K., Unsafe abortion in Thailand: Roles of RTCOG. *Thai Journal of Obstetrics and Gynaecology*, 2014: p. 2–7.
26. Praditpan, P. and K. Chaturachinda, Doctors must heed abortion needs. *Bangkok Post*, 2016: p. 10.
27. Sintayehu, Y., B. Hordofa, and K. Shiferaw, Health care providers' perception and associated factors towards safe abortion in selected health facilities in Adama, Ethiopia. *J Women's Health Care*, 2018. **7**(428): p. 2167–0420.1000428.
28. Tadesse, Z., et al., Assessment of Health Care Providers' Attitude and Associated Factors to Wards Safe Abortion at Public Hospitals, in Mekelle City, Tigray, Ethiopia; A Cross-Sectional Study. 2014.
29. Madziyire, M.G., et al., Knowledge and attitudes towards abortion from health care providers and abortion experts in Zimbabwe: A cross-sectional study. *The Pan African Medical Journal*, 2019. **34**.
30. Mukanga, B., et al., knowledge, attitude and practice towards unsafe abortions among tertiary education female students in Kitwe, Zambia.
31. Gizaw, G.D., Z.A. Alemu, and K.T. Kibret, Assessment of knowledge and practice of health workers towards tuberculosis infection control and associated factors in public health facilities of Addis Ababa, Ethiopia: A cross-sectional study. *Archives of public health*, 2015. **73**(1): p. 1–9.
32. Thomas G, G.T., Abeshu MA, Geleta B., Assessment of knowledge, attitude and practices regarding medication abortion among regular undergraduate female students in College of Social Sciences

- Addis Ababa University, Ethiopia.. *Adv Pharmacoepidemiol Drug Saf.*, 2016;. **5(199)**:: p. 2167–1052.
33. Abebe, M., assessment of health care providers attitude and associated factors towards safe abortion care at public institutions in East Gojjam, Amhara, Ethiopia, cross-sectional studies, 2015.
 34. Mekonnen, B.D. and C.A. Wubneh, Knowledge, Attitude, and Associated Factors towards Safe Abortion among Private College Female Students in Gondar City, Northwest Ethiopia: A Cross-Sectional Study. *Advances in preventive medicine*, 2020. **2020**.
 35. Organization., W.H., The prevention and management of unsafe abortion. Report of. Technical Working Group. http://whqlibdoc.who.int/hq/1992/WHO_MSM_92.5.pdf.
 36. Assefa, E.M., Knowledge, attitude, and practice (KAP) of health providers towards safe abortion provision in Addis Ababa health centers. *BMC Women's Health*, 2019. **19**: p. NA.
 37. Matthews, G., et al., Abortion attitudes, training, and experience among medical students in Jamaica, West Indies. *Contraception and reproductive medicine*, 2020. **5**: p. 1–7.
 38. Soupik, P., Availability, utilization and health providers' attitudes towards safe abortion services in public health facilities of South 24 Parganas, West Bengal. 2015, Sctimst.
 39. Sunita, C., attitudes of obstetrics & gynecology professionals towards the provision of medical termination of pregnancy and emergency contraception pill services in south Kerala, India. 2012, Sctimst.
 40. Romina, S., et al., Relationship of Knowledge and Attitude Towards Legal Abortion Laws with the Performance of Midwives in Qazvin, Iran. *Health, Spirituality and Medical Ethics*, 2019. **6(2)**: p. 17–23.
 41. Zaid Tadesse ABK, W.T.K.K.B., Assessment of Health Care Providers' Attitude and Associated Factors to Wards Safe Abortion at Public Hospitals, in Mekelle City, Tigray, Ethiopia; A Cross-Sectional Study.. *Global Journal of Medical Research: Gynecology and Obstetrics.*, 2014;. **14**: p. (3).
 42. Dim., I.A.-A.a.E.E., Justification of Abortion in West Africa and Interplay of Sociodemographic Predictors: A Comparative Study of Ghana and Nigeria, *SAGE Open*, January-March 2019:: p. 1–9.
 43. Biggs, M.A., et al., Future health providers' willingness to provide abortion services following decriminalization of abortion in Chile: a cross-sectional survey. *BMJ Open*, 2019. **9(10)**: p. e030797.
 44. Kalayu I, e.a., Assessment of Knowledge, Attitude, and Practice of Health Workers towards Safe Abortion Care Services at Asella Referral and Teaching Hospital, Central Ethiopia.. *Women's Health Sci J* 2019, **3(1)**(: 000125.).
 45. Harries, J., et al., Conscientious objection and its impact on abortion service provision in South Africa: a qualitative study. *Reproductive health*, 2014. **11(1)**: p. 16.
 46. Harries, J., K. Stinson, and P. Orner, Health care providers' attitudes towards termination of pregnancy: A qualitative study in South Africa. *BMC public health*, 2009. **9(1)**: p. 1–11.
 47. Puri, M., et al., “Sometimes they used to whisper in our ears”: health care workers' perceptions of the effects of abortion legalization in Nepal. *BMC Public Health*, 2012. **12(1)**: p. 1–9.

Figures

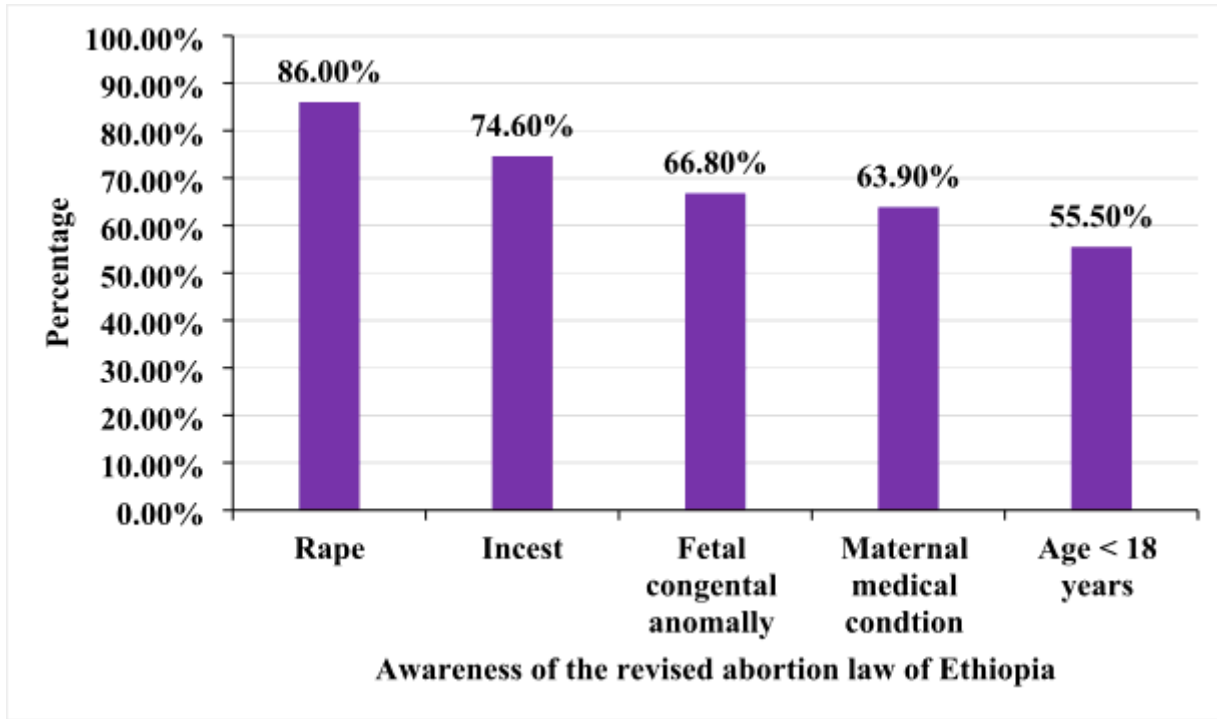


Figure 1

Awareness of the revised abortion law of the country among health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n=413)

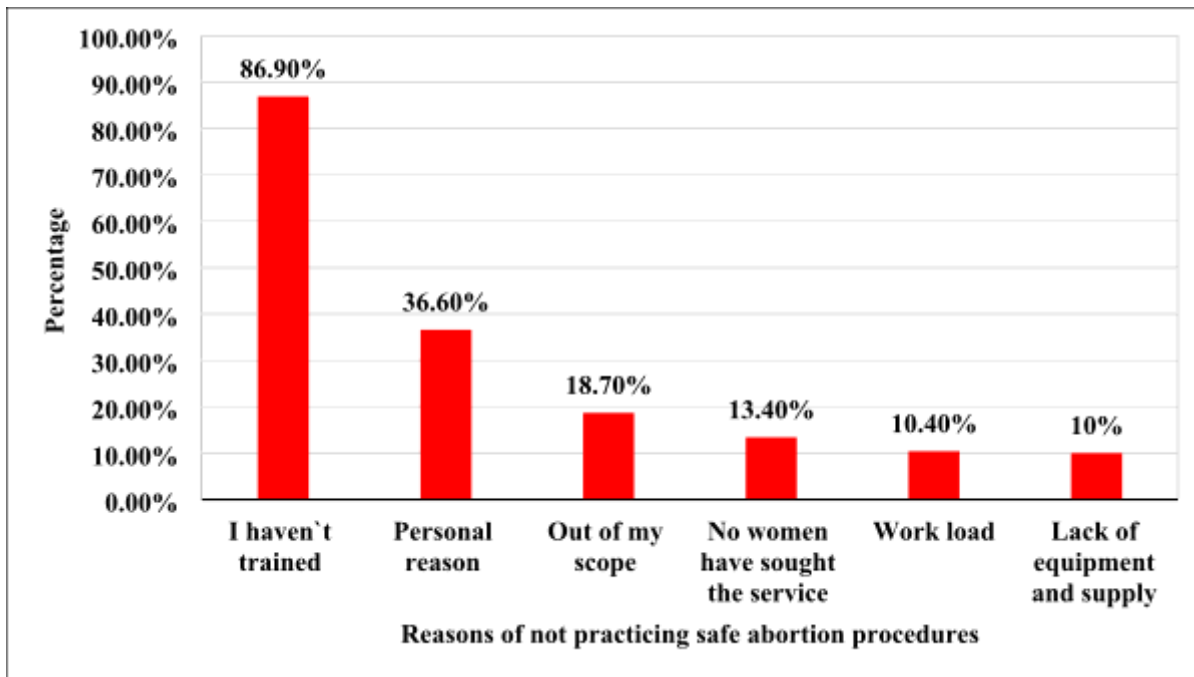


Figure 2

Reason for not practicing/performing abortion procedures among health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n=268)

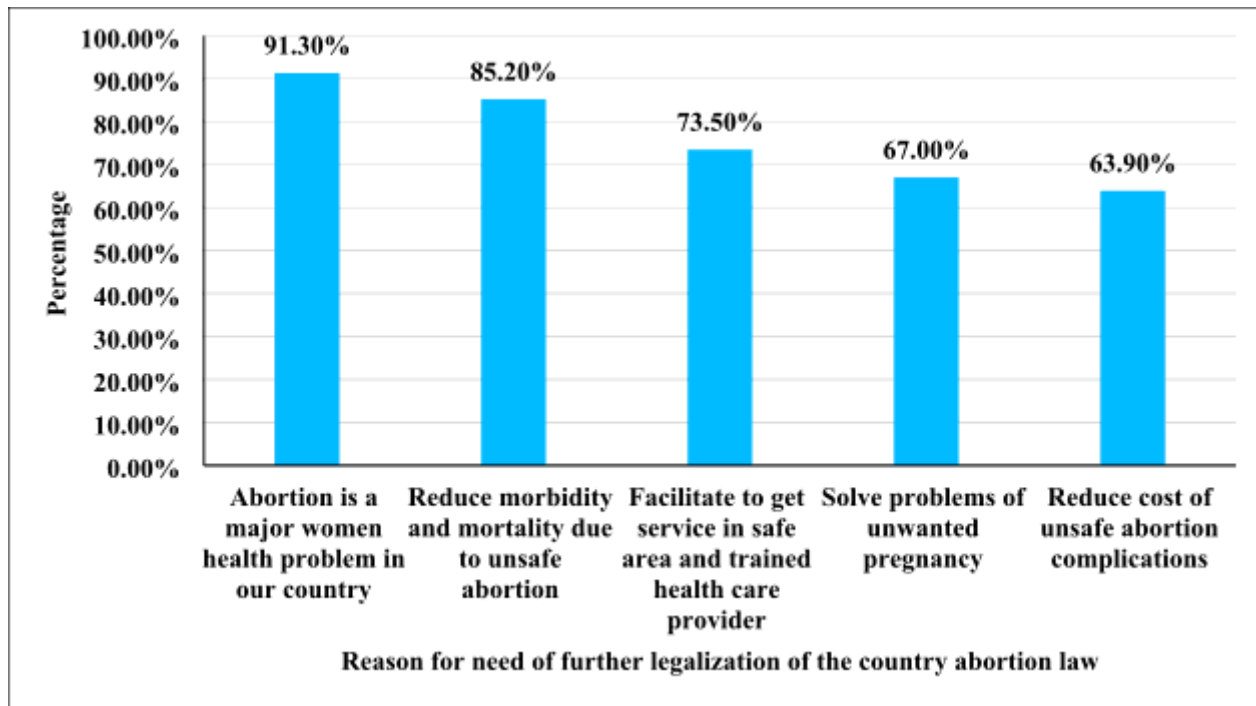


Figure 3

Reason for the need for further legalization of the country abortion law among health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n=230)

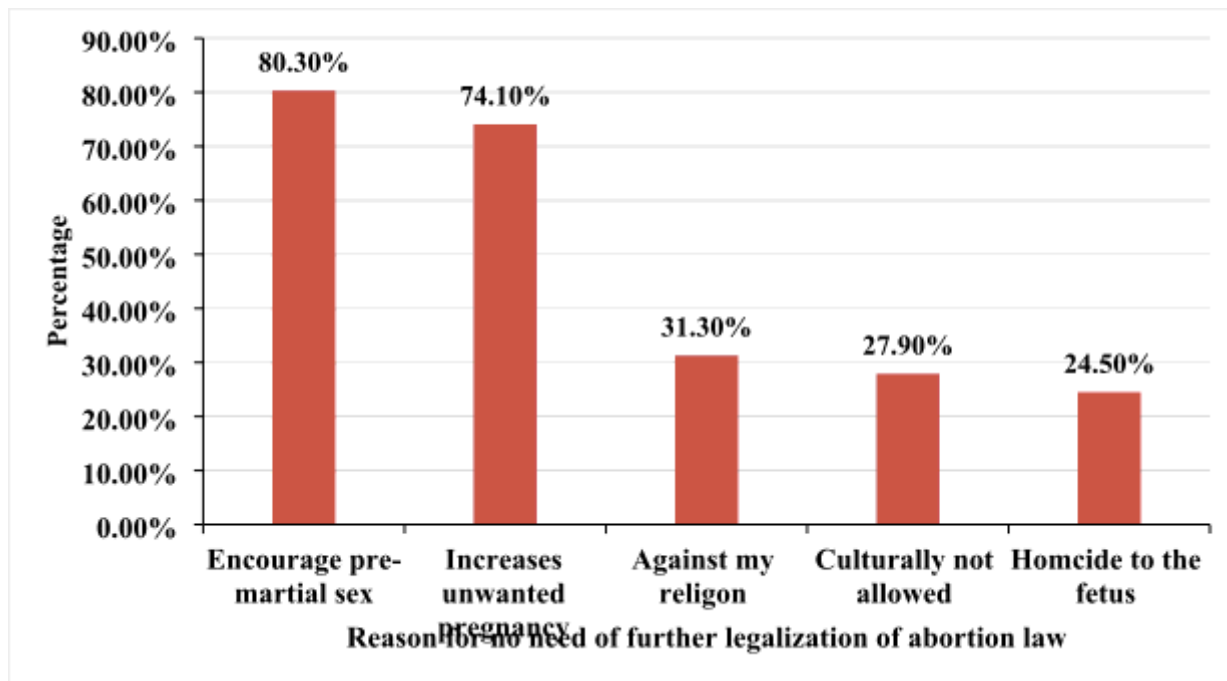


Figure 4

Reason for no need for further legalization of the country abortion law among health care providers in the public health facilities of Bahir Dar city, North-west, Ethiopia, 2021, (n=147)