

ORIGINAL RESEARCH ARTICLE

Interface of perceived self-efficacy on safe abortion and lived experiences among women of reproductive age in Wolaita Zone, Ethiopia: A community based cross-sectional study

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Abstract

Low self-efficacy related to reproductive health care seeking is an area of concern that may lead women to access unsafe abortion in developing regions. There is limited data on self-efficacy on specific health care services, such as safe abortion, in Ethiopia. A cross-sectional study employing mixed methods was conducted from February to May 2024 among 815 systematically sampled and 14 purposely selected participants to assess the perceived self-efficacy on safe abortion among women of reproductive age in Wolaita zone. Logistic regression was computed to identify the associated factors, while the qualitative data were analyzed thematically to triangulate with quantitative findings. The results show that only one-third of participants had high self-efficacy on safe abortion. Being employed, receiving information from the media, believing abortion to be legal among unmarried women, knowing someone who has induced an abortion, and having favorable attitudes toward abortion were identified as associated self-efficacy factors. These findings enhance our understanding of activities to improve self-efficacy on abortion care and warrants further research to deepen an understanding of the socio-cultural determinants. (*Afr J Reprod Health* 2025; 29 [9s]: 146-161).

Keywords: Perceived efficacy; reproductive health; abortion care; mixed-methods study Ethiopia

Résumé

Le faible sentiment d'efficacité personnelle lié au recours aux soins de santé reproductive est un sujet de préoccupation qui peut conduire les femmes à recourir à des avortements non sécurisés dans les régions en développement. Les données sur le sentiment d'efficacité personnelle concernant des services de santé spécifiques, tels que l'avortement sécurisé, sont limitées en Éthiopie. Une étude transversale utilisant des méthodes mixtes a été menée de février à mai 2024 auprès de 815 participantes échantillonnées systématiquement et de 14 participantes sélectionnées à dessein afin d'évaluer le sentiment d'efficacité personnelle perçu concernant l'avortement sécurisé chez les femmes en âge de procréer dans la zone de Wolaita. Une régression logistique a été effectuée pour identifier les facteurs associés, tandis que les données qualitatives ont été analysées thématiquement afin de les comparer aux résultats quantitatifs. Les résultats montrent que seul un tiers des participantes présentaient un sentiment d'efficacité personnelle élevé concernant l'avortement sécurisé. Le fait d'avoir un emploi, de recevoir des informations par les médias, de croire que l'avortement est légal pour les femmes célibataires, de connaître une personne ayant provoqué un avortement et d'avoir une attitude favorable à l'avortement ont été identifiés comme des facteurs associés au sentiment d'efficacité personnelle. Ces résultats améliorent notre compréhension des activités visant à améliorer l'auto-efficacité en matière d'avortement et justifient des recherches plus approfondies pour approfondir la compréhension des déterminants socioculturels. (*Afr J Reprod Health* 2025; 29 [9s]: 146-161).

Mots-clés: Efficacité perçue, santé reproductive, avortement, étude à méthodes mixtes, Éthiopie

Introduction

Self-efficacy is the capability of individuals to exercise control over challenging demands and their own functioning. It refers to the individual belief or assessment of one's ability to cope with a particular situation.^{1,2} It is one of the essential elements of

successful behavior change along with knowledge, skill-building, and motivation. It is a mediator of behavior change between knowledge and health behavior, and is very important in sexual and reproductive health issues.^{3,4} Safe abortion self-efficacy refers to a woman's confidence in her ability to seek safe abortion services when desired.⁵

Available evidence indicates that self-efficacy is an important factor for the effective utilization of general and reproductive health services. The level of self-efficacy among a population has been shown to be a predictor of health behaviors and healthcare utilization.⁶ Several studies suggest that self-efficacy is associated with the ability to negotiate sexual relations, resist to peer pressure to engage in unwanted sexual intercourse, as well as avoidance of risky sexual behaviors.^{5,7} A high level of perceived self-efficacy among women increased their intention to reject myths and use important sexual and reproductive health services. Studies also revealed that women with higher self-efficacy exhibited higher likelihood of seeking sexual and reproductive health services like family planning methods and condom use.⁸⁻¹²

Researchers have posited that self-efficacy may be associated with present and future decisions to seek safe abortion services.^{5,7} According to Bandura's social cognitive theory, self-efficacy is mainly influenced through four mechanisms: (1) Through self-experiences: women who have undergone abortion in the past successfully may be more confident in their abilities to seek the procedure in the future. (2) Through vicarious experiences: a woman who observes similar women undergo an abortion successfully may have a stronger belief in her own ability to do so. (3) Social persuasion: when women are persuaded (e.g., higher education, encouraging environments, encouragement from others) to possess the necessary abilities to succeed, they are more likely to develop stronger beliefs in their own situation. (4) Emotional and psychological states: related to the presence of partner support, religious and cultural surroundings, among others.^{13,14}

An abortion self-efficacy study conducted in Ghana revealed that less than a quarter of women, (24% of participants) had self-efficacy in abortion decision-making. According to the studies, women with higher levels of abortion self-efficacy are more likely to seek safer abortion methods, indicating a correlation between abortion self-efficacy and women's abortion behaviors. The studies found that exposure to mass media, older age, educational level, income and being with sexual partner show higher odds of influence on self-efficacy in abortion decision-making among women.^{5,7}

In addition, a study conducted across three countries, Bolivia, Nigeria, and Nepal women who had positive experiences with abortion—including knowing where to get information, helping others access services, and seeing positive community messages—reported significantly higher self-efficacy scores. This suggests that positive engagement with abortion services and community support can boost a woman's sense of personal empowerment in seeking a safe method of abortion.¹⁵

Despite the existence of some studies assessing self-efficacy towards safe abortion in other settings, no studies, to the best of our knowledge, have examined the factors influencing self-efficacy towards safe abortion among women in Ethiopia. Ethiopian abortion law is relatively liberal when compared to other East African countries.¹⁶ In Ethiopia, abortion is legal when the pregnancy is the result of rape or incest; pregnancy endangers the woman's life or health; in the case of fetal abnormalities; physically or mentally disability in the pregnant woman; or if the woman is physically or psychologically unprepared to raise a child due to her young age. Following the revision of the technical guideline on safe abortion, there was a progressive expansion of health facilities eligible to provide legal abortion services and increased service availability in Ethiopia.¹⁷

Despite these efforts to expand safe abortion services in Ethiopia, studies from across the country have shown that significant proportions of women still practice unsafe abortion due to various reasons. These studies identified a lack of knowledge of safe abortion services and policy, religious and cultural taboos toward safe abortion, the stigma of unplanned pregnancy, negative attitudes towards safe abortion, a lack of community support, expensive services and lack of transportation means and decision ambivalence as the major reasons.¹⁸⁻²² We hypothesize that low self-efficacy may be a key factor associated with the continued prevalence of unsafe abortion in Ethiopia.

This study aimed to address a knowledge gap by assessing the interface of perceived self-efficacy on safe abortion and the lived experiences of women in the Wolaita Zone of Ethiopia. The findings will provide the first empirical evidence on this topic, offering key insights for stakeholders

like policymakers and healthcare providers to design targeted interventions and supportive care that ultimately empower women to exercise their right to legal abortion services confidently and safely.

Methods

Study area, period and design

This study took place in Wolaita Zone, Ethiopia, from February to May 2024. The capital of the Wolaita Zone, Wolaita Sodo, is located approximately 314 km south of Ethiopia's capital, Addis Ababa. Approximately 2.2 million people live in the Wolaita Zone.²³ The zone has 7 hospitals and 68 health centers mandated to provide sexual and reproductive health care services, including safe abortion care. The study employed a cross-sectional, mixed-methods design, combining both quantitative and qualitative data collection.

Study sample

All women of reproductive age (WRA; 15-49 years) residing in Wolaita zone for at least six months were the source population. Women who reported having a history of induced abortion in the previous five years in the quantitative survey formed the study population for the qualitative portion of the study.

Based on a single population proportion formula, the sample size for the quantitative study was calculated to be 845 women. This calculation assumed a 50% proportion of perceived self-efficacy on safe abortion due to the lack of similar studies in Ethiopia, a 95% confidence level, a 5% margin of error, a design effect of 2, and a 10% non-response rate. Keeping the idea of saturation in place, 14 women who underwent either safe or unsafe abortion participated in the qualitative part.

To draw our sample, seven districts in Wolaita area were selected by lottery method. Then 30% of kebeles (the lowest administrative unit in Ethiopia) in the selected districts were selected. The total sample size was proportionally allocated among the respective selected districts. Households (HH) with women of reproductive age in the selected kebeles were identified. Then households were then selected using a systematic sampling technique with an interval of every 6 households (HH with WRA: 5276; SS: 815). In cases where two or more eligible

women residing in the same household, one was randomly selected via lottery method. During quantitative data collection, women were asked if they had undergone induced abortion and those women were then invited to partake in the qualitative portion of the study. In case participants felt insecure at home during the in-depth interview, a safe place away from their home (e.g. Health Post, Kebele Office) was arranged.

Data collection tool and procedure

Quantitative: data was collected using an interviewer administered structured questionnaire developed in English after informed by existing literature and validated, and pre-tested to ensure its reliability and validity.^{10,11,24-26} The tool has the following sections: Socio-economic and demographic characteristics, knowledge on safe abortion, individual characteristics, attitude towards safe abortion, and the Perceived Abortion Self-Efficacy Scale.^{15,27} Seven health professionals with Masters of Public Health in Reproductive Health were recruited as data collectors and trained on the tool. The data collection took 15-20 minutes to finish the interview.

Qualitative: data was collected by two of the lead investigators and assisted by two of the quantitative data collectors, using an in-depth interview guide. The two research team members interviewed participants to learn about their experiences with abortion. The interviews were open-ended and focused on three main areas: how a past abortion affected their confidence in getting safe care in the future, how things like culture, religion, and money influenced their choices, and how other people's stories about abortion shaped their own confidence. And the interview took 30-50 minutes. Research assistants were responsible for the logistics of the study, including scheduling interviews and managing the consent forms. During the interviews, research assistants served as dedicated note-takers to capture non-verbal communication and contextual details. They were also responsible for transcribing audio recordings, ensuring accurate and timely conversion of the qualitative data for analysis.

Measurements and definition of terms

Self-efficacy: Perceived Abortion Self-Efficacy (PASE) was assessed using a 15-item scale adapted

from Ipas's Abortion Self-Efficacy Scale (ASES) developed across diverse contexts (Bolivia, Nepal, Nigeria), measures individual confidence in performing specific tasks related to accessing safe abortion.^{15,27} Each scaled between 0 and 10, with 0 being not at all confident and 10 being completely confident. As an introductory question, participants were asked: "How confident do you feel in your ability to do the following tasks?" followed by statements like "Talk with someone close to you about having an abortion". Participants rated their confidence on a 0-10 scale assisted by paper visual aid, with higher scores indicating greater confidence [S1 Figure]. The scale demonstrated high internal consistency (Cronbach's alpha = 0.93) and acceptable criterion validity (Pearson's correlation coefficient > 0.3). Scores were categorized into four levels: no confidence (0-1), low confidence (2-4), moderate confidence (5-7), and high confidence (8-10).²⁷ To facilitate regression analysis, confidence scores were dichotomized into "high confidence" (scores 8-10) and "not high confidence" (scores 0-7).

Knowledge on safe abortion: women were asked 13 questions about where, how, and under what circumstances women in Ethiopia can seek safe abortion. Each correct response earned one point if selected and zero for not selected. Scores were summed to provide a composite score. Then, the participants who scored greater than or equal to 60% of the knowledge questions (8 questions out of 13) were considered as having "good knowledge" and those who scored less than 60% were considered as having "poor knowledge". Studies used this cut point to measure knowledge on safe abortion in Ethiopia.²⁸

Attitude towards safe abortion: attitudes towards abortion were assessed using an 11 items set in 5 Likert scales each ranging from "1=strongly disagree to 5=strongly agree". Participants indicated their agreement with each statement, with higher scores reflecting more favorable attitude. A high score on this scale indicates a more favorable attitude towards safe abortion. A composite score was calculated, and respondents were categorized as having "favorable" or "unfavorable" attitudes based on whether their score was above or below the mean, respectively that aligns with previous studies in Ethiopia.^{28,29}

Household Wealth Index: assessed using 31 household characteristics taken from the Demographic and Health Surveys (DHS).³⁰ These household characteristics were dichotomized and analyzed using principal component analysis (PCA). Variables with communality values exceeding 0.5 were retained to generate factor scores. The sum of these scores was used to rank households into five wealth quintiles: poorest, poor, medium, rich, and richest.³¹

Data quality control

The questionnaire was first prepared in English then translated into Wolaita Donna and then translated back into English to ensure consistency. The quantitative tool was pretested on 5% of the sample in one of the districts not selected for the actual data collection and amendments were made based on the feedback from the data collectors. Data collectors and supervisors were trained over a period of two days on both data collection tools, procedure, how to approach the study participants and how to handle the data. Supervisors followed the data collection process on a daily basis while the principal investigator oversaw research activities. During qualitative data collection, data collectors and the study team met regularly to discuss progress. All interviews were audio recorded and transcribed verbatim. Transcripts were regularly reviewed to assess saturation, and virtual notes and audio were retained.

Data processing and analysis

Quantitative data was collected using KoboToolBox and exported to SPSS version 25 for analysis. Descriptive statistics of variables were computed using summary measures such as frequency, percentages and mean to characterize the study population.

Bivariate logistic regression was carried out to identify the candidate variables for multivariable logistic regression analysis. Before multivariable analysis, multi-collinearity tests were run to assess the correlation between independent variables using variance inflation factor (VIF: 1.89). Variables with P-value ≤ 0.2 during the bivariate analysis were taken into the multivariable model to control for all possible confounders. Model fitness was checked

via Hosmer-Lomeshow goodness-of-fit test ($P: 0.086$). The results of multivariable logistic regression analysis are presented using adjusted odds ratio with 95% confidence intervals.

The interviews from the qualitative portion of the study were read and reread, coded using OpenCode v4.03 with a priori and emergent codes, and codebook developed for main emerging themes and thematic analysis applied. The results were triangulated with the quantitative data supported with the verbatim quote of the participants.

Ethical approval

This study was approved by the Institutional Review Board (IRB) of Wolaita Sodo University (Ref. No: WSU41/41/476). Participants provided verbal informed consent, with assent obtained from minors with the IRB approval. Verbal permission was obtained for audio recording of interviews. All data were de-identified and securely stored, with access restricted to the lead author. Interviews were conducted in private settings. The study adhered to the principles of the Declaration of Helsinki.

Results

Socio-demographic characteristics

A total of 815 women of reproductive age participated in the study, representing a response rate of 96.5%. The mean age of the participants was 25.9 ± 6.5 and about one-third of participants (245; 30.1%) were between the ages of 25 and 29 years. Participants had largely completed primary education (39.9%), lived in urban or semi-urban settings (59.0%), Protestant (72.9%), engaged in self-business (30.9%), and were married (75.1%) (Table 1).

Experiences and knowledge of safe abortion

One-fifth of participants (20.5%) reported that they know someone who has induced an abortion, among which one-third (35.0%) identified this person as a close friend. Regarding previous pregnancies, 21.1% of all participants had a history of unwanted pregnancy out of which 20 (2.5%) ended in an induced abortion and about 9 (45.0%) of the induced abortions took place outside of health facilities (Table 2)

Even though slightly less than half of the total participants (47.6%) ever received sexual and

reproductive health-related education, only 4.5% of this study's participants have good knowledge regarding safe abortion. Less than half of participants reported that they have heard about safe abortion (48.2%) while 23.7% had heard about the abortion law in Ethiopia. The most widely known legal condition for abortion among participants was risk to life or health of the woman or fetus (33.0%), followed by rape or incest (28.7%). Nonetheless, more than one-third of study participants (39.9%) believed abortion not to be allowed for any reason (Table 2).

The majority of respondents reported friends as their primary source of information about safe abortion (51.7%), followed by health workers (50.1%). Regarding information on Ethiopian abortion law, friends were also the most cited source (45.6%), followed by health workers (40.9%) [S2 Figure]

SRH: sexual and reproductive health; SA: safe abortion; a: Coca-Cola, herbals, injections; *: Correct response for knowledge on SA; NB: Percentages for some cells exceed 100% due multiple choices and denominators vary for different measurements due to skip patterns and random missing

Attitudes towards safe abortion

Among study participants, less than half (44.9%) expressed a favorable attitude towards safe abortion. A majority of participants strongly disagreed with specific statements regarding safe abortion. A majority (68.8%) of study participants strongly disagreed with the statement that abortion is a norm in society and 58.2% strongly disagreed with the statement that elective abortion should be legal and accessible under any circumstance. However, other statements had broader agreement: about 40% of study participants strongly agreed that safe abortion services should be available at health facilities and 34.4% strongly agreed that safe abortion is acceptable to protect the woman's life or in case of fetal anomaly.

Prevalence of self-efficacy on safe abortion

Approximately one-third (35%) of participants in our sample were scored as having high self-efficacy. Regarding the four categories, the majority of the participants (36.4%) had moderate perceived safe abortion self-efficacy while few (2.30%) had no

Table 1: Socio-demographic characteristics of participants (n=815)

Variables	Categories	Frequency (N)	Percentage (%)
Age (in years) Mean±SD (25.87±6.45)	15-19	142	17.4
	20-24	198	24.3
	25-29	245	30.1
	30-34	113	13.9
	35-39	83	10.2
	40-49	34	4.2
Residence	Urban	317	38.9
	Semi-Urban	164	20.1
	Rural	334	41.0
Religion	Protestant	594	72.9
	Orthodox	160	19.6
	Apostles	35	4.3
	Others ^a	26	3.2
Education level	No formal education	106	13.0
	Primary	325	39.9
	Secondary	255	31.3
	College and above	129	15.8
Occupation	Housewife	179	22.0
	Farmer	105	12.9
	Employed	89	10.9
	Self-business	250	30.7
	Student	152	18.7
	Others ^b	40	4.9
	Marital status	Single	152
	Married	612	75.1
	Others ^c	51	6.3
Distance from nearest health facility (walking)	≤30 minutes	666	81.7
	>30 minutes	149	18.3
Wealth Index	Poorest	163	20.0
	Poor	159	19.5
	Medium	167	20.5
	Rich	165	20.2
	Richest	161	19.8

NB: a=Catholic, Adventist, Muslim; b=daily laborer, no job; c=in relationship, divorced, widowed

confidence. The calculated summed self-efficacy mean score for all items is 5.73 (± 2.5). The highest self-efficacy mean is calculated among participants was for “asked someone they trust for information on safe abortion”, 6.9 (± 3.5) while the lowest mean calculated was for “getting a safe abortion service without other people finding out”, 5 (± 3.7) (Table 3).

Factors associated with safe abortion self-efficacy

Based on a bivariate analysis, several variables showed a statistical association with perceived self-efficacy. These included demographic factors such as age and occupation, as well as access-related

variables like distance to a health facility. Additionally, variables related to knowledge, attitudes, and social influence, such as prior education on sexual and reproductive health, knowing others who had an abortion, and having a positive attitude toward safe abortion, were also found to be significant.

In multivariate logistic regression analysis (Table 4), being employed, knowledge about safe abortion from the media, believing abortion to be legal for unmarried women, knowing others who have undergone induced abortion and having positive attitudes towards safe abortion were found to be significantly associated with high perceived safe abortion self-efficacy.

Table 2: Experiences and knowledge of safe abortion among WRA in Wolaita zone, Ethiopia, 2024 (n=815)

Variables	Categories	Frequencies	Percentage
Knowing someone intentionally ended a pregnancy	Yes	167	20.5
	No	439	53.9
	Don't know	209	25.6
Close friend or relative undergone induced abortion (n=167)	Yes	60	35.9
	No	98	58.7
	Don't know	9	5.4
Number of close friends/relatives undergone induced abortion (n=60)	1	39	65.0
	=>2	21	35.0
Ever had an unwanted or mistimed pregnancy	Yes	172	21.1
	No	643	78.9
Ever undergone induced abortion (n=172)	Yes	20	11.6
	No	152	88.4
Place where induced abortion occur (n=20)	Home	6	30.0
	Traditional	3	15.0
	Gov't HF's	6	30.0
	Private HF's	5	25.0
Ever received SRH related education	Yes	388	47.6
	No	427	52.4
Ever heard about safe abortion (SA)	Yes	393	48.2
	No	422	51.8
Safe ways to have an abortion (n=393)	Medication*	239	29.3
	MVA*	80	9.8
	Other ^a	8	1.0
	Don't know	104	12.8
Heard about the Ethiopian law on safe abortion	Yes	193	23.7
	No	622	76.3
Preferable time to seek SA as per the law (n=193)	Don't know	11	5.7
	Any time	7	3.6
	Before 3 months	162	83.9
	13-24 weeks	22	11.4
	24-28 weeks	1	0.5
Safe place for SA in Ethiopia	Home	9	1.1
	Traditional healers	63	7.7
	Health post	122	15.0
	Government HC*	558	68.5
	Government hospitals*	471	57.8
	Private clinics*	217	26.7
	Private hospitals*	160	19.7
Legal conditions for SA in Ethiopia (n=725)	No safe place	50	6.1
	Not allowed for any reason	289	39.9
	Due to rape or incest*	208	28.7
	Endangers health and life of woman or fetus*	239	33.0
	Physical or mental disabilities*	132	18.2
	Physically or psychologically unprepared*	112	15.4
	Financially unable to raise the child	98	13.5
	Pregnancy occurs out of wedlock	180	24.8
Knowledge on SA	Good knowledge	37	4.5
	Poor knowledge	778	95.5

Table 3: Safe abortion self-efficacy among WRA in Wolaita zone, Ethiopia, 2024 (n=815)

Statements of self-efficacy on safe abortion	Mean (SD)*
How confident do you feel in your ability to...?	
Talk with someone close to you about having an abortion.	5.2 (±4.1)
Ask someone you trust for information on safe abortion.	6.9 (±3.5)
Ask for advice from someone you know who has had a safe abortion.	6.5 (±3.6)
Ask someone to help you pay for the cost of a safe abortion.	5.2 (±3.7)
Ask someone close to you to accompany you during an abortion.	5.9 (±3.6)
Talk to someone close to you who will support you after an abortion.	5.6 (±3.8)
Get the information you need about safe abortion services or methods.	6.1 (±3.6)
Get a safe abortion even if people close to you do not support your decision.	5.1 (±3.7)
Find someone to provide you with a safe abortion.	5.9 (±3.6)
Get a safe abortion without other people finding out.	5 (±3.7)
Get a safe abortion from someone who will not take advantage of you.	6.4 (±3.3)
Pay for the cost of a safe abortion.	5.5 (±3.7)
Deal with people gossiping about you if they find out about your abortion.	5.1 (±3.9)
Deal with any judgement from other people.	5.6 (±3.7)
Stand up for yourself if people find out about your abortion and treat you poorly.	5.9 (±3.5)
Summed score	5.7 (±2.3)
Overall self-efficacy score	Frequency (%)
High confidence*	292 (35.8)
Moderate confidence	297 (36.4)
Low confidence	207 (25.4)
No confidence	19 (2.3)

*Higher scores indicate higher self-efficacy; SD: standard deviation

After controlling for other factors, employed women were about 3 times more likely to have high perceived self-efficacy on safe abortion than housewife women (AOR=3.2; 95% CI [1.3, 7.5]). Respondents who had heard about safe abortion from the media were about 2 times more likely to have high perceived self-efficacy compared to those

who had not gotten this information from the media (AOR=2.0; 95% CI [1.1, 3.9]).

Women who believed that safe abortion should be legal for pregnancies occurring outside of marriage had twice the odds of having high perceived self-efficacy compared to those who did not believe abortion to be legal in this circumstance (AOR=2.2; 95% CI [1.3, 3.6]).

Crucially, women who know others who have had an induced abortion were about 2 times more likely to have high perceived self-efficacy on safe abortion than who didn't report knowing others with induced abortion (AOR=2.4; 95% CI [1.4, 3.9]).

Finally, women who had favorable attitudes towards safe abortion were 2 times more likely to have high perceived self-efficacy than women who had unfavorable attitudes (AOR=2.1; 95% CI [1.3, 3.4]).

Qualitative result

Three major themes were identified during the qualitative analysis of women's experiences with induced abortion. The main themes extracted include: (1) confidence and competence stemming from prior experience; (2) the role of social networks in seeking safe abortion; and (3) barriers to accessing safe abortion, including sociocultural norms and beliefs, lack of information and confidence, personal attitudes and autonomy, and challenges related to family and financial support.

Theme 1: Confidence and competence from prior experience

Participants who had undergone previous induced abortions showed high levels of self-assurance and confidence in their ability to navigate the process effectively. They expressed that a sense of responsibility about the pregnancy builds their confidence in accessing and executing induced abortion.

"...when a mother feels a strong sense of responsibility, nothing can prevent her from terminating a pregnancy if she believes it is necessary. Ultimately, it is the mother's decision and conviction to use whether traditional or safe abortion based on her understanding and belief." [21 year-old woman]

"...In light of my previous experience and understanding of the benefits, I would feel quite

Table 4: Bivariate and multivariate associations between variables of interest and perceived self-efficacy on safe abortion among WRA in Wolaita zone, Ethiopia; 2024 (n=815)

Variables	Categories	Self-efficacy on SA		COR (95% CI)	AOR (95% CI)
		High N (%)	Not high N (%)		
Age (in years)	15-24	135 (39.7)	205 (60.3)	1.33 (1., 1.8)	0.9 (0.5, 1.5)
	25-49	157 (33.1)	318 (66.9)	1	1
Occupation	Housewife	31 (17.3)	148 (82.7)	1	1
	Farmer	27 (37.6)	78 (67.4)	1.7 (0.9, 3.)	1.1 (0.5, 2.8)
	Employed	49 (55.1)	40 (44.9)	5.9 (3.3, 10.3)	3.2 (1.3, 7.5)
	Self-business	108 (43.2)	142 (56.8)	3.6 (2.3, 5.8)	2.14 (1.0, 4.4)
	Student	64 (42.1)	88 (57.9)	3.5 (2.1, 5.8)	2.0 (0.9, 4.7)
	Others ^a	13 (32.5)	27 (67.5)	2.3 (1.1, 5.)	2.5 (0.7, 8.3)
Distance from HF (minutes)	≤30	251 (37.7)	415 (62.3)	1	1
	>30	41 (27.5)	108 (72.5)	0.6 (0.4, 1.0)	1.3 (0.7, 2.5)
Attended CSE/SRH	Yes	146 (41.1)	217 (58.9)	1.4 (1.1, 1.9)	0.8 (0.5, 1.4)
	No	146 (32.3)	306 (67.7)	1	1
Information from friends	Yes	91 (44.8)	112 (55.2)	0.6 (0.4, 0.9)	0.7 (0.4, 1.2)
	No	111 (58.4)	79 (41.2)	1	1
Information from HWs	Yes	110 (55.8)	87 (44.8)	1.4 (0.1, 2.1)	0.7 (0.4, 1.3)
	No	92 (46.9)	104 (53.1)	1	1
Information from Media ^b	Yes	51 (70.8)	21 (29.2)	2.7 (1.6, 4.8)	2.0 (1.1, 3.9)
	No	151 (47.0)	170 (53.0)	1	1
Gov't HC is safe place for SA	Yes	215 (38.5)	343 (61.5)	1.5 (1.1, 2.)	1.0 (0.5, 2.0)
	No	77 (30.2)	178 (69.8)	1	1
SA for rape	Yes	104 (50.0)	104 (50.0)	2.0 (1.5, 2.8)	1.1 (0.6, 2.1)
	No	172 (33.3)	345 (66.7)	1	1
SA for physically or psychologically unprepared	Yes	54 (48.2)	58 (51.8)	1.6 (1.1, 2.5)	0.7 (0.3, 1.4)
	No	222 (36.2)	391 (63.8)	1	1
SA for financially unable to raise child	Yes	51 (52.0)	47 (48.0)	1.9 (1.3, 3.0)	0.8 (0.4, 1.7)
	No	225 (35.9)	402 (64.1)	1	1
SA for pregnancy outside of marriage	Yes	101 (56.1)	79 (43.9)	2.7 (1.9, 3.8)	2.2 (1.3, 3.4)
	No	175 (32.1)	370 (67.9)	1	1
Knowing others who have induced abortion	Yes	92 (55.1)	75 (44.9)	2.8 (1.9, 3.9)	2.4 (1.4, 3.9)
	No	200 (30.9)	448 (69.1)	1	1
Attitude towards SA	Favorable	185 (50.5)	181 (49.5)	3.2 (2.4, 4.4)	2.1 (1.3, 3.4)
	Unfavorable	107 (23.8)	342 (76.2)	1	1

NB: a=daily laborer, no job; b=internet, social media, movies, radio, TV; IA=Induced Abortion

confident about choosing to have an abortion in a health facility." [27 year-old woman]

Respondents also expressed that positive past experiences at health facilities make them feel competent to navigate accessing safe abortion from health facilities if needed in the future.

"...Based on my neighbors' advice, I decided to go to the private clinic, Marie Stopes. Service provided at the clinic is of high quality, and the healthcare

providers treat patients with respect. ... I pray that I am protected from such a situation in the future, but if it is to happen again, I believe it would be better to go there." [28 year-old woman]

"...I had the termination of my pregnancy done at a private clinic, where I received excellent care. ...I will take care of myself afterward, but if a similar situation to arise again, I will return to that clinic. [26 year-old woman]

Theme 2: Role of social networks in seeking safe abortion

The decision to seek an induced abortion is deeply personal and often influenced by a complex interplay of social, familial, and economic factors. The qualitative data collected in this study highlights that women's choices are frequently shaped by their specific circumstances, including unintended pregnancy, financial constraints, marital status, and personal life circumstances.

This highlights the reality that, in the absence of institutional or family support, informal support from friends can be a crucial factor in helping women navigate the difficult decision-making process and choose a safer path for their health, as one participant stated:

"...in fact, I advised one of my friends who became pregnant before marriage and was facing difficulties. I encouraged her to seek a safe abortion at a health facility rather than opting for traditional methods." [26 years old woman]

Furthermore, the data reveals the profound impact of family and partner relationships on a woman's ability to access abortion services. The fear of societal judgment and the significant challenges of raising a child out of wedlock can leave her feeling trapped, with no viable alternative, which can have long-lasting consequences for her life and well-being.

"...living with their families or being abandoned by their husbands adds another layer of difficulty, as they may not have the support to access safe and legal abortion services. Under such circumstance women are left with the painful choice of continuing the pregnancy, which may bring lifelong consequences in terms of societal judgment and the challenges of raising a child outside of marriage." [25 years old woman]

Theme 3: Barriers to accessing safe abortion

Our study identified key barriers to accessing safe abortion, which include reliance on social networks, sociocultural norms and beliefs, lack of information and confidence, personal attitudes and autonomy, and challenges with family support.

Subtheme 3.1: Sociocultural norms and beliefs

Participants mentioned that there could be social stigmatization, judgment, and negative attitudes from the community and religious circles toward the intentional termination of pregnancy. These sociocultural norms and beliefs can create barriers to the effective execution of the abortion.

"...My main concern is not the termination of the pregnancy, but rather the potential judgment and criticism from my neighbors, friends, and especially my father. I greatly fear the spread of information among close friends." [19 year-old woman]

Another participant expressed her idea as follows:

"...From my perspective, elective abortion holds significant importance for the mother in such situations. However, it's worth noting that the religious community does not generally support abortion and perceives it as a sin. Due to this belief, many women may choose to seek help from traditional abortion providers." [20 year-old woman]

Subtheme 3.2: Lack of information and confidence

Some respondents highlighted that not being familiar with available service providers in the local area led them to rely on others (their mother's) guidance. This lack of information and confidence in navigating the process can be a barrier to access.

"... I was unsure about the available services in my locality, so I relied on my mother's guidance to traditional, the reason I went to my birth place for the termination of my pregnancy was because I was not familiar with any other service." [23 years old woman]

"...I believe that having access to accurate information and awareness about safe abortion options would have been crucial in making a different decision. There is a significant gap in awareness regarding the availability of abortion services in health facilities or from trained professionals." [20 year's old unmarried student]

Subtheme 3.3: Personal attitudes and autonomy

A number of respondents shared that their concerns about their husband's reaction and the potential consequences, as well as their own personal attitudes and autonomy, influenced their decision-making process and contributed to barriers in access to safe abortion.

"...In my opinion, it is morally wrong to undergo an abortion unless there are significant health risks to the mother.... Aborting a pregnancy without considering the mother's well-being is not advisable." [25 years old woman]

Subtheme 3.4: Challenges with family and financial support

While family support is often sought, respondents suggest that it can also be a barrier when a family member (e.g., a husband) is not supportive of the decision to terminate a pregnancy. This lack of support can create significant challenges in the execution of the procedure. Additionally, women face challenges in managing the financial aspects of an abortion procedure, particularly when seeking a safe abortion.

"..People in the community have been gossiping about me, and on top of that, my husband is unaware of my decision.I didn't tell my husband about it because he doesn't support this decision." [32 years old woman]

"...In my case, the fear of my husband's reaction and the potential consequences compelled me to seek an unsafe abortion; if a woman wants to keep the issue hidden, she may feel compelled to choose to illegal means." [38 years old woman]

"...many of my friends work as laborers, and their occupations often involve physically demanding tasks like washing clothes, cooking, or doing hard jobs to earn money and frequently face financial hardships. In such circumstances, a woman facing an unplanned pregnancy which can be challenging to secure the financial resources for an abortion especially if they choose to keep it a secret." [25 years old woman].

Discussion

This study employed a mixed-methods approach to assess perceived safe abortion self-efficacy among women of reproductive age, providing a comprehensive understanding of the topic through the triangulation of quantitative and qualitative data. The quantitative findings established a significant association between several factors including employment status, media exposure, knowing others who have had an abortion and a positive attitude toward abortion, and high-perceived self-efficacy. The qualitative data further enriches and provides a deeper context for these statistical associations, offering insights into the underlying reasons and lived experiences of women.

Compared to other contexts, our finding that 35.8% of study participants had high perceived self-efficacy is higher than the finding from the earlier study conducted in Ghana, which found only 24% of women had high abortion self-efficacy.⁷ The difference might be due to the samples being different; only adolescent girls and young women participated in the Ghana study while the current study included all women of reproductive age. Additionally, the Ghana study measured self-efficacy using a single "Yes/No" question asking whether they are confident to seek safe abortion whenever unwanted pregnancy occur while ours used 15 validated Likert scaled items that captures different dimensions of women's thinking. Regarding the summed mean score, women in our sample had lower mean self-efficacy scores compared to results reported Bolivia and Nepal while higher mean self-efficacy scores compared to result reported in Nigeria, in countries this perceived self-efficacy scale was applied.¹⁵

However, our perceived self-efficacy results are lower than self-efficacy studies conducted on other SRH services. For example, studies conducted on HIV risk perception, gender attitude and risky sexual practices showed that more than half of participants had acceptable self-efficacy on condom use.³² Another study conducted on pregnant women reported that about 45.2% of the participants had high childbirth self-efficacy.³³ This might imply that self-efficacy on safe abortion lacks due attention compared to other SRH services signaling a critical gap. It likely also reflects the impact of legal barriers

on self-efficacy: compared to family planning and delivery services, safe abortion services are more legally restricted and thus often require greater self-efficacy to access.

This study reveals a positive association between employment and high-perceived self-efficacy regarding safe abortion, underscoring the importance of economic empowerment for women. The qualitative data substantiates this, indicating that women in lower-level occupations, such as day laborers, frequently face financial hardships when attempting to pay for abortion procedures. For example, a participant shared that many of her friends who are daily laborers experience significant financial barriers to accessing abortion services. Although there is a lack of earlier literature to compare with this finding, it is plausible that employment provides individuals with better financial stability, increased access to health information from social networks, and other resources related to health services. This could be further explained by the fact that employment not only provides financial resources but also facilitates access to health information through social interactions, thereby boosting self-efficacy. The economic empowerment of women through employment can bolster their confidence in exercising their reproductive rights by enabling them to access sexual and reproductive health services. Policies focused on enhancing women's employment opportunities and ensuring fair wages could thus have a significant impact on their reproductive health outcomes. Furthermore, the workplace can serve as a crucial venue for disseminating information about sexual and reproductive health services, including safe abortion.

Women who get information about safe abortion from media are more likely to have high self-efficacy to undergo the procedure when an unwanted pregnancy occurs, compared to those who did not have media exposure. This suggests that media exposure can fill a crucial knowledge gap, providing women with the information necessary to feel confident in their ability to seek professional, safe abortion services. This is supported by qualitative data, which indicates that women unfamiliar with available services often rely on others' guidance, sometimes leading them to traditional or unsafe methods. As one interviewee explained, "having

access to accurate information would have been crucial in making a decision," highlighting the existing lack of awareness about safe abortion services. These findings are consistent with earlier evidence from a study among adolescent girls and young women in Ghana, which found that exposure to mass media was associated with higher odds of self-efficacy in abortion decision-making.^{5,15} The authors of that study hypothesized that media like TV and radio may transmit messages that encourage women's autonomy, leading to higher self-efficacy regarding sexual and reproductive health services. Therefore, governments and non-governmental organizations should consider targeted media campaigns (TV, radio, social media) that provide accurate, non-judgmental information about safe abortion services. These campaigns can clarify the process, normalize the conversation, and underscore the importance of seeking professional care, ultimately empowering women to make informed health decisions.

The results show that knowing someone who has induced abortion is also associated with higher perceived safe abortion self-efficacy. This is likely because exposure to abortion stories through interpersonal interactions in the community contributes to better understanding of the procedure and enhances confidence in seeking safe abortion services so that complications related to unsafe procedures are reduced. This is corroborated the qualitative data that highlights how peer-support and informal networks are crucial for women navigating the decision-making process. For example, one participant's account of advising a friend to seek a safe abortion at a health facility directly illustrates how interpersonal interactions can empower women with information and confidence. This suggests the firsthand stories and advice shared within social circles act as a form of vicarious experience, a key component of self-efficacy according to the Badura's theory.¹⁴ Furthermore, the qualitative data also showed that a woman's own positive experience at a health facility can make her feel competent to seek safe abortion in the future, providing a powerful testimonial that reinforces the quantitative finding about the importance of prior experience. Policy makers should consider community-based interventions to leverage social networks through the training of community health workers or peer

educators to share personal stories and information. Creating safe spaces for women to discuss their experiences can reduce stigma and build confidence. Women with favorable attitudes toward safe abortion are more likely to have higher self-efficacy regarding the practice. Existing research reinforces this finding, showing that a positive attitude can significantly influence self-efficacy in reproductive health behaviors.^{35,36} This alignment of personal beliefs with confidence creates a reinforcing effect, boosting a woman's ability to navigate safe abortion practices. Furthermore, participants of the qualitative data who felt a sense of responsibility for their pregnancy reported increased confidence in accessing and executing an induced abortion. This positive perspective likely mitigates the stigma and internal conflict that can otherwise hinder decision-making. Conversely, qualitative data show that negative attitudes serve as a significant barrier to care. One participant explained that her negative beliefs created an obstacle to accessing safe abortion. This may also suggest that reliance on social networks, whose attitudes and reactions can be a barrier, might hinder a person's ability to end a pregnancy safely. Policies should fund public health campaigns to destigmatize abortion by framing it as a legitimate healthcare option, thereby shifting societal norms and individual beliefs to improve self-efficacy. Additionally, policies could support training for healthcare providers and community leaders to serve as trusted resources, offering women a supportive alternative to potentially unsupportive social networks. Healthcare providers should offer targeted, confidential counseling, create non-judgmental environments, and provide accessible, comprehensive information about abortion procedures. These strategies are crucial for addressing a woman's negative attitudes, social stigma, and lack of self-efficacy, ultimately empowering them to make informed decisions about their reproductive health.

This study revealed a unique finding: women who misperceive safe abortion as legal outside of marriage demonstrated higher self-efficacy in seeking it. This is particularly noteworthy as it is contrary to Ethiopian law. Qualitative data corroborated this finding, with participants perceiving a need for safe abortion in the context of out-of-marriage pregnancies. For example, one participant recounted advising a friend with an

unplanned pregnancy to seek a safe abortion at a health facility, thereby avoiding the risks associated with traditional methods. The finding suggests that a misperception of the law as more liberal than it is may enhance perceived self-efficacy in accessing safe abortion. This could reflect a broader misunderstanding of the legal framework or a personal view that abortion should be accessible under a wider range of circumstances. The current legal framework, perceived as restrictive, may act as a barrier to women's self-efficacy. Therefore, policy makers must address this gap between perceived and actual legal access by providing clear and accurate information about the circumstances under which abortion is legally permissible. A public health initiative focused on educating the community on the specifics of the law is crucial to mitigate perceived risks and empower women to access legal care.

Strength and limitation

This study has several strengths, including its use of the first-ever self-efficacy tool for safe abortion in Ethiopia, which was developed and validated by Ipas which strengthens the reliability of the findings. The qualitative component of our mixed-methods approach further strengthens the findings by providing a deeper understanding of the quantitative results and bridging the gap between what people perceive and what they actually do. However, the study also has limitations. The self-report data may be affected by social desirability bias due to the sensitive nature of the topic. Additionally, because the study was limited to a specific area, the findings may not apply to other regions of Ethiopia due to significant socio-cultural variations. Despite these limitations, our use of a validated tool and the inclusion of qualitative data increase our confidence in the results.

Conclusion

In this study, only about one-third of the participants have high self-efficacy on safe abortion. This study revealed that perceived safe abortion self-efficacy is interconnected with previous experiences and stories of induced abortion procedures that positively influence people's future ability to safely access abortion. Our qualitative results also show that high self-confidence of women has implications for the

abortion decision-making processes, particularly in seeking a safe abortion method.

Factors like women's employment status, access to media, knowing others who have undergone induced abortion, believing safe abortion for unmarried women to be legal and favorable attitudes towards safe abortion are associated with high-perceived self-efficacy on safe abortion, controlling for other covariates. Despite the law allows for safe abortion, women continued to use unsafe methods of abortion if they do not consider themselves capable of accessing safe abortion services, and if they do not know existence of these services. So, policies and interventions to strengthen women's ability to utilize safe abortion services should focus on access to information, knowledge, and attitudes towards safe abortion. In addition, periodic mass media campaigns and expanding positive messaging in the media around safe abortion play a crucial role in enhancing self-efficacy. Keeping the country context in mind, feasible initiatives that make abortion stories more visible at the community level would also likely increase the level of abortion self-efficacy.

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Contribution of authors

Wakgari B. Daga: conceived the proposal, developed tool, project administration, participated in qualitative data collection, analyzed the data, and subsequent preparation of the manuscript. Stephanie Kung: conceived and designed the proposal, approved the data collection tool, reviewing and editing the paper. Beimnet D. Kedida: conceived the proposal, developed tool, participated in qualitative data collection, assisted analyzing the data, and reviewed the manuscript, and Taklu M. Mokonn, Amene A. Kerbo and Niguse T. Atnafu: conceived the proposal, and reviewed the manuscript. All authors read and approved the final manuscript.

Availability of data and materials

all relevant dataset are included in the manuscript but it will be ethically unacceptable to make the rest qualitative data public as it may potentially identify participant information. However, it will be available from the lead author at nubonsa@gmail.com or wakgari.binu@ambou.edu.et upon justifiable requests.

Supplementary materials

- S1 Figure: Visual scale for self-efficacy on safe abortion among reproductive age group women
- S2 Figure: Sources of information on safe abortion and Ethiopian law on safe abortion among reproductive age group women in Wolaita zone, Ethiopia, 2024
- S3 Table: Attitude towards safe abortion among WRA in Wolaita zone, Ethiopia, 2024.

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