Contraception and Reproductive Medicine

RESEARCH

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Barriers to modern contraceptive utilization in Ethiopia

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Abstract

Background Contraception is a critical service for women to control their reproductive health, allowing them to determine the number and spacing of their children prevent unintended pregnancies, reduce the risk of morbidity and mortality from associated with childbirth, and reduce the likelihood of abortions. Despite its benefits, the utilization of modern contraceptive methods remains low in certain regions of Ethiopia, Particularly in Afar and Somali, which are also experiencing high fertility rates. However, there is a substantial gap in understanding the sociocultural barriers that hinder the adoption of modern contraception in these regions. This study aims to explore these barriers to contraceptive use among women of reproductive age in Afar and Somali regions, providing qualitative insights that are essential for designing effective strategies to improve contraceptive service utilization.

Methods Asequential mixed method approach was employed, including scoping review and qualitative interviews. Scoping review focused on qualitative or mixed-methods studies conducted in Ethiopia and published between 2013 and 2023 in English, Selecting 14 articles Additionally, qualitative data were collected from Afar and Somali regions through In-depth interviews with women aged 15–49 who are married or in consensual union, and key informant interviews with health extension workers and contraception providers at health center. A total of 20 in-depth interviews and 07 key informants were conducted. Thematic analysis was used to analyze the data.

Result The integrated findings from the scoping review and qualitative study reveal various barriers and determinants influencing contraceptive use among women in Ethiopia. Barriers includes religious or cultural beliefs, myths and misconceptions, fear of side effects, lack of knowledge and misinformation, negative attitude towards contraceptives, partner opposition, socio-cultural factors, fear of being judged by family and friends, and lack of communication between husband and wife, husband altitude, distance from health facility, availability of service and different contraceptive choice, separate room for family planning services, and cost of contraceptive method and transportation. The scoping review corroborates these findings, emphasizing on the role of socio-demographic, economic, cultural, religious, health service, and knowledge-related factors. Higher education, urban residence, higher income, mass media exposure, spousal communication, family size, and access to quality health services were associated with increased utilization, while lack of awareness, misconceptions, myths, side effects, fear of infertility, partner opposition, social stigma, and cultural norms decreased utilization.

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Conclusion The study recommended promoting contraceptive use, challenging socio-cultural norms through Social Behavioural Communication and Counselling (SBCC), engaging partners and community members, and improving the quality of care.

Keywords Afar, Barriers, Ethiopia, Modern contraceptive, Reproductive age, Somali

Introduction

One of the goals of the Sustainable Development Goals (SDGs), Goal 3, is to ensure that everyone has access to sexual and reproductive healthcare services, including access to contraceptives, information, and education, and the incorporation of reproductive health into national plans and programmes by 2030 [1]. The use of contraception has several advantages for both the women who use it and the society in which they live. The main advantages of contraception are that it allows women to have the number of children they wish, space out pregnancies, prevent unintended pregnancies, lower the risk of morbidity and mortality from childbirth, and reduce the likelihood of abortions [2, 3]. Approximately 214 million women in developing countries who are of reproductive age and wish to avoid pregnancy do not use a modern contraceptive method. In addition, almost half of the pregnancies are unintended. Unplanned pregnancies are more common in the poorest regions of the world [4].

Of the married or in-union women in 2022, the prevalence of any method of contraception was estimated to be 65%, with 58% using modern methods [5]. According to the most recent Ethiopia Demographic and Health Survey (EDHS) of 2019, the national prevalence of modern contraceptive utilization was 40.5%, while it was significantly lower in Afar(12.7%), and Somali(3.4%) regions [6]. Additionally, the fertility rate remains high in Ethiopia, particularly in Afar and Somali region, with 5.5 and 7.2 children per woman, respectively [7]. Despite 84% of health facilities nattionaly providing any modern contraceptive methods, the availability in Afar and Somali regions was 89%, 82% respectively [6].

These statistics highlight a critical disparity in contraceptive utilization and fertility rates between the national average and the Afar and Somali regions. The low prevalence of modern contraceptive use in these high-fertility regions underscores significant barriers to access and acceptance, which our study aims to explore. Understanding these barriers is essential for developing targeted interventions to improve contraceptive uptake and reduce fertility rates in these regions, ultimately contributing to better reproductive health outcomes and socioeconomic development.

The use of contraception was influenced by several factors, as revealed by previous studies, including gender preference, family size, maternal age, parity, education [8, 9]. Lack of awareness, poor knowledge, fear of side effects, low self-esteem, inability to afford the cost of services, poor parent-child communication regarding sexual and reproductive health, parents' negative attitudes towards sexual education, lack of privacy and confidentiality in the health system, stock-outs of contraceptive commodities, judgmental attitudes of health workers, and a lack of staff members who are knowledgeable about adolescent sexual and reproductive health, social shaming and religious intolerance, unfavourable peer and media influences, a lack of sexuality education in schools, a lack of social networks in communities, and poor economic situations for adolescents are common barriers that affect contraceptive utilization of adults [10].

Contraception is one of the most effective government programmes that can be implemented in the future. The health system of Ethiopia has three levels: primary, secondary, and tertiary, connected through a referral system. Primary health systems provide services for 100,000 people with primary hospitals, health centers serving 25,000, and satellite health posts. Level two includes general hospitals covering 1 million people, and level three includes specialized hospitals covering 5 million people. Contraceptive service provide all level of health facilities [11]. In order to increase the use of contraception among married women to 55% by 2030, the Ethiopian government committed significant resources to the implementation of reproductive health programmes that encourage the use of high-quality contraceptive services [12]. Therefore, the study addresses vital areas of need as it identifies barriers, and it helps to design appropriate strategies which required improving the service utilization.

Given the two study regions are currently experiencing unacceptably high fertility rate and lower contraceptive use prevalence, it is imperative to examine the key barriers and challenges for the adoption of modern contraceptive methods. In those two regions (i.e. Afar and Somali) of Ethiopia, and as far as the authors are aware, there is huge gap in our knowledge of the dynamics of the sociocultural barriers to the use of modern contraception. Therefore, the current study aimed to explore the barriers of contraceptive use among women of reproductive age in the two regions based on qualitative data. The study warrants answering one principal question "*What are the key barriers for contraceptive utilization among women of reproductive age in Afar and Somali regions of Ethiopia*?

Methods

Study design and approaches

The study used cross sectional study design with approach, consisting of a scoping review in the first step and qualitative interviews in the second step. The interviews included in-depth interviews (IDIs) and key informant interviews (KIIs).

The scoping review was conducted following the original methodological framework developed by Arksey and O'Malley (2005) [13]. The specific aims and scope of the scoping review in this study was to map the existing evidence on barriers of modern contraceptive among women of reproductive age in Ethiopia and identifying the potential theme.

Eligibility criteria, search strategy, and charting process of the scoping review

The scoping review included studies that had qualitative or mixed-methods design; involve women of reproductive age (15–49 years) in Ethiopia as the target population; report on any type of contraceptive utilization (modern, traditional, long-acting, short-acting, emergency, etc.) as the main outcome; were published between 2013 and 2023; and are written in English. The review began with identifying relevant sources of information by searching the major scientific databases and the grey literature available as reports. The popular databases searched include PubMed/Medline, SCOPUS and Goggle scholar. The scoping review used the following keywords and Boolean operators to search the studies: ("contraceptive utilization" OR "contraceptive use" OR "family planning" OR "birth control") AND ("determinants" OR "factors" OR "barriers" OR "facilitators" OR "interventions" OR "best practices") AND "Ethiopia". In addition, apply the following filters: publication date (2013–2023), language (English), and study design (qualitative or mixed methods). This scoping review used a standardized data charting form to extract and summarize the following information from the included studies: author, year, title, journal, study design, study population, sample size, setting, and barriers and facilitators for contraceptive utilization. The scoping review used Microsoft Excel to organize and analyze the data. Some articles were excluded where the contraception type variables were not clearly indicated.

Study selection

After the completion of database search, all identified articles were collected and uploaded in to the Mendeley citation manager for the management of reference and to avoid duplicates. Figure 1 shows the detail of the selection process.

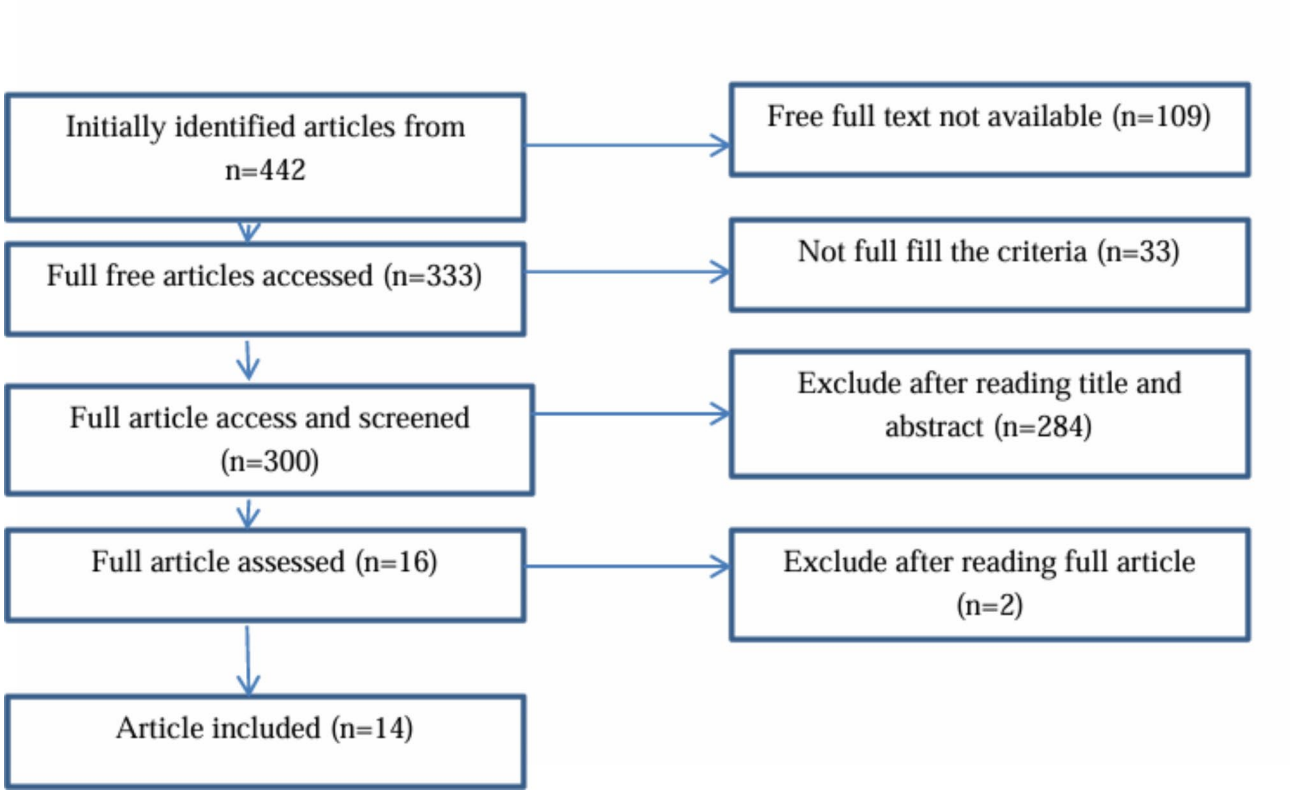

Fig. 1 Flowchart for study selection and inclusion process for scoping review

Study setting for the qualitative study

The study was conducted in Ethiopia's Afar and Somali region from December 04, 2023, to January 15, 2024. According to Central Statistical Agency of Ethiopia, the projected population of the Afar region in 2023. was 2.08, with 21% residing in urban areas [14]. In Afar, 22.7% of women were in formal employment, 31.3% of women were educated. Additionally 71.2% of women made decisions about their own health care either alone or jointly with their husband. Regaring mass media exposure, 13.3% had access to radio,15.6% access to television, and only 3% access to newsletter [7].

The projected population of the Somali region in 2023, was 6.66 million with 16% living in urban areas. In Somali, 18.3% of women were in formal employment, and 24.7% were educated. Furthermore, 76% women made decisions about their own health care, either alone or jointly with their husband. Exposure tomass media was lower in this region, with 4.1% had access to radio,7.9% to television, and 1.3% to newsletter. The remaining population had no access to any mass media [7].

Qualitative data collection

The study was conducted in one urban and one rural kebele (Kebele" is defined as the smallest administrative unit in Ethiopia, similar to a neighborhood or ward) selected from each region (i.e. Afar and Somali). The study population includes all women aged 15–49 who were currently married, sexually active or in consensual union. These women were included for the in-depth interview. Additionally, health extension worker and contraception providers from health centres were interviewed as key informants.

Sample and sampling approach

A purposive sampling approach was used to select participants who could provide rich, relevant, and diverse information on the barriers to modern contraceptive utilization. This approach ensured that urban and rural perspectives were captured.

Inclusion and exclusion criteria

Inclusion criteria Women aged 15–49 who were currently married, sexually active, or in a consensual union were included. Health extension workers and contraception providers were included as key informants.

Exclusion criteria Women who were not within the specified age range, not currently married, not sexually active, or not in a consensual union were excluded. Additionally, health workers who did not provide contraceptive services were excluded.

Data collection methods

The study utilized in-depth interview and key informant with semi structure interview guide. A guiding question was created using the scoping review as a basis. The original English version of the questionnaire was translated into three local languages to ensure clarity and comprehension.

Quality assurance measures

Four health professional data collectors were chosen based on their proficiency in the local language and prior expertise in collecting qualitative data. The team comprised (one medical doctor, one midwife and two health officers). The data collectors underwent one day of training to standardize the data collection process. With participant permission, the interviews were audio recorded to ensure accuracy and completeness of the data.

Ethical considerations

Ethical considerations were paramount, ensuring informed consent was obtained from all participants. Detailed ethical considerations are provided in the section "Ethics approval and consent to participate."

Sample size

A total of 20 in-depth and 07 key informants were conducted.

Qualitative data analysis

All recorded qualitative data were transcribed verbatim, translated into English and coded in NVivo 12 qualitative software to generate query reports which was narrated thematically. Field notes were translated into English and selected quotations were presented in the text. Data were analyzed and compiled using a thematic approach by conducting an on-going content analysis.

Initially, qualitative data from various sources were meticulously reviewed and coded, with relevant segments assigned initial codes. Multiple readings of the KII (key informantinterviews) transcripts were conducted to ensure familiarity with the data, to understand the data as a whole, and to begin identifying recurring ideas and notable themes. These ideas were captured in reflective notes.

The iterative process involved refining and adjusting themes as more data were analysed. Initial themes were reviewed in the context of the entire dataset to ensure accuracy, with similar themes merged and broad themes broken down into specific sub-themes where necessary. Once finalized, the themes were clearly defined and named to reflect their essence. This process categorized 13 frequently mentioned barriers into four main themes: personal beliefs and attitudes, interpersonal factors, service availability and accessibility, and health worker

factors. The final themes were validated by the authors of this study to ensure consistency and accuracy, providing a comprehensive understanding of the barriers to modern contraceptive use among women of reproductive age in Ethiopia.

Results

Result of scoping review

We conducted a scoping review on the topic of contraceptive utilization and its determinants among women in Ethiopia based on 14 articles [15–28]. The findings of the scoping review show that, in addition to barriers, those articles also cover different aspects of contraceptive utilization, such as prevalence [17, 18, 21–25, 28], preference [15, 18, 19], discontinuation [16, 22, 24, 26, 27], switching [16, 22, 24], and among various groups of women, such as married [16], street [21], pastoralist [15], and abortion-seeking [23], women in different regions of Ethiopia. The articles use different methods of data collection and analysis, such as qualitative [15, 18, 19, 26–28], or mixed methods [16–18, 20–25, 29], and employ different sampling techniques, such as random [16–18, 20, 24, 29], purposive [15, 18–24, 27, 28], census [21], or convenience sampling [26]. The sample sizes range from 10 [16] to 2891 [17].

The articles report different types of contraceptive methods, such as short-acting [19, 25, 26], long-acting [16, 20, 22, 24–29], and emergency contraceptives [23]. The most commonly used contraceptives are injectable [15, 17–27, 29], implants [15, 17–27, 29], pills [15, 17–27, 29], and condoms [15–28]. The least used contraceptives are intrauterine devices (IUDs) [16–26, 28], and female condom [15, 17–27, 29].

The articles identify various factors that influence contraceptive utilization, such as socio-demographic, economic, cultural, religious [15–24, 26–29], health service factors [15–24, 26–29], and knowledge-related factors [15–24, 26–29]. Some of the common factors that increase contraceptive utilization are higher education, urban residence, higher income, exposure to mass media, spousal communication, family size, and access to quality health services factors [15–24, 26–29]. Some of the common factors that decrease contraceptive utilization are lack of awareness, misconceptions, myths, side effects, fear of infertility, partner opposition, social stigma [15–24, 26–29], and cultural norms [15–24, 26–29] (Table 1).

The articles suggest various recommendations to improve contraceptive utilization, such as providing information, education and communication (IEC) programs to raise awareness, knowledge and attitude about contraceptive methods and services among the population, especially women, men, religious leaders and community health workers [16, 20–22, 24], providing quality, comprehensive and client-centred counselling services to address myths, misconceptions, fears and side effects of contraceptives, and to help clients make informed choices and plan their pregnancies [16, 18, 22, 24, 26, 27, 29], increasing access and availability of long-acting contraceptives, such as IUDs and implants, and ensuring adequate training, supplies and equipment for health care workers [21, 27, 29], empowering women and girls to participate in different forms of job, education and decision-making, and to control their fertility and prevent unwanted pregnancy and termination of pregnancy [25, 29], strengthening health systems and policies to support contraceptive use and reproductive health, and to address transport and distance issues [27, 29] and involving male partners and couples in contraceptive use and communication, and promoting emergency contraceptives as a backup option [20, 23].

Qualitative findings

We used qualitative methods to explore barriers to modern contraceptive utilization in very high fertility regions of Ethiopia. The description of the qualitative sample respondents by their key socio-demographic characteristics is presented in Tables 2 and 3.

Seven key informant contraceptive providers were included in this study. Among KIIs participants 3 of them were health extension workers (HEW). The ages range from 26 to 35.

In this study, we included a total of 20 participants in in-depth interviews (IDIs). The age distribution of these IDI participants revealed that 45% fell within the 25–34 age group, while 35% were older than 34. In terms of education, 45% had no formal education. Regarding religion, 80% identified as Muslim, and 20% as Orthodox. In relation to employment status, 75% were not employed. Considering the age of their husbands, 50% were older than 34. As for husband education levels, 60% had no education. Finally, the current utilization of contraception was equally divided, with 50% using contraception and 50% not using it (see Table 3).

To identify comprehensively the qualitative findings on barriers of modern contraceptive utilization in the Somali and Afar regions of Ethiopia, we conducted in-depth interviews and key informant interviews. We analyzed the data to identify common themes. From these findings, we categorized 13 barriers that participants frequently mentioned into four main themes: personal beliefs and attitudes, interpersonal factors, service availability and accessibility, and health worker factors.

Personal beliefs and attitudes

This theme includes barriers that are related to how the individual perceives and feels about modern contraception. The specifically mentioned barriers by the interviewees include religious or cultural beliefs, myths and

Table 1 Characteristics of studies included in the scoping review, in December 2013 – Novemvber2023

Author(s)Year	Contraceptives of focus	Data collection methods and sample size	Setting	Barriers for Contraceptive Utilization
Bekele et al., 2021[17]	Modern contraceptives	15 FGD, 80IDIs, 52 KII	Four emerging regions (Afar, Benishangul-Gumuz, Gambela, and Somali)	Individual, health care system and sociocultural factors
Gebremedhin et al., 2017[19]	Modern contraceptives	6FGD and 15 IDIs	Central zone, Tigray region	lack of women self-empower fear of complication and social issues
Aychew et al., 2022[29]	Long-acting contraceptives	6 IDIs and 4 KIIs	Farta Woreda, Northwest Ethiopia	fear of side effects, misconceptions, and partner opposition
Woldeyohannes et al., 2022[27]	Intrauterine device (IUDs)	13 IDIs	Hossana town, Southern Ethiopia	shortage of necessary supplies, poor provider–client relationships, and poor counselling by service providers
Alem Gebremariam, 2015[16]	Various modern contraceptive methods	10 IDIs	Agarfa district, Bale Zone of southwestern Ethiopia	Side effects, desire for pregnancy or to switch to another contraceptive method, misconceptions, partner's approval, and peer influence
Nega et al., 2021[22]	Subdermal contraceptive implant	8FGD,56 IDIs	Kersa district of southwestern Ethiopia	Side effects, desire for pregnancy or to switch to another contraceptive method, misconceptions, partner's approval, and peer influence
Guta et al., 2021[21]	modern contraceptive	IDS	Urban streets in Dire Dawa city, Eastern Ethiopia	a desire to have more child, religious prohibition, and inconvenience of services site
Utaile et al., 2020[26]	Subdermal contraceptive implant (Implanon)	10 IDs and 5 KIIs	Arba Minch town, Gamo Goffa zone, South Ethiopia	Heavy and irregular bleeding, lack of information prior to insertion, being served by a midwife or nurse, and not being told to return to the health facility if any side effects were experienced
Jalu et al., 2019[28]	RMNCH	50 IDIs and 17 FGD	Rural and urban areas in the Somali regional of Ethiopia	male dominance in decision making, the influence of the husband and society and the role of word of mouth were identified barriers at the interpersonal level and lack of acceptance, fear of modern health practices, unclean health facility environment, lack of well-equipped facilities shortage. of trained staffs and barriers relating to distance and transportation were barriers identified at organizational and policy level.
Henok & Takele, 2017[15]	RHS	15 FGDs, 5 IDI and 5 KII	Rural pastoralist communities in the Bench Maji zone of southwestern Ethiopia	Decision making barrier Health facility related barriers
Gonie et al., 2018[20]	Various modern contraceptive methods	24FGDs and 36KIIs	Rural and urban areas in the Bale Eco-Region of Southeast Ethiopia	Spousal (husband's) opposition, religious beliefs, concern and fear of side effects, and distance of family planning service were the reasons for not using contraceptive methods.
Tenaw, 2022[23]	emergency contraceptive	13 IDIs	Rural and urban areas in the Northwest Ethiopia	Not discussing contraceptives with sexual partner, having a history of abortion, having secondary education, and Having no living children
Teshoma et al., 2023[24]	long acting	12 IDIs	Rural and urban public health facilities in the Toke Kutaye district of West Shoa Zone, Oromia Region, Ethiopia	fear of side effects, lack of adequate information, religion, and misconceptions
Endriyas et al., 2018[18]	long acting	5 FGDs, 10KIIs, and 50 IDIs	Rural and urban areas in the SNNPR of Ethiopia	fears, myths, and misconceptions

misconceptions, fear of side effects, lack of knowledge and misinformation, and negative attitude towards contraceptives. Both key informants and in-depth interviewees mentioned these barriers as influencing women contraceptive choices.

A 25-year-old woman who was an in-depth interviewee (IDI) participant from Arebhara kebele of Afar Region said that:

...family planning services are contrary to my religious beliefs.

A 35-year-old woman participant from Awbare kebele in the Somali region, as an in-depth interviewee, said that:

... if a woman takes contraception while breastfeeding, the baby might become malnourished, and the mother could face difficulties." Additionally, she

Table 2 Key informant interview participants' information in Afar and Somali regions of Ethiopia, 2024

KII Respondents	Sex	Age	Education level	Year of Experience
KII-1	Male	31	BSC Nurse	13 Years
KII – 2	Female	27	HEW level – 3	9 years
KII-3	Female	36	Clinical nurse	5 years
KII-4	Female	32	Mid wife	6 years
KII-5	Female	35	Mid wife	8 years
KII-6	Female	30	HEW level – 4	6 years
KII-7	Female	26	HEW level – 3	4 Years

Table 3 In-depth interview participants' information in Afar and Somali regions, 2023

Variables	Characteristics	Number	Percent
Age	15–19	1	5
	20–24	3	15
	25–29	7	35
	30–34	2	10
	> 34	7	35
Education level	Not educated	9	45
	Primary	4	20
	Secondary and above	7	35
Religion	Orthodox	4	20
	Muslim	16	80
Working status	No	15	75
	Yes	5	25
Husband Age	<=24	1	5
	25–34	9	45
	> 34	10	50
Husband education level	Not educated	12	60
	Primary	3	15
	Secondary and above	5	25
Total number of children	< 5	15	75
	>=5	5	25
Current utilization of contraception	No	10	50
	Yes	10	50

stated: "...I don't need contraception because Allah has planned for me.

A 28-year-old woman participant from Gedeb kebele in the Somali region, as an in-depth interviewee, expressed that:

...in my community, we do not want any medication that prevents pregnancy..., if Allah grants you a child, you must give birth. If there is a gap between children, that is okay; otherwise, we should continue without contraception. Since, contraception is forbidden in our religion, and one must rely on Allah.

A 25-year-old woman participant from Arebhara kebele in the Afar region, as an in-depth interviewee, expressed that:

In my opinion, the reason women don't use family planning is due to insufficient knowledge. They believe that using family planning will render them infertile and prevent them from having children. Consequently, Afar women avoid family planning because they lack adequate information about it.

Another 40-year-old woman from Gedeb kebele in the Somali region, who participated as an in-depth interviewee, expressed that:

... Contraceptives have many side effects. Many women couldn't become pregnant for a long time, and they start to conceive after the medication fades from their body. It may cause infertility and many problems.

In addition, a clinical nurse who participated as a KII from the Arebhara kebele in the Afar region indicated that due to women's religious beliefs, they do not use contraceptives.

...there are women who say that they do not use contraceptive services because it is not allowed in Islam.

Another midwife who participated as a KII from the Gobyare kebele in the Somali region also said that:

...some women also believe that using contraceptive implants will result in infertility. ...Additionally, some women experience menstrual irregularities as a side effect. Despite being informed that there is no problem with the implant, they insist on discontinuing its use. When one woman shares her experience, others are also hesitant to use it.

Interpersonal factors

This theme includes barriers that involve the impact of other people on the individual's decision to use modern contraception. The specific mentioned barriers by the interviewees include partner opposition, socio-cultural factors, fear of being judged by family and friends, and lack of communication between husband and wife, and husband altitude. Both key informants and in-depth interviewees mentioned these barriers as affecting women contraceptive behavior.

A 25-year-old woman who was an in-depth interviewee (IDI) participant from Arebhara kebele of Somali region said that:

...it's unfortunate that some of our husbands are not supportive of family planning. They desire more children and resist using family planning services.

A 35-year-old woman who was an in-depth interviewee (IDI) participant from Gedeb kebele of Somali region said that:

> *"…In our non-urban community, husbands are often absent during critical moments. While urban husbands are actively involved and informed; here, wives bear all the risks—whether it's caring for a sick child, being pregnant, or giving birth while breastfeeding. Our husbands' involvement is minimal; they don't care about you, and their role is limited to witnessing the delivery. There is little discussion between spouses.*

A 40-year-old woman from Gedeb kebele in the Somali region, who participated as an in-depth interviewee, expressed that:

> *…I take family planning measures in secret because my husband opposes it. He questions why I prevent pregnancy when he needs more children. Telling my choice could lead to conflict.*

A 25-year-old woman from Arebhara kebele in the Afar region, who participated as an in-depth interviewee, expressed that:

> *…I kept my use of family planning a secret from my husband. He wanted more children and discouraged me from using family planning. To avoid conflict, I made the decision independently and started using the service discreetly.*

A 25-year-old woman from Arebhara kebele in the Afar region, who participated as an in-depth interviewee, expressed that:

> *…while I personally don't face any issues, the community here is predominantly shy. This shyness stems from religious pressure. For instance, there's a prevailing belief that a child is a gift from the creator. Some hold the mistaken view that a child's growth is solely determined by luck. Consequently, these cultural and religious perspectives discourage many from utilizing family planning services.*

Another 38-year-old woman from Gedeb kebele in the Somali region, who participated as an in-depth interviewee, expressed that:

> *…people in our community believe that preventing children gifts bestowed by Allah using medication is a mistake. This viewpoint often leads to conflicts between husbands and wives. In some cases, couples even separate due to this disagreement. I recall a woman who secretly used contraceptives without informing her husband. When he eventually discovered her actions, he confronted her, asking why she took them. The result was their separation. They had four children: two males and two females. He took custody of the boys, while she cared for the girls.*

In addition, KII indicated that male partners are responsible for women not using contraceptives.

> *…. some husbands prevent their wives from using family planning methods, and we've heard from women who faced this situation. To overcome this, some women secretly seek help from female workers who discreetly provides them with contraceptive services. In our rural community, many are illiterate, and if they see a woman seeking contraception, gossip spreads, and she may feel ashamed. Additionally, there are women who avoid using family planning due to fear of their husbands. These husbands often declare it forbidden, leading women to hide their contraceptive use. Ultimately, fear drives many women to conceal their actions, worried about what others might think or say.*

Another health extension worker who participated as a KII from the Doho kebele in the Somali region also said that:

> *…women often hide their contraceptive use from their husbands, making it a challenging situation. If the husband discovers it, he might even consider divorce and accuse her.*

Service availability and accessibility

This theme includes barriers that refer to the difficulties of accessing and using contraceptive services. Here the individual barriers included in this theme are distance from health facility, availability of service and different contraceptive choice, separate room for family planning services, and cost of contraceptive method and transportation. Both key informants and in-depth interviewees mentioned these barriers as limiting women contraception options.

A 35-year-old woman from Gedeb kebele in the Somali region, who participated as an in-depth interviewee, expressed that:

> *…in our community, there is no contraceptive service available at the nearest health facility. As a result, we must spend six hundred to seven hundred birrs for transportation alone to reach health facilities*

that provide such services. Additionally, we need to cover our own meal expenses without any support for medication costs.

Another 28-year-old woman from Gedeb kebele in the Somali region, who participated as an in-depth interviewee, said that:

…unfortunately, contraceptive services are not available here in our area.

Similarly, KII noted that in Gedeb kebele in the Somali region are not providing contraceptive services.

In addition, KII also highlighted that the limited contraceptive options and the absence of dedicated rooms for family planning services pose significant challenges and barriers to contraceptive use.

i.e., MW who participated as a KII from the Gobyare kebele in the Somali region also said that:

… for mothers who cannot take injections, we provide combined oral contraceptives (COC). If COC is not available, we offer progestin-only pills (POP). Typically, COC is more readily accessible than POP. Unfortunately, injections are also unavailable.

Another health extension worker who participated as a KII from the Doho kebele in the Afar region also said that:

…our biggest challenge lies in resource scarcity. Specifically, we lack proper examination beds.… Additionally, I recommend having a separate room where patients and professionals can meet privately.

Health worker factors

This theme includes barriers that relate to the distrust or fear of the health workers who provide contraceptive services. It may be caused by the perceived or experienced lack of skill, confidentiality, respect, or empathy of the health workers. Both key informants and in-depth interviewees mentioned this barrier as discouraging women's from seeking contraceptive services.

A 24-year-old woman from Doho kebele in the Afar region, who participated as an in-depth interviewee, said that:

"…the health professionals didn't provide any information about the pros and cons of birth control. While it has helped me, I remain uncertain about potential harms.

Another 28-year-old woman from Gobyare kebele in the Somali region, who participated as an in-depth interviewee, said that:

…I've considered asking one of the staff members about contraceptive, but I feel afraid. Perhaps another day, I'll gather the courage to inquire her.

Further, the health extension worker who participated as a KII from the Gobyare kebele in the Somali region said that:

…mothers often need Implanon, and I am the only one who can provide it. It's crucial that all maternal and child health (MCH) professionals receive training in family planning.

The MW who participated as a KII from the Gobyare kebele in the Somali region also said that:

… expanding this health post would be beneficial because many people lack trust in health post services.

Discussion

This study aims to explore the barriers to contraceptive utilization among women of reproductive age in the Afar and Somali regions of Ethiopia. It provides qualitative insights that are essential for designing effective strategies to improve contraceptive service utilization in these regions. Therefore, the study answers the following principal question: "What are the key barriers to contraceptive utilization among women of reproductive age in the Afar and Somali regions of Ethiopia?"

The findings of this study revealed that the major barriers to modern contraceptive utilization in very high fertility regions of Ethiopia are teamed as personal beliefs and attitudes, interpersonal factors, service availability and accessibility, and health workers factors. These barriers are consistent with previous studies conducted in Ethiopia and other developing countries [17, 18, 20, 24, 25, 28–30].

In the personal beliefs and attitudes team, the specific barriers that are pointed out by the IDI and KII respondents of this study include the influence of religious or cultural beliefs, myths and misconceptions, lack of knowledge and misinformation, and the negative attitude towards contraceptives. Thus, interviewees/respondents who indicate the influence of religious or cultural beliefs as a barrier to modern contraceptive decision-making express that using modern contraceptives is against their faith or tradition, and further they indicate that they do not need to use contraception since they believe children

are a gift from their god and their god has a plan for them. This finding is in line with the studies by various scholars, which also found that women have negative perceptions of modern contraceptives due to their religious or cultural beliefs and they think using modern contraceptive is considered as a sin by the followers of some religions [17, 18, 20, 24, 25].

Interviewees who have myths and misconceptions about modern contraceptives in this study believe that modern contraceptives could cause infertility or other health problems. These myths and misconceptions are also common in other parts of Ethiopia and in developing countries, as shown by different studies [18, 24, 26, 29, 30]. Some women who are interviewees in this study indicate lack of knowledge and misinformation about modern contraceptives as a barrier and admit that they do not have enough information about contraceptives, including their benefits and their risks, and that they rely on hearsay or rumours from their peers or relatives. This finding is similar to the findings of the studies by Alemayehu et al. and Misganu et al., which indicated that some women have low awareness of the availability and accessibility of contraceptives, and that they receive inaccurate or incomplete information from health workers or mass media [18, 30]. Further, some women whose responses indicate the negative attitude towards contraceptives in this study express that they do not like or trust modern contraceptives, and they prefer to have many children or space their births naturally in the will of their god. This is consistent with the study by Bekele et al., which found that some women in the emerging regions of Ethiopia have low demand for contraceptives due to their preference for large family size or their fear of social stigma [17].

In the interpersonal factors team, the IDI and KII interviewees pointed out that the main challenge that women face in using contraceptives is the opposition or coercion from their partners, who may not approve of modern methods and may threaten them with divorce, violence, or infidelity if they use them without their consent. This is a common finding in Ethiopia and other developing countries [18, 20, 25, 26, 29]. Another barrier mentioned by interviewees is the socio-cultural factors that shape women's reproductive choices, such as the norms and expectations of their family, community, or religion, which may pressure them to have large families, avoid family planning, or adhere to myths and fears about contraceptives [17]. They also indicated their fear of being judged or stigmatized by their relatives or peers for using contraceptives, which may lead them to hide their use or avoid seeking information or services [30]. In addition, the other barrier that is mentioned by this study's interviewees is the lack of communication and support from their spouses regarding contraceptive use, which may result from the male dominance and the limited power and agency of women in their reproductive health. Some women do not discuss or negotiate their reproductive intentions and preferences with their husbands, and face difficulties in persuading them to use contraceptives [31].

In the service availability and accessibility team, the IDI and KII interviewees indicate distance from health facility, availability of services, separate room for family planning services, and cost of contraceptive method and transportation as barriers to modern contraceptive utilization. These barriers affect women's ability and opportunity to obtain modern contraceptive services, especially in rural areas where the health system is inadequate, and transportation is scarce and expensive. Women may have to travel long distances, sometimes on foot, to reach the nearest health facility that offers family planning services, which may consume their time and resources, expose them to potential risks, and limit their follow-up visits and continuity of care [17, 20, 25, 28].

Moreover, the health system may not meet the demands and needs of women seeking modern contraceptive services, due to stock-outs of contraceptive commodities, a shortage of trained and qualified health workers, insufficient equipment and supplies, poor quality of care, and limited range and diversity of contraceptive methods [25, 28, 30]. These factors may erode women's trust and satisfaction with the health system, discourage them from using contraceptive services or considering alternative methods, and impede their autonomy and agency in making informed and voluntary decisions about their reproductive health [25, 30].

Furthermore, women may lack privacy and confidentiality in the provision of contraceptive services, as they may have to discuss their reproductive health issues or receive contraceptive services in a crowded or shared space, where they may be overheard or seen by other clients, health workers, or community members [25, 30]. This may affect their willingness and ability to express their needs and concerns, and to access the most appropriate and effective modern contraceptive method for them. Additionally, women may face financial constraints in accessing and using contraceptive services, as they may incur out-of-pocket expenses for transportation, registration, consultation, or other fees, even though contraceptive methods are supposed to be free or subsidized by the government [26, 32]. These costs may be prohibitive for women who have low income, depend on their husbands or relatives, or have competing household needs.

Finally, in the health workers factor's theme, the respondents identified the distrust or fear of the health workers who provide contraceptive services as a barrier to modern contraceptives in those two regions. This barrier was mentioned by both key informants and in-depth interviewees as a factor that discourages women

from seeking modern contraceptive services. This finding is consistent with other qualitative studies conducted in Ethiopia and other developing countries, which have identified health worker factors as a major challenge for contraceptive use. In relation to this, some studies in Ethiopia found that lack of skilled and trained health workers, poor quality of care, inadequate counselling, and negative attitudes of health workers were some of the barriers to contraceptive use [17, 18]. Similarly, a study by Abera et al.(2023), in Dire Dawa, Eastern Ethiopia, reported that clients' satisfaction with family planning services was influenced by the demonstration of how to use the methods, and maintaining privacy, which are all related to the health workers' performance and behaviour [33].

Our study was not without limitations. Its qualitative nature may introduce a degree of subjectivity that could potentially bias the data collection and analysis phases. Additionally, the context-specific nature of the study hinders its generalizability, making it challenging to apply the results to broader contexts. Furthermore, the typically small sample sizes associated with qualitative research constrain the extent to which conclusions can be extrapolated to larger populations.

Conclusion

This study explored the barriers to modern contraceptive utilization among women in very high fertility regions of Ethiopia. The findings indicated that they were mainly related to personal beliefs and attitudes, interpersonal factors, service availability and accessibility, and health worker factors. These barriers affect women's reproductive health and rights and expose them to unwanted pregnancies, high fertility, and health risks. To address these barriers and promote contraceptive use, the study recommends four major interventions: providing appropriate information and counselling to couples, challenging, and transforming socio-cultural norms through engaging, and involving partners and community members, and improving quality of care and availability of services and contraceptive choice. These interventions should be comprehensive, context-specific, and multi-stakeholder engagement, and should aim to empower women and their partners to make informed and voluntary decisions about their fertility and contraceptive use.

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Author contributions
TS contributed to the conceptualization, design, data analysis, interpretation, and drafting of the manuscript. TS also played a key role in the critical revision and final preparation of the manuscript. NR offered essential guidance throughout the drafting process and was involved in the meticulous review and revision of the document. JA contributed; Data collection, analysis, interpretation and revision of the document. All authors have carefully read and given their approval for the final version of the manuscript to be published.

Data availability
The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
Ethical clearance was sought from Addis Ababa University (AAU), Collage of Development Studies (CoDS) and administration permission was received from respective authority during the data collection. Eligible individual study participants were given their consents before participating in the data collection. Benefit and risk or discomfort related to the survey was briefed to the participant before the interview. Privacy and confidentiality of the respondents' information was maintained. The data collectors approached the participants in a non-judgmental, empathic and welcoming way. The participants were not forced to participate; he/she had the right to refuse or withdraw from the study. In addition, the data did not include personal identifier and kept in looked cabinet. Only the authors had access to the study hard and soft copy data in order to maintain confidentiality.

Competing interests
The authors declare no competing interests.

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