

COMMENT

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Modern family planning method utilization and associated factors among women with disabilities in the Wolaita Zone, Ethiopia: a mixed methods study

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Abstract

Background The utilization of modern family planning methods has improved maternal and child health and reduced population growth. However, modern family planning methods are utilized for only 10 percent of disabled women worldwide. In Ethiopia, the issue of family planning among women with disabilities has not been explicitly addressed or documented.

Objective To assess modern family planning method utilization and associated factors among women with disabilities in the Wolaita zone in Ethiopia, 2022.

Method A concurrent mixed study was employed. Quantitative data were collected from 332 women with disabilities by using a pretested structured questionnaire. Study participants were selected using a simple random sampling technique. The data were entered into Epi Data version 4.6 and subsequently exported to SPSS version 26.0 software. A logistic regression model was fitted to identify associated factors. A P value < 0.05 with a 95% confidence level was used to indicate statistical significance. Qualitative data were collected through individual in-depth interviews among 11 purposively selected study participants using interview-guided questions. Inductive thematic analysis was performed using open code software version 4.3. The findings were triangulated with the quantitative results and are presented in the text, table and chart.

Results Overall, 19.3% of women with disabilities utilized the modern family planning method. Being married (AOR=5.75, 95% CI=2.76-11.99), having good knowledge (AOR=5.25, 95% CI=2.36-11.68), and having a positive attitude (AOR=3.37, 95% CI=1.55-7.33) were significantly associated with hospital utilization. Information and communication problems, unfriendly health facility infrastructure, an unsupported services provision approach, undermining disable women, myths and misconceptions, and transportation-related issues were identified as barriers that hinder utilization.

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Conclusion The utilization of modern family planning methods among women with disabilities is low. Marital status, knowledge, and attitudes toward modern family planning were associated factors. It is crucial to address equity in the delivery of health care services, so a societal, attitudinal, and physical barrier must be addressed to increase the utilization of this method.

Keywords Modern family planning method, Disability

Introduction

Modern family planning is defined as the ability of individuals and couples to anticipate and attain their desired number of children, space and timing of their births. It refers to the use of various fertility control measures. This measure includes the use of modern contraceptive methods (pill, female and male sterilizers; IUD; injectables; implants; and male and female condoms). Using these fertility control measures can assist individuals or couples in ensuring the health and well-being of both children and parents [1].

The right and responsibilities for deciding the number, space and when to have a child belong to an individual or a couple [2]. Women with disabilities (WWD) have the same sexual and reproductive health needs and rights as people without disabilities. On an equal basis, they can retain their fertility [3, 4]. According to the UN Convention on the Rights of Persons with Disabilities, Article 23 states that people with disabilities have the right to decide freely and responsibly on the number and spacing of their children [5].

When a modern family planning method is needed, the method must include women with disability or their partner's physical and mental capabilities, as well as appropriate health, lifestyle, and personal preferences. To counsel clients with disabilities, health care providers need to consider their preferences and the nature of their disability [6]. The use of modern family planning methods saves lives and enhances quality of life for mothers, children, and the entire family. Moreover, it has a significant role in reducing pregnancy-related health risks in women, sexually transmitted infections (STIs) and HIV/AIDS patients. It also reduces population growth [1].

Family planning methods utilized by WWD account for 10% of the global reports on family planning methods utilized [4]. Women with disabilities face a number of challenges in utilizing modern family planning methods. The main challenges are limited access to contraception, cultural or religious opposition, lack of disability-related clinical services, lack of ramps, adapted examination tables, lack of information and communication materials available for disabled people) and negative attitudes and discrimination [7–9]. The issue of the FP method in women with disabilities has not been explicitly addressed or documented [10]. Even though countries are trying to address SRH services access for WWDs through creating policies and proposals [11],

women with disabilities are less likely to use family planning methods. There is also a disparity in the utilization of family planning methods among WWD and healthy women; for instance, women with disabilities account for 37.7% of all women, while women with disabilities account for 42.4% of healthy women [7]. The use of modern family planning methods could reduce unintended pregnancy by 68%, unsafe abortion by 72% and maternal mortality by 62% [12]; thus, giving less emphasis to these segments (women with disability) of the population challenges health extension program plan achievement to tackle maternal and child health problems and to improve modern contraceptives at each household level [13].

In addition to having consequences/adverse health outcomes and impacts due to not utilizing FP methods, women with disabilities in particular are often viewed as sexually inactive, incapable of engaging in a sexual relationship, and unable to bear and raise children [14]. These misconceptions and myths conceal real sexual relations and practices of people living with disabilities and violate the sexual and reproductive rights of people with disability [15, 16]. Due to longstanding stigmatization, they are more likely to be forced to sterilize [15]. Moreover, people with disabilities have unsafe abortions than people without disabilities [17].

WWDs have the same rights and needs for reproductive health care services as does the general population. However, family planning methods among these groups is neglected [3]; due to a lack of sufficient data, reports do not disclosed contraceptive use by WWD separately [9]. Although few quantitative studies have assessed family planning utilization and associated factors among women with disabilities, their findings were not adequate for revealing barriers to FP utilization among women with disabilities [18–22]. Therefore, this study aimed to assess the magnitude of modern family planning method utilization and associated factors among women with disabilities in the Wolaita zone using a mixed methods approach.

Method and materials

Study setting, period and design

A concurrent mixed study was employed (the quantitative study employed an institution-based cross-sectional study design, while the qualitative study employed a phenomenological study design) in the

administrative town of the Wolaita zone from April 5 to May 30, 2022. The Wolaita zone borders the southern Gamo Gofa and Dawuro Zones, the northeastern Kambata Tambaro zone, the northern Hadiya Zone, and the southwestern Sidama Zone. Wolaita Sodo town is the capital of the Wolaita zone and is located approximately 312 km southwest of Addis Ababa, the capital city of Ethiopia, and 166 km from the regional capital city Hawassa. There are seven administrative towns in the Wolayita zone. Based on the 2020 population projection conducted by the Central Statistical Agency of Ethiopia (CSA), the Wolaita zone has a total population of 5,385,782 with an area of 451,170.7 hectares [23]. According to the 2019 Wolaita Labor and Social Affairs Report, there are 18,913 disabled people in the Wolaita Zone; from those 10,403 people are male, and 8,510 people are female. Of those 1561 women of reproductive age in each town, there is a disabilities association that serves people with disability [24].

Source population

All reproductive-aged women with disabilities who live in administrative towns of Wolaita zone are known by the wolaita zone union of people with disabilities.

Study population

We randomly selected reproductive-aged women with disabilities who lived in the administrative town of the Wolaita Zone and who were known by the Wolaita Zone union of People with Disability Association.

Eligibility criteria

All reproductive-age women with hearing, visual or limb impairment were included in the study, except for women who were pregnant during the data collection.

Women with disabilities who were able and willing to provide detailed information were included in the qualitative study.

Sample size determination

The sample size of the study was calculated using OpenEpi version 3.0 software, with the following assumptions: 95% confidence interval, 80% power, and anticipated proportion ($p = 33.7\%$) [22]. With these inputs, a sample size of 313 was used; therefore, after a 10% nonresponse rate was added, 343 samples were ultimately proposed for the study. In the qualitative study, women with disabilities who were not participated in quantitative study were involved in individual in-depth interviews.

Sampling technique and procedures

All seven administrative towns were included in the study. The sampling frame was developed from the

Wolaita Zone Labor and Social Affairs Registration Book. Among the total of 8,510 disabled people in the zone, 1,561 women of reproductive age with hearing, visual, or limb defects were included in the sampling frame. The number of women included from each town was allocated proportionally to the number of eligible women. Participants in the study were recruited by simple random sampling via the lottery method using their ID number from the registration Excel sheet (Fig. 1).

For the qualitative study, participants were selected using a purposive sampling technique, participants who were well informed about the case and able to explain detail about phenomena were interviewed and the recruitment ceased after interviewing 11 participants, when data saturation was achieved, (Six women with physical impairment, 2 women with hearing impairment, and 3 women with visual impairment were included in the study.

Data collection tool

Quantitative data were collected through face-to-face interviews using a pretested and semi-structured questionnaire developed from the EDHS survey tool and different literature [9, 21, 22]. The questionnaire was prepared in English and was translated into the “Wolaitigna” local language by a local language expert to maintain consistency of the language. The questionnaire included five sections: sociodemographic characteristics, sexual and reproductive health history-related questions, participants’ knowledge of modern family planning methods and attitudes toward modern family planning methods, and modern family planning methods.

For the qualitative study, the interview guiding questions were first prepared in English and subsequently translated into two languages (the Amharic and Wolaitigna languages).

Data collection procedure

The data were collected by seven experienced health professions (3 BSc midwifery and 4 diploma nurses), and two other sign language experts for hearing-impaired participants were involved. Three health professionals (BSc midwifery) were assigned as supervisors. The data were collected in Wolaita Dona.

Qualitative data were collected through individual in-depth interview using interview guide questions by principal investigators who can speak and read local language. Audios were taped using a digital voice recorder and average length of the interview is 37 min. For hearing-impaired participants, the interview was interpreted by a sign language translator. The data collection was done in Wolayita zone union of disability association participants own office and other participants’ preferable area (home) which is free from traffic and noise.

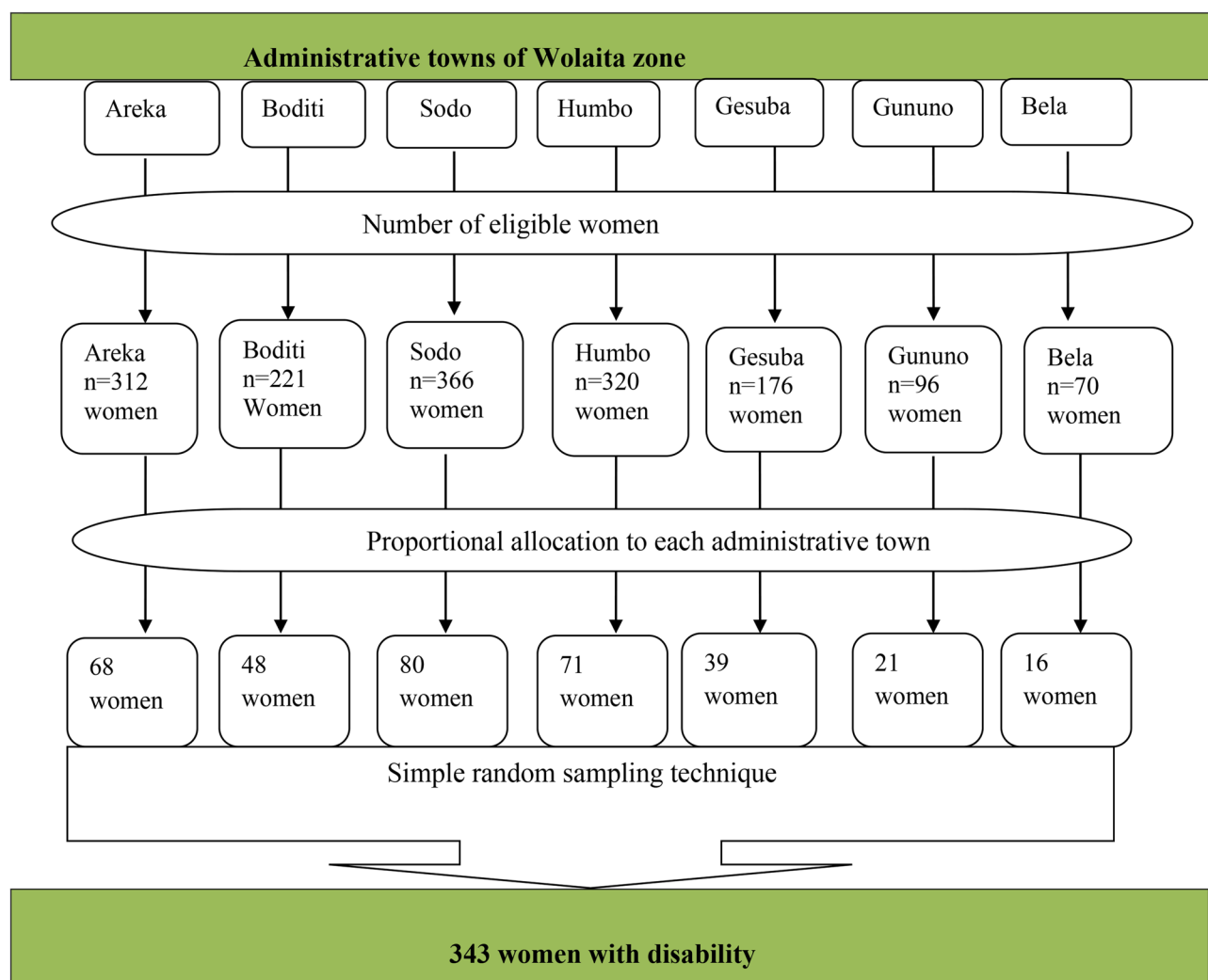


Fig. 1 Schematic presentation of sampling procedure of modern family method utilization and associated factors among women with disability in Wolaita zone, Ethiopia, 2022)

Data quality control

For the quantitative survey, an interviewer-administered structured questionnaire was first prepared in English and subsequently translated into the Wolayitegna local language by a language expert and subsequently returned to English to maintain consistency. Two days of training were given to data collectors and supervisors about the objective of the study, the relevance of the study, how to get/select respondents, the data collection/interviewing approach and proper filling/data recording by the principal investigator. A pretest was conducted on 5% of the sample (14 WWDs) in Arbaminch town. Based on the pretest, clarity, potential misinterpretations, appropriateness of wording, logical sequence and skip patterns were ensured accordingly before the actual data collection.

The data collection processes were closely followed by the supervisors. The completeness, consistency and accuracy of the data were checked daily by supervisors

and principal investigators. Incorrectly filled or missed data were sent back to the respective data collector for correction.

The trustworthiness of the qualitative findings was maintained by focusing on four criteria: credibility, dependability, confirmability, and transferability.

Credibility: Before starting the data collection, participants were informed that they would be reported to relevant people in the association. The investigators were exposed to the qualitative data collection and analysis. Some of the study participants reviewed whether the findings correctly represented their views and ideas. The expressions of the respondents were narrated directly word by word.

Dependability: The content of the manual transcripts is verified by the investigator through reviewing the audio records of the interviews. To maintain consistency of the interpretation, cross-checking was performed with audio

records of the interviews and transcription and notes taken during the interviews.

Confirmability: Before the interview, the investigators reflected on and considered their prior personal expectations and experiences to reduce bias during the data collection, coding and analysis.

Transferability: The study process was cascaded with consideration of qualitative study concepts. The findings were facilitated by providing information about the research context, methodology, and participants. Verbatim quotations from the interview transcripts were used to illustrate relevant themes. Participants were selected purposively through their ability to provide in-depth information about the phenomenon.

Data analysis process

All the field questionnaires were checked for completeness, consistency, and accuracy by an investigator, and the data were subsequently coded entered, and cleaned using Epi-Data version 4.6 software and exported into SPSS version 26 for analysis. Descriptive statistics were carried out by using simple frequency, median, and IQR. Data were presented in text, tables, and figures (charts).

Independent variables with P values ≤ 0.25 in the bivariable logistic analyses were selected for multivariable logistic analysis. Both the crude odds ratio (COR) and adjusted odds ratio (AOR) with 95% CI were determined,

Table 1 Socio-demographic characteristics of respondents in Wolaita Zone, Ethiopia, 2022, ($n=332$)

Variables	Number (n)	Percent (%)
Ever pregnant ($n=332$)		
Yes	95	28.6
No	237	71.4
Number of pregnancy ($n=95$)		
≤ 2	42	44.2
≥ 3	53	55.8
Ever had unwanted pregnancy ($n=95$)		
yes	24	25.3
No	71	74.7
Frequency of unwanted pregnancy ($n=24$)		
1-2	22	91.7
≥ 3	2	8.3
Number of live birth ($n=95$)		
≤ 2	27	28.4
≥ 3	68	71.6
Ever had child death ($n=95$)		
Yes	4	4.2
No	91	95.8
Current number of children ($n=91$)		
≤ 2	69	72.6
≥ 3	26	27.4
Discussed about modern FP method with partner ($n=72$)		
Yes	23	32
No	49	68

and variables with p -values less than 0.05 were considered statistically significant factors.

The qualitative data were analyzed using thematic analysis via an inductive qualitative data analysis approach. All the individual IDI data were transcribed and translated word by word (verbatim). Coding interesting features of the data systematically across the entire dataset was performed. The coding was executed by the qualitative data analysis software Open code version 4.03. Then, the codes were categorized according to each potential subtheme and further into themes. Finally, the findings were summarized and triangulated with the quantitative results and are presented in the text, table and chart.

Ethical clearance and consent to participate

Ethical clearance was obtained from the Wolaita Sodo University Research and Ethical Review Committee, and an official letter was written from the School of Public Health to the Wolaita Zone Union of Person's Disability Association. Furthermore, a supportive and permission letter was written to each administrative town's disability associations. Finally, informed verbal and written consent was obtained from the study participants. To maintain the confidentiality of the study, participants' names or other identifiers were represented by code numbers. Generally, throughout the study process, the confidentiality and anonymity of the study participants were maintained.

Results

Sociodemographic characteristics

A total of 332 (97% response rate) women with disabilities participated in the study. The median age of the respondents was 25 years (IQR 21–30). Regarding educational status, approximately 127(38.3%) of the respondents had a secondary education. Concerning the job status of the participants, a large number (109 [32.8%]) of the participants were students, and three-fourths (264 [79.5%]) of the study participants earned < 600 Ethiopia birr per month.

Regarding marital status, only 72 (21.7%) of the respondents were married. Approximately 144 (43.4%) participants were limb or physically impaired (Table 1).

Sexual and reproductive health-related characteristics of the respondents

More than half (53 (55.8%)) of the study participants had 3 or more pregnancies, and twenty-four (25.3%) of the pregnancies were unwanted. Regarding parity, among the women who gave birth to a live birth (95, 100%), the majority (68, 71.8%) had given birth to 3 or more live births during their previous reproductive life (Table 2).

Table 2 Sexual and reproductive health related characteristics of participants in Wolaita Zone, Ethiopia, 2022, (n=332)

Variables	Number (n)	Percent (%)
Ever pregnant (n=332)		
Yes	95	28.6
No	237	71.4
Number of pregnancy (n=95)		
≤ 2	42	44.2
>= 3	53	55.8
Ever had unwanted pregnancy (n=95)		
yes	24	25.3
No	71	74.7
Frequency of unwanted pregnancy (n=24)		
1-2	22	91.7
>= 2	2	8.3
Number of live birth (n=95)		
≤ 2	27	28.4
>= 3	68	71.6
Ever had child death (n=95)		
Yes	4	4.2
No	91	95.8
Current number of children (n=91)		
≤ 2	69	72.6
>= 3	26	27.4
Discussed about modern FP method with partner (n=72)		
Yes	23	32
No	49	68

General knowledge and attitudes about modern family planning method utilization

The majority (308, 92.8%) of the respondents had heard about the modern family planning method, and disability associations were mentioned as frequent (38.6%) sources of information. Participants' knowledge about modern family planning methods was assessed by asking nineteen [19] questions. More than half (55.8%) of the participants had scores above the mean (0.48), and they had good knowledge about the utilization of modern family planning methods.

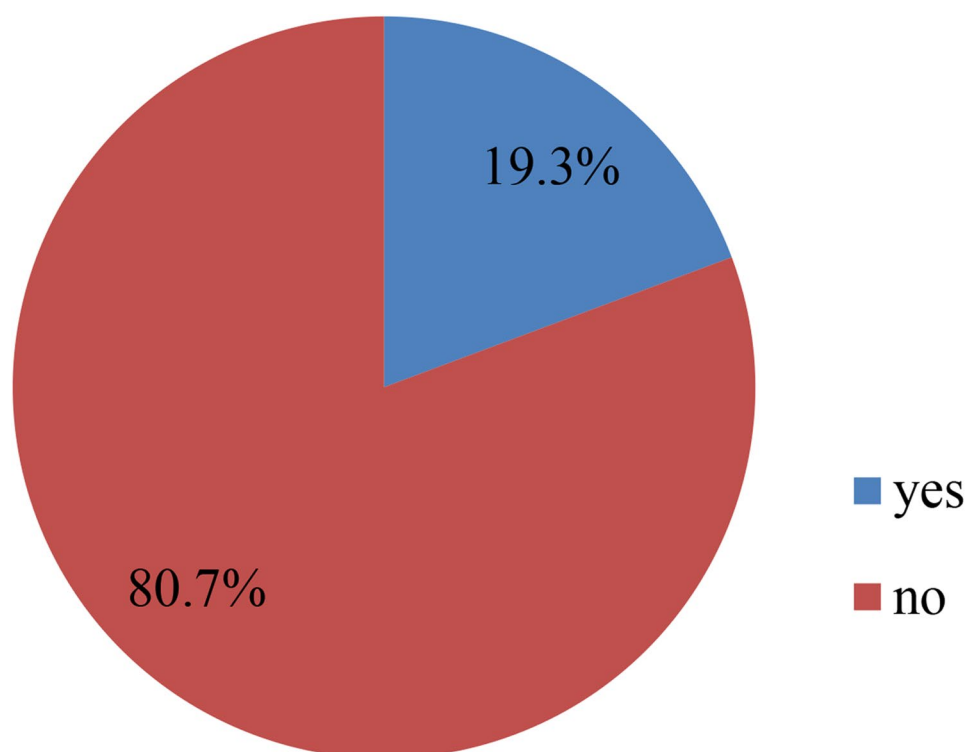
In this study, the attitudes of respondents toward the utilization of modern family planning methods were assessed by asking ten positively stated questions. Approximately 150 (48.7%) of the respondents had scores above the mean (3.65) and had positive attitudes toward the utilization of modern family planning methods.

Modern family planning method utilization

In this study, approximately one-third (64; 19.3%) of women with disabilities used modern family planning methods (19.3%; 95% CI: 14.5–23.8%) (Fig. 2).

The modern family planning method used 27 (42.1%) implants.

Qualitative findings also revealed that, implant is the most preferable modern family planning method.

**Fig. 2** Magnitude of modern family planning methods utilization among women with disability in Wolaita zone, Ethiopia, 2022

“The one which is buried under the skin of the arm is more preferable than other family planning methods, because it lasts longer, it reduces repeated visits to health facilities, it’s convenient, and I had used it (27 years old limb/physically impaired women, committee). Approximately 34 (53.1%) of the respondents used the modern family planning method for the purpose of spacing birth interval followed by limiting number of children accounts 30(46.9%).

Factors associated with the utilization of modern family planning methods among women with disabilities

According to our bivariable analysis, monthly income, marital status, impairment type, decision-making responsibility at home, number of pregnancies, number of live births, current number of children, knowledge, and attitudes were significantly related to the use of the modern family planning method.

The results of the multivariate analysis showed that married women were 5.7 times more likely to utilize the modern family planning method than single women were (AOR = 5.75, 95% CI = 2.76–11.99). Similarly, participants who had good knowledge of modern family planning methods were 5.2 times more likely to use modern family planning methods than women who had poor knowledge

of modern family planning methods were (AOR = 5.25, 95% CI = 2.36–11.68). Moreover, participants who had a positive attitude toward modern FP methods were 3.3 times more likely to utilize modern FP methods than were those who had a negative attitude toward modern family planning method utilization (AOR = 3.37, 95% CI = 1.55–7.33). Among women with disabilities who were not utilizing the modern FP method, the absence of clear and fluent communication with health care providers (68.4%) was the most frequently mentioned reason (Table 3).

In the case of the qualitative approach, among the 11 participants in the individual in-depth interviews, 6 had physical impairment, 2 had hearing impairment, and 3 had visual impairment. The maximum age of the participants was 37 years, and the minimum age was 20 years. Six of the participants were included in the committee within the association and the remaining 5 were included in the committee). Regarding their educational status, all of them had attained a higher education level, and 3 participants were married. From this interview data's, 68 cods, 15 subthemes, and 6 themes were emerged (Table 4).

The following section provides a detailed explanation of each identified theme (barrier) of modern

Table 3 Bivariate and multivariable logistic regression analysis with predictor variables in Wolaita Zone, Southern Ethiopia, 2022

Variables	Modern FP methods Use		COR (95% CI)	AOR (95% CI)
	Yes	No		
Monthly HH income (birr)				
Low(<600 birr)	43	221	1	1
Medium(601–1000birr)	6	22	2.20(0.72–6.65)	1.06(0.41–2.71)
High (>1001birr)	15	25	3.08(1.50–6.23) *	0.85(0.21–3.42)
Marital status				
Married	30	42	4.74(2.62–8.57) *	5.75(2.76–11.99)*
Single	34	226	1	1
Impairment type				
Visual	14	94	1	1
Hearing	15	55	1.0(0.54–2.13)	1.81(0.80–4.13)
Limb/physical	35	119	1.9(1.00–3.88) *	0.72(0.29–1.75)
Decision making power (n=72)				
Yes	22	18	3.12 (1.16–8.14) *	2.64 (0.76–9.13)
No	9	23	1	1
Number of pregnancy (n=95)				
>= 3	28	25	3.15(1.31–7.56) *	7.59(0.17–337.77)
<2	11	31	1	1
Number of live birth (n=95)				
>= 3	51	16	3.18(1.25–8.05) *	3.48(0.57–21.00)
≤2	14	14	1	1
Knowledge (n=308)				
Good	50	122	3.57 (1.87–6.79) *	5.25(2.36–11.68)*
Poor	14	122	1	1
Attitude (n=308)				
Positive	47	103	3.78 (1.20–4.93) *	3.37(1.55–7.33)*
Negative	17	141	1	1

Table 4 Barriers of modern FP method utilization among WWDs in Wolaita Zone, Ethiopia, 2022

Themes	Sub themes
Information and communication related barriers	-Less information access -Difficulty in communication -Unavailability of sign language translators
Unfriendly health facilities' infrastructure	-Inconvenience of buildings stair -Physical inaccessibility
Unsupported services provision approach	- Insensitive health care provider approach -Disrespectful service provision approach
Myths and misconceptions about modern FP methods utilization	-Misconception about modern FP methods utilization -Myths about modern FP methods utilization -Relating modern FP method utilization with spiritual aspect
Undermining disabled women	-Marginalizing disabled women -Low community attitude toward women with disability -Exclusion of disabled women in decision making
Transportation related barrier	-Difficulty of getting transportation -Inconvenience of the road

family planning method utilization among women with disabilities.

Information and communication-related

Problems are among the identified barriers to utilizing modern family planning methods for women with disabilities. Limited access to modern family planning method information and communication barriers are due to the inability of health care providers to communicate in sign language or the unavailability of sign language interpreters in health facilities. Miscommunication and misunderstanding between healthcare providers and hearing-impaired women have their own effects on the quality of care received. Furthermore, the dissemination of information is not tailored to hearing and visually impaired women, which is reported as the main barrier to utilizing modern family planning methods.

"If I went to the clinic to use it, how can I talk to the doctor? I can't communicate and be able to express my intention to the person who provides the service. Umm...let me tell you what happened to my friend.... last time when she went to clinic to get the family planning methods services and then she talked to the health professional but the health professional didn't get her idea The girl is asking for something else.... the health professional was talking about something else.... Then, she (her friend) tried to explain her idea by writing it on a piece of paper. You see, if there was someone who could interpret the sign language, all of this would not be a problem" (IDI#1, a 32-year-old visually impaired woman, member).

Unfriendly health facility infrastructure

Several women, particularly those with physical impairment, reported that the health facility buildings were not initially designed with the disabled population in mind. The difficulty of moving up and down health facility building stairs, especially for WWD who are moving using a wheelchair or crutch, is the main challenge in utilizing modern family planning methods.

"...Another challenge is the lack of elevators in health facilities, and we cannot go up and down on the stairs with crutches or wheelchairs. This prevents us from using contraceptives, and the toilet is also unpleasant. This is why most women want to visit private clinics rather than public health facilities" (IDI#3, 35-year-old physically impaired woman, secretary).

They also reported that most facilities are not conducive to WWD. They lack ramps, disability-friendly examination beds, and disabled-tailored separate toilets. These problems often make disabled women reluctant to seek services.

"One time when I was pregnant, I felt pain around my hip (showing the area). Then, I went to see the nurse. She just asked me to lie on the table... but the table was too high"... have you ever seen the table in the delivery room? When I asked her to help me cripple on the table, she said it wasn't her job to help cripples lie down on tables. I truly felt bad" (IDI#9, a 37-year-old physically impaired woman, member).

Unsupported services provision approach

In addition to the inconvenience of health facility infrastructures, the problem of the health care provider in the services provision approach is noted as the other big barrier to WWD on utilizing modern family planning methods. Many participants mentioned that the insensitivity and misbehavior of healthcare providers toward WWD cause them to discontinue and not visit health facilities even at appointment times.

"After we went to health facility, the doctors there isolate us; they entertain the well-dressed rich man. If you go to a health facility with a miserable look, no one talks to you; they don't see you. It is God who knows your heart, but they despise you. At one point, I went to a hospital with complaints of irregular and painful menstrual bleeding. I went to a health center to consult a health professional. Then, no doctor was willing to talk to me. They treated the people who came after me. I was furious at what I saw, and I left and returned to the private clinic. I felt so sad.

Since that day, I have not been to government health facilities” (IDI#2, 26-year-old physically impaired woman, member).

Some interview participants also mentioned that, the way in which health professional’s look at WWD reminds them to be disabled; they (health professionals) think disabled women are nonsense to sexual and reproductive life.

“Instead of giving us priority, they embarrass us. One day, when my friend got pregnant and we went to the health center to start prenatal care, we stayed for a while. It was her turn, and her name was called. Then, she (nurse) shouted at her, saying “Where is your husband?” Who did you get pregnant from?” Instead of providing the services as a nondisabled woman, they embarrass us “(IDI#6, 27-year-old visually impaired woman and committee).

Myths and misconceptions about modern family planning method utilization

Interview data from participants noted that there are some misconceptions and myths about modern family planning methods, which are the other client-centered barriers to using modern family planning methods.

The study revealed that participants mistakenly held some beliefs concerning utilizing modern family planning methods, such as using a modern family planning can result in infertility and hurts a woman’s body, and they also relates this to her wealth status if she is in use of modern family planning method, she should have to eat more nutritious foods.

....“The child will be born with a disability after using it. A girl in our village gave birth to a blind child; people in that neighborhood say she gave birth to a blind child after taking contraceptives for a long time. Once more, because my uncle’s wife had long used contraceptives, her uterus had become damaged, and she eventually sought treatment at a hospital; then medical staff advised taking her home; we did so, and soon after, she passed away... Looking at ground” (IDI#4, 22-year-old visually impaired woman, member).

“There is a perception in our community that if a woman wants to use contraceptives she must first prepare a variety of good foods and milk to protect her body because the medicine itself needs good foods. They think that using modern family planning methods is needed only for wealthy women who have a safe and comfortable life; with that in mind, other people are afraid to use it” (IDI#3, 35 years old hearing impaired women, member).

Some participants associated modern family planning methods with a spiritual dimension.

“While we are in this situation, why do we use contraceptives to destroy the human soul?” Using contraception is the same as genocide and sin” (IDI#9, 37-year-old visually impaired woman, head of female in the association).

Undermining women with disability(WWD)

This study also revealed that undermining WWD from different perspectives is the other challenge facing WWD through the use of modern family planning methods. This undermining includes giving less value to WWD by the community and marginalizing WWD from participating in different activities and excluding WWD from decision-making activities. On the other hand, the community thinks that WWDs are unable to have a sexual life.

“The value of our community to people with disabilities is also very low. They do not think that women with disabilities can give birth and form their own families. One day, when my friend and I went out to vaccinate our children, they look at each other in amazement and say, “Did they give birth to a baby or whose baby did they have?” We felt so sad; then, I returned to them and said, “Why do you say that? the disability is not in our womb, it’s on our leg” This kind of criticism scares us and prevents us from finding the service; there are many disabled women who are hiding in their homes while looking for the services” (IDI#1, 32 years old, physically impaired woman, head of female).

As a result of community attitudes, some disabled women also undermine themselves.

“People with disabilities undermine themselves; the place they give themselves is degraded. There is a saying “Who will take care of me?” Women, especially those with mobility problems, seem to carry the pregnancy by their legs smiling, they think they cannot be able to conceive or give birth; all of this is due to lack of awareness. There is also a fear that, if I go to the health center in order to get the service, what I would say if someone I knew saw me” (IDI#11, 34-year-old visually impaired woman, committee).

Transportation-related issues

The difficulty of accessing transportation and the inconvenience of roads are other challenging issues in utilizing modern family planning methods.

“Transportation conditions are not conducive to us (physical impairment). To go to the health center, we should have to get out of the house to get a Bajaj or taxi. However, it is not easy for us. Because we cannot run with the other person; we cannot compete with others to get a seat. This scar (showing her leg) what you see emerged because of the bleeding after I fall in to asphalt while struggling to get a seat” (IDI#11, 34-year-old, visually impaired woman, committee).

Discussion

This mixed-methods research aimed to assess the utilization of modern family planning methods and associated factors among women with disabilities in the Wolaita zone. This study showed that 19.3% of participants utilized the modern family planning method. However, utilization of modern family planning methods was significantly associated with marital status, participants' knowledge of modern family planning methods, and participants' attitudes toward modern family planning methods. The qualitative study revealed that limited access to information and communication problems, unfriendly health facility infrastructure, an unsupported services provision approach, myths and misconceptions about modern family planning method utilization, undermining disabled women, and transportation-related problems were major barriers to modern family planning method utilization among disabled women.

Utilization of family planning methods among women with disabilities was 19.3%(95% CI: 14.5–23.8%), which the finding of this a study is consistent with study conducted in Gonder, northwestern Ethiopia (15.8%) [21].

In contrast, the finding of this study is lower than those of studies conducted in Arbaminch town (33.7%), Addis Ababa (44.5%), North-Shewa zone, Amhara region (24.5%), and Tigri (27.2%) [19, 22, 24, 25]. A possible justification could be that more inclusive sexual and reproductive health-care facilities increase the practices. The other possible justification is that the current study assessed only actual practices (women who were using the modern family planning method during data collection). The previous studies were conducted in a single central town. This study finding is also lower than those of a study conducted in Uganda (26.1%) [26]; this difference could be due to the different sociocultural aspects.

In this study implant is the most commonly used modern family planning method (42%). These findings is in line with a study conducted in Addis Ababa (51%) [18]. This indicates that women with disabilities choose long-acting reversible modern family planning methods because they offer protection for a longer period of time and reduce the need for frequent trips to health facilities. In this study, women's marital status significantly

influenced utilization of modern family planning methods. Compared with unmarried women, women who were married were six times more likely in utilizing the modern family planning method. These findings are comparable to those of other studies conducted in Addis Ababa, Gonder, Arbaminch and Mekelle [18, 21, 22, 25]. These findings indicate that the involvement of male partner has a significant role in the utilization of modern family planning.

Similarly, participants who had good knowledge of the modern family planning method were five times more likely to use the modern family planning method than women who had poor knowledge of the modern family planning method. These findings are also documented in a study conducted in Addis Ababa [18]. The reason could be that having knowledge about modern family planning methods increases the utilization of modern contraception. This shows that raising awareness through educating this population group is crucial for modern family planning methods.

Participants' attitudes toward modern family planning utilization were significantly associated with its utilization, and participants who had a positive attitude toward modern FP methods were three times more likely to utilize modern FP methods than participants who had a negative attitude toward modern family planning method utilization. These findings are consistent with those of a study conducted by Arbaminch [22]. Having a positive attitude increases the intention to use modern family planning.

The study identified barriers to utilizing modern family planning methods by WWDs. Information and communication problems are among the main barriers to utilizing modern family planning methods among WWD. This is due to the inability of healthcare providers to communicate in sign language and the unavailability of sign language interpreters in health facilities. In general, the dissemination of information is not tailored to hearing and visually impaired women, which is reported as the main barrier to utilizing modern family planning methods. A study conducted in Addis Ababa also revealed that difficulty communicating between deaf or blind clients with health care providers was a major barrier in accessing and utilizing family planning services [20]. Similarly, another study documented that a lack of appropriate means of information-communication is one of the common contributing factors [18, 27]. This finding implies that there is a need to provide communication and information addressing materials within the health facility (availing a sign language translator, preparing information in “braille” too).

An unfriendly health facility infrastructure is one of the main barriers preventing WWD from utilizing modern family planning methods; the study noted that health

organization buildings were constructed considering only the non-disabled people. This has become difficult for physically impaired women, especially for those who move by wheelchair or crutch to climb over the stairs. In addition to unfriendly health facility infrastructure, the utilization of modern family planning among WWD has been constrained by physical inaccessibility, a lack of ramps, disability-friendly examination beds, and disabled tailored separate toilets. These barriers have also been highlighted by WHO and UNFPA as key health facility-related barriers to WWDs' in accessing SRH services [3]. Similarly, these barriers were also reported by the UN "inclusive services for people with disability in Africa" as one of the barriers in accessing health services [28]. Studies conducted in Uganda and Senegal also support these findings [26, 27]. This finding implies that health organizations should be inclusive of WWD by increasing physical accessibility.

In addition to the inconvenience of health facility infrastructures, the unsupported services provision approach is noted as the other big barrier to WWD in utilizing modern family planning methods. Some interview participants also reported that the way that health professionals look at WWD reminds them their disability; they think that WWD are nonsense to sexual and reproductive life; and in the same manner, a study conducted in Uganda mentioned that the negative attitude of health care providers was one of the challenges in accessing sexual and reproductive services by disabled people [29]. A study conducted in Addis Ababa also highlighted that "deaf unfriendly" health services were one of the challenging issues facing WWD in utilizing family planning [20]. A similar study conducted in Nepal noted that negative and disrespectful health care providers' attitudes were the most influential barrier that deterred refugees with disabilities from accessing such services [15]. A study conducted in Ghana also documented this finding as one of the barriers to accessing sexual and reproductive services [30].

Undermining WWD from different perspectives is the other challenge facing disabled women in utilizing modern family planning methods. This misunderstanding also made them to fear, 'What if someone saw me in a health facility while looking for modern family planning services?'

These findings are in line with a study conducted in Addis Ababa [18]. A study conducted in Uganda also documented that the marginalization of disabled people is one of the challenges in accessing sexual and reproductive health services [29].

Myths and misconceptions concerning modern family planning method utilization constitute the other main barrier, as participants mistakenly hold some beliefs concerning the modern family planning method. This

thought has led to a negative attitude toward utilizing the modern family planning method. This study is in line with the study conducted in Addis Ababa [20]. Therefore, raising WWD's awareness through educating them about modern family planning methods is a means to decrease myths and misconceptions about utilizing modern family planning methods.

The transportation and inconvenience of roads are other challenging issues in accessing modern family planning methods. The WHO and UNFP have also reported that transportation is one of the barriers to WWDs in accessing SRH services [3].

Similarly, the UN "Inclusive Services for Disabled People" documents that a lack of appropriate transportation is another barrier for people with disability seeking health care services [28]. These findings are consistent with other study findings [20].

Generally, the findings of this study have their implications for health system policies. The findings of this study may help policymakers and managers of SRH programs develop service delivery guidelines to standardize the provision of disability-friendly SRH services at all health-care facilities. The other implication is that PWD should be included in the planning and implementation of SRH services in all health care systems.

Conclusion

Utilization of modern family planning methods among women with disabilities is low, and marital status, knowledge, and attitudes are associated factors for modern family planning method utilization. Limited access to information and communication problems, unfriendly health facility infrastructure, and unsupported services provision approaches, undermining WWD by the community, and myths and misconceptions about modern family planning method utilization were major barriers to accessing and utilizing modern family planning methods among women with disabilities. The fundamental message of this study is that it is crucial to make the health care services disability inclusive.

To make it inclusive, the health system may need to undergo various measures in areas around service delivery, infrastructure, and information dissemination systems, and adequately address SRH services to people with disabilities at each health facility. Health facilities and concerned organizations should create awareness among women with disabilities by preparing and disseminating key messages (which have the potential to correct myths and misconceptions) about modern family planning methods based on the type of disability.

The Wolaita Zone union of the Disability Association should strengthen and increase the scope of providing SRH-related messages and information for all (urban and rural) disabled people in the Wolaita Zone. Health

facilities and concerned organizations should increase local community awareness through appropriate communication channels and media. This action would help to address negative social images and increase the value of WWD in the community.

Further research should be conducted by incorporating women with other types of disabilities, such as women with mental impairment, and increasing the sample size.

Strengths and limitations of the study

Being a mixed method study possesses the strength of the study.

Limitations of this study include the fact that since this study was conducted only on the three impairment types (physical, visual, and hearing-impaired women), it didn't include women with mental and other impairments; therefore, it is difficult to generalize to all disabled population groups.

The study was conducted among women with disabilities who are accompanied by the Wolaita Zone Union of Disability Association; it may miss women with disability who hid themselves at home, and the findings might not adequately reflect the entire disability population group.

Participants of this study were women with disabilities only, but it's better to include health care providers and male partners to identify more factors influencing the utilization of modern family planning methods from different directions and perspectives.

Abbreviations

AOR	Adjusted Odds Ratio
CI	Confidence Interval
COR	Crude Odds Ratio
FP	Family Planning
IDI	In-depth Interview
SPSS	Statistical Package for Social Science
SRH	Sexual and Reproductive Health
WWDs	Women With Disabilities

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Authors' contributions

KWC, WBD, MAA, and FY designed the study, KWC was involved in conceptualization, prepared the proposal, obtained the data, and analyzed and interpreted the data. WBD, MAA, and FY were involved in the analysis and reviewed and commented on the entire paper from inception to the end for intellectual content. WMM was involved in the analysis and software. All the authors contributed to the drafting, revision, and approval of the final version of the manuscript. All authors reviewed the manuscript.

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Data availability

A full dataset and other materials relating to this study can be obtained from the corresponding author upon reasonable request **.*.

Declarations

Competing interests

The authors declare no competing interests.

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