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Sexual and Reproductive Health Services Utilization and Associated Factors among Disabled Students in Selected Public Universities of Ethiopia

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Abstract

There is limited information regarding the level of sexual and reproductive health service utilization among disabled students in Ethiopia. Therefore, this study aimed to assess the magnitude of sexual and reproductive health services utilization and its associated factors among disabled students in selected Universities in Ethiopia. An institutional-based cross-sectional study design was conducted. A simple random sampling method was used to draw study participants. EpiData version 3.1 and SPSS version 25.0 were used for data entry and analysis respectively. Statistical significance was declared at a *p*-value of <0.05. The overall utilization of sexual and reproductive health services was 36.22% among 557 disabled participants. Marital status (AOR = 5.50; 95% CI: 2.64, 11.46), discussing sexual and reproductive health issues (AOR = 3.84; 95% CI: 2.596, 5.689), knowledge about sexual and reproductive health (AOR = 2.23; 95% CI: 1.16, 4.28), and attitude towards sexual and reproductive health (AOR = 2.87; 95% CI: 1.94, 4.23) were statistically associated with utilization of sexual and reproductive health services. This study showed a low proportion of disabled students had utilized sexual and reproductive health services. The most utilized services were voluntary testing and counseling followed by family planning.

Keywords Ethiopia · Disabled students · Utilization

Abbreviations

ICPD	International Conference on Population and Development
SPSS	Statistical Package for the Social Science
SRH	Sexual and Reproductive Health
SRHS	Sexual and Reproductive Health Services
STIs	Sexually Transmitted Infections
UNFPA	United Nations Population Fund
VTC	Voluntary Testing and Counseling

Extended author information available on the last page of the article

Background

World Health Organization (WHO) defines disability as "the consequence of an impairment that may be physical, sensory, emotional, developmental, cognitive or some combination of these resulting in restrictions on an individual's ability to perform an activity within the range considered normal for the human being" [1]. Globally, over 1 billion people experience some sort of disabilities due to mental, physical, or sensory impairments accounting for 15% of the world's population; of these, 180 to 200 million are young people with the age range of 10–24 years [2]. 80% of people with disabilities live in developing countries, 60 million in African countries, and over 15 million in Ethiopia [2–6].

According to Article 25 of the United Nations, the general assembly of the convention on the rights of persons with disabilities in 2008; "persons with disabilities have the right to the enjoyment of the highest attainable standard of health without discrimination based on disability" [3]. In the same article, a proclamation for the SRH states that "Provide persons with disabilities with the same range, quality and standard of free or affordable health care and programs as provided to other persons, including in the area of sexual and reproductive health" [3, 4].

These basic rights were also mentioned by the WHO/United Nations Population Fund (UNFPA), the Program of Action of the conference on international conference on population development (ICPD) 1994, and the Vienna Declaration [3, 5, 6]. To ensure the protection and promotion of disabled people's human rights, attention to their sexual and reproductive health needs is important to proceed with the international development agenda and to build a truly inclusive society [7]. This implies that sexual and reproductive health involves a safe and satisfying sex life, the capability to reproduce, and the freedom to decide when and how often to do so irrespective of their disability [8].

Sexual and reproductive health is defined as a state of physical, emotional, mental, and social well-being in all aspects of the reproductive system, rather than the absence of diseases, dysfunctions, or infirmity. It is concerned with the reproductive functions, processes, and systems at all stages of life [9].

Sexual and reproductive health service (SRHS) covers a wide range of activities focusing on the areas of maternal health services (antenatal care, delivery service, postnatal care services, safe abortion care, and management of complicated abortion), family planning services, HIV/AIDS services, reproductive system cancer diagnosis and management, sexually transmitted infections (STIs) other than HIV/AIDS services and sexual health programs [10, 11].

Young people are at high risk for SRH problems than anyone else [12, 13]. Particularly people with disabilities are the most marginalized, stigmatized, poorest, least educated, and least employed group which exacerbates their financial barriers to health care services all over the world's citizens. Thus, people with disabilities are more vulnerable to sexual and reproductive health problems than their non-disabled peers [14–16].

WHO referred that disabled people are twice as likely to find the skills of health care providers inadequate to meet their specific needs and three times more subjected to experience bad treatment. Actually, because of their increased vulnerability to abuse, people with some sort of disabilities may have greater needs for SRH education and care [3, 17].

Even though people with disabilities need to have the same and equal access to SRH programs, services, and resources as everyone else, they are still found to have poor knowledge about SRH issues, and SRHS utilization was also found to be low [4, 18, 19].

As studies show that a substantial group of youth with disabilities are not access programs targeting SRH since the existing programs/services did not address the specific concerns of these socially disregarded groups [5, 18, 20]. Moreover, lack of information, costs of health care services, a form of disability, stigmatization on the demand side, healthcare workers' attitude, communication barriers, physical barriers in clinical settings, lack of privacy and respect during receiving care, and inaccessible facilities on the supply side were commonly identified barriers for low utilization of SRHS among disabled people [14, 21–23].

To ensure that the whole population of the country is guaranteed the right to health, studying specific concerns of young people with disabilities is imperative. Thus, this study was conducted among visually or hearing, or physically disabled students at selected universities in Ethiopia to determine the magnitude of SRHS utilization and its associated factors.

Methods

Study Area and Period

The study was conducted from April 10/2021 to June 27/2021 at selected public Universities in Ethiopia: namely Addis Ababa University, Bahir Dar University, University of Gondar, and Hawassa University. These Universities were selected purposively for handling adequate study subjects, due to the availability of disability-specific services and support, disabled students had mostly chosen and joined these Universities.

Study Design and Population

An institution-based cross-sectional study was conducted among disabled University students in Ethiopia. The source populations were all disabled students enrolled in selected public Universities in Ethiopia. The study populations were disabled students registered in selected Universities of Ethiopia during the study period. All disabled students enrolled in selected public Universities of Ethiopia during the data collection period were included. Those students who had disabilities other than visual, hearing, physical disability, or a combination of hearing, physical and visual disabilities were excluded from the study.

Sample Size Determination

To determine the sample size for this study, the outcome variable and various factors significantly associated with the outcome variable were calculated to select the largest sample size. Accordingly, using a single population proportion formula by taking the proportion of utilization of SRHS among disabled people (33.3%), which was taken from a previous study conducted in Addis Ababa, Ethiopia [7], a precision of 5%, and 95% confidence level. To compensate non-response rate, 10% of the calculated sample size was added making a total sample size of **375** students with disabilities.

In addition, the sample size was determined using Epi info software version 7.2 using significant factors from the previously conducted study at Gondar town, Ethiopia by considering the following assumptions: 95% confidence interval, 80% power, 1 ratio of non-exposed to exposed, 14.45% of outcome in unexposed group and 24.46% of outcome in the exposed group. By adding a 10% non-response rate, the total number of study participants in this study was 528 + 53 = **581**. Finally, a sample size of **581** was used for this study.

Sampling Techniques and Procedures

A simple random sampling technique was applied to select 581 students with disabilities. Regarding the sampling procedure, four public Universities in Ethiopia: Namely, Addis Ababa University, Bahir Dar University, University of Gondar, and Hawassa University were included in the study. These Universities were selected purposively for their convenience to handle adequate study subjects, due to the availability of disability-specific services and support, disabled students had mostly chosen and joined these Universities compared to other Universities in the country. After getting the list of students with disabilities from the registrar, disability center, and students' council attending each University, the total sample size was proportionally allocated for each University based on the number of students with disability in each institution. A computer-generated simple random sampling method was used to select the study units from a list of disabled students in each University.

Data Collection Methods

A structured questionnaire was prepared from relevant literature according to the objectives of the study in the English language. The questionnaire contains questions assessing socio-demographic characteristics, individual-related factors, knowledge, and attitude of SRH, sexual relation, and questions assessing healthcare facility-related factors.

Data were collected through face-to-face interviews from visually disabled participants and a self-administered questionnaire was employed for physically disabled and hearing-disabled students. For students with hearing disabilities, one professional sign language translator was used to clarify the objectives of the study and any questions that they faced during the data collection period. Four BSc holders who graduated in non-health-related fields were collected data under the supervision of four MSc students. Data collectors have explained the purpose of the study before the beginning of data collection for study participants. They took full written consent to confirm whether they were willing to participate. For those have not willing to participate, the right to do so had given.

Study Variables

Dependent variable is Sexual and reproductive health services utilization and Independent variables are Socio-demographic variables include: sex, age, forms of disability, marital status, religion, ethnicity, year of study, family's educational level, family's occupation, and getting monthly pocket money. Individual related factors include: awareness about SRHS, awareness of health facilities providing SRHS, the perceived need for SRHS, discussion of SRH issues with family, perceived susceptibility to SRH-related diseases, perceived severity of SRH-related disease, knowledge status about SRH, attitude towards SRH, ever had

girl/boyfriend, ever had sexual intercourse. The other healthcare facility-related factor is the presence of disability-friendly SRHS providing health facilities.

Operational Definitions

Sexual and reproductive health services utilization: the dependent variable in this study was measured through the dichotomous response (yes or no) whether participants had utilized SRHS within the last 12 months or not. The positive response for at least one of the following SRHS was considered as utilized SRHS which includes: information and counseling about SRH issues, family planning, condom services, voluntary testing and counseling of HIV, abortion care, post-abortion care, pregnancy test, maternal care (antenatal care, delivery care, and post-natal care) and testing and treatment of STIs [13, 24, 25].

Good Knowledge participants who scored 80% or more from 10 knowledge questions had considered as having good knowledge about SRH [18].

Moderate Knowledge participants who scored 50-80% from 10 knowledge questions had considered as having moderate knowledge about SRH [18].

Poor Knowledge participants who scored below 50% from 10 knowledge questions had considered as having poor knowledge about SRH [18].

Favorable Attitude respondents who scored equal to or above the median of the mean score of the 10 attitude measuring questions with 1–3 Likert scale points had considered having a positive attitude towards SRH.

Physical Disabilities for this study physical disabilities mean restriction of mobility which can be due to loss, paralysis, or other kinds of impairment of limbs or parts of the body. Thus, various gadgets like wheelchairs, crutches, or any other aiding materials were used to help them to move from one place to the other [26, 27].

Data Quality Control

The questionnaire was adopted from locally conducted different kinds of literature. The pretest of the instrument had done before the actual data collection period at Wollo University, which is not selected in the study area, among 5% [30] of the study participants. Accordingly, the assessment of clarity and adjustments in the sequence and skipping pattern of the questionnaire had made based on the results of the pre-test. One-day training about the objectives and process of the data collection was given to data collectors and supervisors by the principal investigator in each University. Four trained MSc students supervised the data collector daily for the completeness and consistency of the filled questionnaires. In addition, the data was thoroughly cleaned and carefully entered into the computer for the beginning of the analysis.

Data Processing and Analysis

Data were coded and entered into EpiData version 3.1 and then exported to SPSS version 25.0 for analysis. During analysis, data was edited and cleaned for inconsistencies and analyzed using SPSS 25 statistical software. Descriptive statistics like frequencies and percentages were presented with texts, tables, and simple bar graphs. Bivariable logistic regression analysis was performed to see the association between each independent variable and the outcome variable. Independent variables with *p*-value of ≤0.25 were entered into multivariable logistic regressions. Multi-collinearity was checked by using the Variance Inflated Factor (VIF) which ranges from 1.010 to 1.199. Model fitness was checked using the Hosmer-Lemeshow test. Association was described using an adjusted odds ratio along with 95% CI and *p*-value < 0.05 was considered statistically significant.

Results

Socio-Demographic Characteristics

A total of 577 disabled students completed the interview with a response rate of 99.3%. More than half 306 (53%) of disabled students were males. The majority, 307 (53.2%) of the respondents were in the age range of 20–24 with a mean age and standard deviation of 23.91 ± 2.76 years. The most prevalent form of disability was visual disability 312 (54.1%) followed by physical disability 197 (34.1%) and hearing disability 68 (11.8%). About 533 (92.4%) of the respondents were single and 299 (51.8%) were orthodox Christianity followers. Regarding their ethnic group, 272 (47.1%) of the respondents belonged to Amhara followed by Oromo 226 (39.2%) ethnic groups (Table 1).

Awareness about SRHS and SRHS Providing Health Facilities

About 217 (37.6%) of the respondents were aware of health facilities that provide SRHS. Two hundred eighty-eight (49.9%) of the respondents had ever heard about SRHS. Television (52.4%) and radio (45.8%) were mostly mentioned sources of information about SRHS (Fig. 1).

Knowledge of Students with Disabilities about SRH

About 319 (55.3%) of participants knew that a girl can pregnant with the first sexual intercourse however only 102 (17.7%) of the respondents knew the menstrual period in which a woman had become the greatest chance of pregnancy. The majority, 493 (85.4%) and 532 (92.2%) of the respondents knew that a girl can be pregnant and boys can be able to physically make a girl to be pregnant during and after puberty respectively. About 158 (27.4%) and 196 (34.0%) of the respondents agreed with using a condom is a sign of not trusting about partner and that discussing condoms promotes promiscuity respectively. Overall about 370 (64.1%) of the respondents had moderate knowledge about SRH issues (Table 2).

Table 1 Socio-demographic features of disabled students at selected universities in Ethiopia, from April 10/2021 to June 27/2021 ($N=577$)

Characteristics	Category	Frequency	Percentage
Age category	15–19	47	8.1
	20–24	307	53.2
	≥25	223	38.6
Marital status	Single	533	92.4
	Married	44	7.6
Religion	Orthodox	299	51.8
	Muslim	206	35.7
	Others	72	12.5
Ethnicity	Oromo	226	39.2
	Amhara	272	47.1
	Others	79	13.7
Current year of study	Second	271	47
	Third	215	37.3
	Fourth	73	12.7
	Fifth	18	3.1
The educational level of the respondent's father	Cannot read and write	367	63.6
	Can read and write	108	18.7
	Grade 1–8	38	6.6
	Grade 9–12	35	6.1
	Above 12th grade	29	5.0
The educational level of the respondent's mother	Cannot read and write	481	83.4
	Can read and write	40	6.9
	Grade 1–8	11	1.9
	Grade 9–12	24	4.2
	Above 12th grade	21	3.6
Get pocket money for a monthly expense	No	344	59.6
	Yes	233	40.4

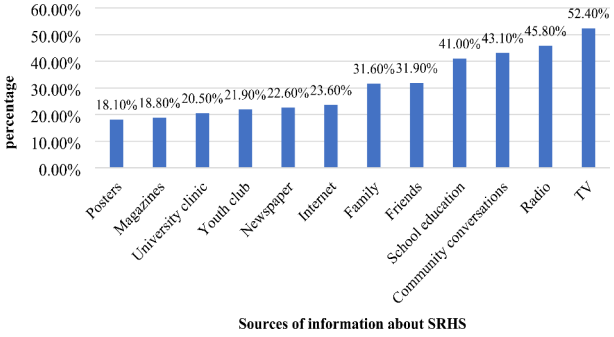

Fig. 1 Sources of information about SRHS for disabled students at selected universities in Ethiopia, from April 10/2021 to June 27/2021 ($n=288$)

Disabled Students' Attitude Towards SRH

Four hundred sixty-eight (81.1%) participants agreed that a person could get HIV for first-time sexual contact. Only 335 (33.8%) and 354 (61.4%) of the respondents disagreed that early premarital sex for boys and girls is supported respectively. About 170 (29.5%) of the respondents agreed with safe abortion care might expose them to stigmatization in social

Table 2 Knowledge status about SRH issues among disabled students at selected universities in Ethiopia, from April 10/2021 to June 27/2021 (N=577)

Variables	Category	Frequency	Percentage
How old does a girl need to be to pregnant?	During and after puberty	493	85.4
	Before 10 years of age	75	13.0
	Others	9	1.6
During which part of the menstrual cycle does a woman have the greatest chance of becoming pregnant?	During her period	209	36.2
	Right after a period is ended	146	25.3
	Just before her period begins	87	15.1
	In the middle of her cycle	102	17.7
	The same throughout her cycle	33	5.7
How old does a boy need to be able to physically make a girl pregnant?	During and after puberty	532	92.2
	Before 10 years of age	40	6.9
	Others	5	0.9
Do you know any ways to avoid getting pregnant?	No	95	16.5
	Yes	482	83.5
Do you know of any diseases a person can get through sexual intercourse?	No	193	33.4
	Yes	384	66.6
Can you know someone has HIV by looking carefully?	No	301	52.2
	Yes	276	47.8
Is there anything a person can do to avoid STIs and HIV?	No	141	24.4
	Yes	436	75.6
Do you know the signs/symptoms a person with STIs will manifest?	No	262	45.4
	Yes	315	54.6
What is the preferable time for safe abortion?	Before 3 months of pregnancy	304	52.7
	At any time during pregnancy	219	38.0
	After 3 months of pregnancy	54	9.4
Overall knowledge about SRH issues	Poor	88	15.3
	Moderate	370	64.1
	Good	119	20.6

life. Overall only 245 (42.5%) of the participants had a favorable attitude toward SRH issues (Table 3).

Personal Experience Related to SRH and Sexual Relations

Three hundred forty-one (59.1%) of the respondents did not discuss with their families about SRH related issues. About 194 (33.6%) and 135 (23.4%) of the respondents were ever had girl/boyfriends and had started sexual intercourse respectively. Of those who started sexual intercourse 79 (58.5%) of them had more than one sexual partner within the last 12 months. About 457 (79.2%) of the respondents had perceived that SRH-related diseases are severe however only 372 (64.5%) of the respondents had perceived that SRHS is needed for disabled students. Three hundred thirty-four (57.9%) of the respondents perceived themselves as susceptible to SRH-related diseases (Table 4).

Table 3 Attitude towards SRH among disabled students at selected universities in Ethiopia, from April 10/2021 to June 27/2021 ($N=577$)

Variables	Category	Frequency	Percentage
a person can get HIV for the first time s/he has sex.	Agree	468	81.1
	Neutral	88	15.3
	Disagree	21	3.6
Early premarital sex for boys is supported.	Agree	47	8.1
	Neutral	195	33.8
	Disagree	335	58.1
Early premarital sex for girls is supported.	Agree	39	6.8
	Neutral	184	31.9
	Disagree	354	61.4
Safe abortion care services expose to disgusting by others.	Agree	170	29.5
	Neutral	249	43.2
	Disagree	158	27.4
ANC can reduce complications related to pregnancy.	Agree	363	62.9
	Neutral	163	28.2
	Disagree	51	8.8
A wife has a right to refuse unprotected sex	Agree	296	51.3
	Neutral	154	26.7
	Disagree	127	22.0
Having multiple sex partners has a high risk of acquiring HIV.	Agree	517	89.6
	Neutral	35	6.1
	Disagree	25	4.3
There is no evidence for the existence of HIV/ADIS.	Agree	16	2.8
	Neutral	27	4.7
	Disagree	534	92.5
Overall attitude status towards SRH issues	Unfavorable	332	57.5
	Favorable	245	42.5

Table 4 Personal experience related to SRH and sexual relations among disabled students at selected Universities in Ethiopia, from April 10/2021 to June 27/2021 ($N=577$)

Variables	Category	Frequency	Percentage
Have you ever discussed SRH topics with your family?	No	341	59.1
	Yes	236	40.9
Do you percieve tha SRH related diseases are severe?	No	105	18.2
	Yes	472	81.8
Do you percieve susceptable to SRH related diseases?	No	243	42.1
	Yes	334	57.9
Have you ever had a girl/boy friend?.	No	383	66.4
	Yes	194	33.6
Have you ever had sexual intercourse?	No	442	76.6
	Yes	135	23.4

Level of SRHS Utilization

Two hundred nine (36.2%) disabled students had ever utilized SRHS within the last 12 months. Voluntary testing and counseling of HIV154 (73.7%) were mostly used SRHS type followed by family planning 69 (33%), male condom 59 (28.2%), and STIs diagnosis and treatment 39(18.7%) About 47 (8.10%) of respondents were modern contraceptive users during data collection time from which implant 16 (34%) and male condom 13 (27.7%) were mostly utilized types of modern contraceptive methods followed by injectable 11 (23.4%) and oral contraceptive pills 7 (14.9%) (Fig. 2).

From those who ever had a girl/boyfriend only 76 (39.2%) utilized at least one form of SRHS whereas among those who perceive themselves susceptible to SRH-related diseases, 173 (48.2%) of the respondents had utilized SRHS. Governmental health facilities, 164 (78.5%), and University clinics 100 (47.8%) were mostly preferred health facilities for SRHS utilization followed by private health facilities 69 (33%), drug shops 24 (11.5), and NGO 4 (1.9%) clinics. The reasons for preferences of these health facilities were the provision of free services 171 (81.8%), the proximity of services 46 (22%), the effectiveness of treatment 43 (20.70%), low cost 43 (20.70%), confidentiality 37 (17.8%), parents' preference 6 (2.9%) and presences of relatives 4 (1.9%) in that health facilities.

Of those who have ever used SRHS 78 (37.3%) of respondents had faced some kind of barriers during SRHS utilization. Of these, bad approaches of healthcare providers, 63 (80.8%), and inconvenient working hours 58 (74.4%) were mostly mentioned barriers that disabled students faced during SRHS utilization.

Only 202 (35%) of the respondents considered the existing SRHS to be disability-friendly. The reason those who did not consider the existing SRHS to be disability-friendly was the inconvenience of road 278 (88.3%), inconveniences of the service delivery environment 271 (86.0%), health care providers' fail to keep privacy and confidentiality 179 (56.8%), communication problem 161 (51.1%), high cost of services 149 (47.3%), long distances to reach health facilities 147 (46.7%) and long queues and waiting for 125 (39.7%). Lack of information about where to go 254 (69%) and money 253 (68.8%) were the main reasons for those who did not ever utilize SRHS (Fig. 3).

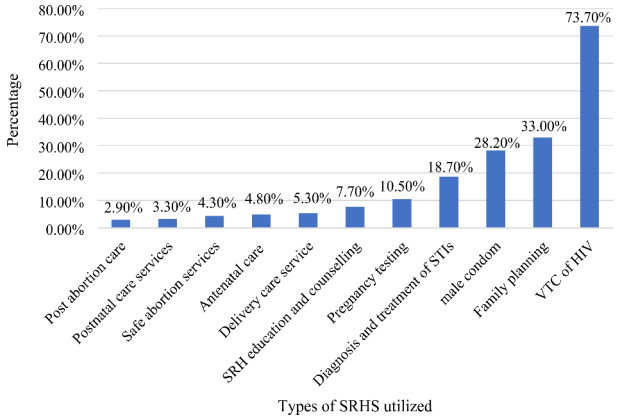

Fig. 2 Specific SRHS types utilized by disabled students at selected universities in Ethiopia, from April 10/2021 to June 27/2021 ($n=209$)

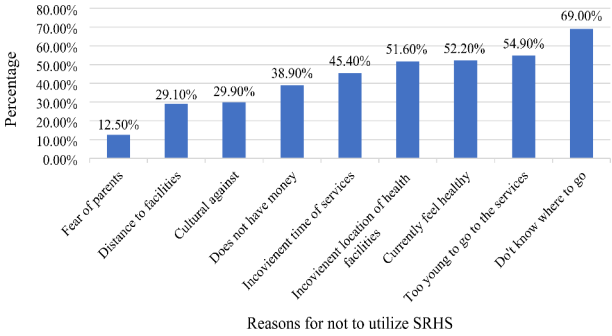

Fig. 3 Reasons for not utilizing SRHS among disabled students at selected universities in Ethiopia, from April 10/2021 to June 27/2021 ($n=368$)

Factors Associated with the Utilization of SRHS

On bivariable logistic regression analysis, a form of disability, marital status, discussion about SRH-related issues with family, perceived susceptibility to SRH-related health diseases, knowledge status about SRH, and attitude towards SRH were significantly associated with utilization of SRHS ($p<0.05$). Marital status, discussion about SRH-related topics with family, knowledge status about SRH, and attitude towards SRH were continued statistically associated with utilization of SRHS in multivariable analysis.

This study shows that the odds of SRHS utilization was 5.50 times (AOR=5.50; 95% CI=2.64, 11.46) higher among those students who were currently married as compared to those who are not currently married. Those students who ever had discussed SRH issues with their families were 3.84 times (AOR=3.84; 95% CI=2.596, 5.689) more likely to utilize SRHS compared to those who had never discussed it.

Students who had good knowledge about SRH were 2.23 times (AOR=2.23; 95% CI=1.16, 4.28) more likely to utilize SRHS as compared to those who had poor knowledge. Similarly, students with a favorable attitude towards SRH were 2.87 times (AOR=2.87; 95% CI=1.94, 4.23) more likely to utilize SRHS than their counterparts (Table 5).

Discussion

This study shows that the prevalence of SRHS utilization among disabled University students was 36.22% (95% CI=36.03%, 36.36%). This is higher than a study conducted in Nepal which shows only 15% of participants had utilized SRHS [33]. This difference could be because of differences in the educational level of the respondents [15]. Participants in this study were university students whereas the previous study included uneducated disabled who had poor knowledge about SRH. As participant's level of education increases their understanding of complications of SRH-related problems increases; it is also revealed that their self-esteem and self-efficacy to utilize SRHS increase regardless of their life situations as the education level increases. This self-efficacy empowers the disabled to demand and utilize SRHS by overcoming different barriers [7]. Another possible reason might be that this study incorporated male participants which could increase SRHS utilization; whereas the previous study did not include males. Studies had reported that males are more confident to utilize SRHS as compared to females as appreciated from this study [28, 29].

Table 5 Factors associated with SRHS utilization among disabled students at selected Universities in Ethiopia, from April 10/2021 to June 27/2021 ($N=577$)

Variables and Category	SRHS utilization		Bivariate Analysis	Multivariable analysis
	No	Yes	OR (95% CI)	AOR (95% CI)
Marital status				
Unmarried	354	179	1	1
Married	14	30	4.24 (2.19, 8.19)**	5.50 (2.64, 11.46)**
Discuss SRH issues with family				
No	264	77	1	1
Yes	104	132	4.35 (3.03, 6.25) **	3.84 (2.60, 5.69)**
Knowledge status about SRH				
Poor knowledge	61	27	1	1
Medium knowledge	246	124	1.14 (0.69, 1.88)	1.09 (0.62, 1.92)
Good knowledge	61	58	2.15 (1.21, 3.83)*	2.23 (1.16, 4.28) *
Attitude towards SRH				
Unfavorable attitude	246	86	1	1
Favorable attitude	122	123	2.88 (2.03, 4.10)**	2.87 (1.94, 4.23) **
Form of disability				
Visual disability	212	100	1	1
Hearing disability	35	33	2 (1.18, 3.40)*	1.71 (0.93, 3.12)
Physical disability	121	76	1.3 (0.92, 1.93)	1.16 (0.76, 1.77)
Perceive susceptibility to SRH related diseases				
No	188	83	1	1
Yes	180	126	1.59 (1.12, 2.24)*	1.39 (0.94, 2.07)

* Significant ($p<0.05$), ** highly significant ($p<0.001$)

The finding of this study was also higher as compared with the finding from a study conducted in Addis Ababa, Ethiopia which shows 33.3% of the respondents had utilized SRHS [15]. The possible reason for this difference could be due to differences in the educational status of the respondents [7, 13]. A study from Addis Ababa incorporated uneducated participants whereas participants in this study were university students relatively with better awareness about SRH which increases SRHS utilization. It might be also due to the differences in the study period, area, and assessment tool. However, the finding of this study was lower than another study from Addis Ababa, Ethiopia which shows that 73.9% of the respondents had utilized SRHS [18]. The possible reason for this discrepancy might be due to variation in the measurement. The denominator in the previous study was only participants who had a favorable attitude towards SRH whereas the denominator in this study was whole participants who had both unfavorable and favorable attitudes towards SRH.

Another possible reason for these differences might be also differences in the sample size, assessment tool, and the study period. From those participants who perceived themselves susceptiable to SRH related diseases 173 (48.2%) were utilized at least on form of SRHS. This might be due to that as the responednts think them selves sucseptable to SRH related diseases they worry about their health status, know the bad consequences of complications related to SRH related diseases and these inturn urges them to use SRHS.

This study found that students who were married were 5.5 times more likely to utilize SRHS than those who were not married AOR 5.50, (95% CI: 2.64–11.46). This result was also observed in previous studies conducted in Nepal, Hadiya Zone, Gondar, and Nekemte towns in Ethiopia [7, 24, 30, 31]. It is also consistent with another study conducted at Arba Minch, Ethiopia [32]. Those students with disabilities who had discussed SRH issues with their families were 4 times more likely to utilize SRHS as compared to those who had never discussed AOR 3.84 (95% CI: 2.60–5.69). This might be due to those participants who had a discussion on SRH-related issues with anyone would have a better awareness about SRHS which motivates them to use the service [33]. Moreover, having a discussion about SRH issues with different individuals helps in exchanging information and experiences that assist them in the uptake of each service [13]. Additionally, social relations and discussion may also have an impact on participants' decision-making power. This finding is consistent with previous studies conducted in Gondar town, Debre Tabor town, Nekemte town, and Awebel and Mecha districts in Ethiopia [10, 23–25, 34].

This study also showed that students with disabilities who have good knowledge about SRH were two times more likely to utilize SRHS as compared to those who have poor knowledge AOR 2.23, (95% CI: 1.16–4.28). This finding is demonstrated in studies conducted in Woldia, Harar, and Hadiya Zone in Ethiopia which showed that having good knowledge about SRH was significantly associated with SRHS utilization [12, 31, 35]. The possible justification for this might be, those respondents with a good level of knowledge regarding SRH will understand the benefit of using SRHS and the bad consequence of SRH-related problems [12]. Those students who had a favorable attitude towards SRH were 3 times more likely to utilize SRHS as compared to their counterparts (AOR 2.87 (95% CI: 1.94–4.23). This finding is consistent with a study conducted at Arba Minch town, Nekemte town, and Bale zone in Ethiopia [11, 24, 32].

Conclusion

In this study, only 36.2% of the respondents utilized SRHS. Being married, having a discussion about SRH issues with families, having good knowledge about SRH, and having a favorable attitude towards SRH were positively influencing significant factors for SRHS utilization. Therefore, it is recommended that schools, health facilities, and mass media would promote youths' discussion about SRH issues with their families. We also wish to recommend Universities and associations related to people with disabilities emphasize promoting peer discussion about SRH to improve knowledge and attitude about SRHS utilization. Generally, utilization of SRHS among disabled university students needs active involvement and commitment of families, health professionals, health institutions, University communities, disability-related associations, and governmental and non-governmental organizations.

Strengths and Limitations of the Study

Being one of a few studies that address marginalized groups' SRHS utilization and incorporation of adequate sample size were the strengths of this study. Although their confidentiality was reassured since sexuality is a sensitive issue, respondents may feel that their privacy was violated. As a result, the tendency to hold back or give false information could be a limitation of this study.

Author Contributions FTZ conceived the study and wrote the original draft of the manuscript. FTZ, SGT, SAS, and HDJ analyzed data and its interpretation. MA, SGT, DT, SAS, HDJ, FA, and KG reviewed the draft manuscript for intellectual content and participated in the revision. All authors read and approved the final version of the manuscript.

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Data Availability The data sets used in this study were available from the corresponding author when reasonably requested.

Declarations

Conflict of interests The author(s) declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

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