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Research Article

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Disparities In Sexual and Reproductive Health Service Utilization and Associated Factors Among Agrarian and Pastoralist Adolescents In South Omo Zone, Ethiopia: A Community-Based Comparative Cross-Sectional Study

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Abstract

Background: *Nearly 1.2 billion people worldwide are adolescents aged between 10 and 19 years. In Ethiopia, pastoralists constitute approximately 12% of the total population. Studies on sexual and reproductive health service uptake in Ethiopia have been conducted, but they have not shown disparities in service utilization between agrarian and pastoralist settings. This study was necessary because the South Omo Zone is unique from other parts of Ethiopia and has not been addressed yet, as the cultural and lifestyle differences of adolescents living in the South Omo pastoralist and agrarian areas are significant.*

Method: *A community-based, comparative, cross-sectional study was conducted from May to June 2023. A multistage sampling technique was used, and 502 adolescents were randomly selected to participate in the study. Data was collected using a structured questionnaire with written consent. The data were entered into EPI Data version 4.6, and the analysis was performed using SPSS version 25. Bivariate and multivariate logistic regression analyses were conducted. Significance was considered at a P-value of <0.05 in the multivariate analysis.*

Results: *A total of 493 adolescents (247 from agrarian and 246 from pastoralist backgrounds) participated in the study, yielding a response rate of 98.2%. There were more females (61.9%) than males (38.1%). The overall utilization of SRH services was 27.4% (95% CI: 26.9, 27.8). There was a significant difference in SRH service utilization between agrarians (36%, 95% CI: 35.5, 36.5) and pastoralists (18.7%, 95% CI: 18.3, 19.1). The level of education (Uneducated adjusted odds ratio (AOR=0.187, 95% CI 0.065, 0.536), father/mother encouragement (AOR=2.817, 95% CI 1.120, 7.089), parent discussion (AOR=3.729, 95% CI 1.315, 10.574), and distance to SRH service (AOR=3.645, 95% CI 1.423, 9.337) were determinants of adolescent SRH service utilization. Fear of being seen by parents or others (20.9%) and lack of confidentiality (21.7%) were the most possible factors preventing adolescents from using SRH services in existing health institutions.*

Conclusion: *Overall, adolescent sexual and reproductive health service utilization in the study area was very low. Promoting father/mother encouragement and establishing sexual and reproductive health service centers at health institutions and school levels should be emphasized. The health sector and other stakeholders need to strengthen their efforts to establish sexual and reproductive health services near adolescents in places where they do not yet exist, in both agrarian and pastoralist areas.*

Keywords: Adolescents, Service Utilization, Sexual and Reproductive Health, Pastoralists, Agrarian, Ethiopia

1. Introduction

Adolescent sexual and reproductive health (ASRH) services are described as a set of strategies, procedures, and services aimed at preventing and treating sexual health problems in adolescents while also promoting their overall well-being [1]. According to the WHO, more than 1.2 billion adolescents are aged 10–19 years worldwide. Ethiopia has the largest proportion of the population, with over 25 million young people, constituting approximately 24% of the country's total population. Some studies indicate that approximately 30% practice sex before 18 years of age [2,3].

Ethiopia has both agrarian and pastoralist populations. Agrarians are related to the ownership and use of land, especially farmland, or to a part of a society or economy concerned with crops or agriculture. Pastoralists are defined as people who raise livestock, such as sheep, cattle, and other domestic animals, on a large scale. The pastoralist population accounts for approximately 15% of the total population [4,5]. Adolescents in agrarian and pastoralist areas have different socio-demographic, socioeconomic, and cultural characteristics that influence how they use sexual and reproductive health (SRH) services. Different studies on the utilization of ASRH services in Ethiopia have been conducted, but no study has shown a disparity in service uptake among agrarian and pastoralist populations [6,9].

Adolescents worldwide face considerable challenges to their SRH and rights. This includes a lack of education and information, high rates of early and unwanted pregnancy, lack of access to SRH services and safe abortion, the risk of STIs/HIV/AIDS, and others [10]. The average global probability of a 10 year old dying before age 24 was 6 times higher in sub-Saharan Africa than in North America and Europe [11,12]. WHO advocates for the prioritization of adolescent health issues as one of Ethiopia's priority programs, with a focus on the provision of adolescent and youth-friendly reproductive health services at all levels of the health system. In this regard, WHO has been supporting the Federal Ministry of Health in the development and updating of national strategies, tools, and training packages on adolescent and youth-related health services [13].

In the South Omo Zone in southern Ethiopia, both agrarian and pastoralist populations exist. Of the 10 districts in the zone, five have pastoralist populations. However, no study has been conducted on the utilization of ASRH services. Therefore, this study highlights overall ASRH uptake, disparities between pastoralist and agrarian communities, associated factors, and provides recommendations for future interventions.

2. Methods

2.1. Study Area and Period

This study was conducted in the South Omo Zone, Southern Ethiopia, from May to June 2023. The zone is located 750 km south of Addis Ababa, Ethiopia's capital, and was divided into 10 districts. It consists of four agrarian, five pastoralist, and one semi-agrarian and pastoralist district. There are one general hospital, three primary hospitals, 45 health centers, and 262 health posts in the zone. According to the 2007 Population and Housing Census projection, the total population of the zone is 834,545, with 408,928 (49%) males and 425,617 (51%) females. The zone has an estimated adolescent population of 208,636, which accounts for twenty-five percent of the total population [14].

- **Study Design**

A community-based comparative cross-sectional study was carried out.

- **Study Population**

All adolescents living in the south Omo zone

- **Study Unit**

Randomly selected adolescents (10-19 years old) from randomly selected kebeles/villages and districts

- **Inclusion Criteria**

Adolescents who had been living for more than six months before the data collection period

- **Exclusion Criteria**

Adolescents who were seriously ill during the data collection period

- **Sample Size Determination**

The sample size was determined using a double population proportion formula, considering the proportion of SRH service uptake from the literature as 29.4% in agrarians and 50% in pastoralists. A 5% margin of error, a power of 90%, and a 1.1 ratio were applied due to the population distribution. After accounting for a 10% nonresponse rate and a design effect of 2, [15]. On the basis of above assumption, $n=\frac{P1(1-P1)+P2(1-P2)}{(P1-P2)^2}*F$ (90%) . P1 = proportion of agrarian with SRH, P2 = the proportion of pastoralists with SRH, and F power (90% = 10.5).

$$n=\frac{(0.294(1-0.294)+0.5(1-0.5)}{(0.294-0.5)^2}*10.5 = 114$$

One hundred fourteen (114) individuals were included in this population 228 (114 from agrarians and 114 from pastoralists) the final sample size for this study was 502 (251 from agrarians and 251 from pastoralists).

- **Sample size for the second objective** was calculated by taking three predictor variables from studies by using Open-Epi version 3.0.1 software. The largest sample size from the study variables was 427 (table 1), which is less than the sample size calculated from the first objective. Thus, the minimum adequate sample size for this study was 502.

Variables	Proportion	AOR	Confidence level (%)	Power (%)	Sample size	10% non-response rate	Final sample size	Reference
Age	69.7%	1.85	95	80	388	39	427	(15)
partner/peer discussion	33.8%	2.368	95	80	256	26	282	(31)
Youth club availability	34%	2.78	95	80	194	20	214	(36)

Table 1: Sample Size Calculation for the Second Objective

- **Sampling Procedure/Technique**

A multistage sampling technique was used to select study participants. Initially, the zone was divided into agrarian and pastoralist districts. Four districts were randomly selected, and two kebeles were chosen from each district. The sample size was proportionally allocated to each selected kebele, and households with eligible participants were selected through systematic random sampling (Figure 1). When there was more than one adolescent in the selected household, a lottery method was used.

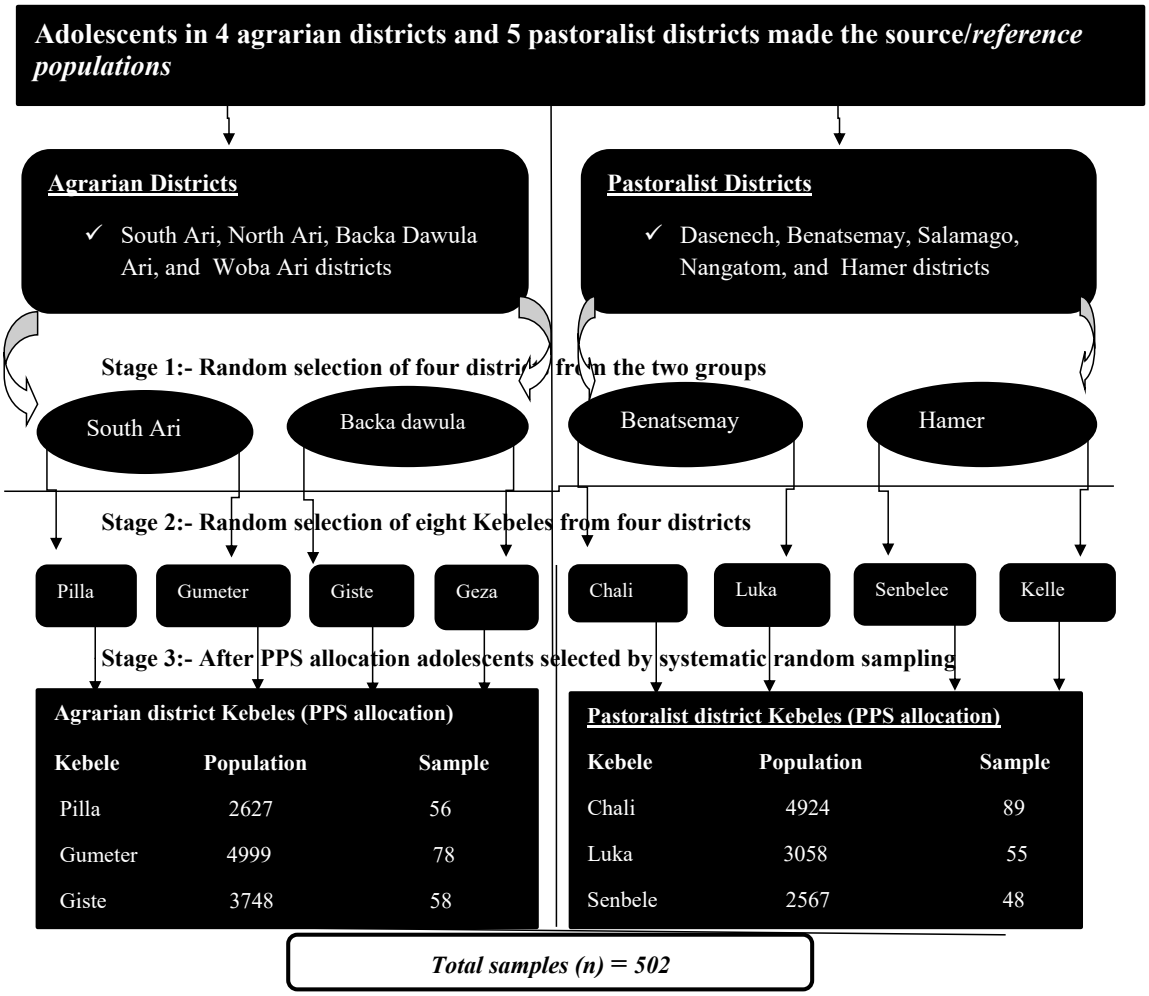

Figure 1: Pictorial Presentation of the Sampling Procedure

- **Data Collection Tools**

Data were collected using a structured questionnaire containing written consent, socio-demographic data, and sexual and reproductive health-related questions adapted from peer-reviewed studies [16,17].

- **Data Collection Procedures**

Questionnaires were developed in English, translated into the local language, and back-translated for consistency. Data were collected in the local language by clinical nurses and supervised by a public health professional. The principal investigator coordinated the activity and conducted daily checkups.

- **Data Quality Assurance**

The questionnaires were pre-tested on 25 respondents a week before the actual data collection period. The reliability of the tool

was checked using Cronbach's alpha, which was found to be 0.75, indicating good reliability. Overall, the study employed rigorous methods to ensure accurate data collection and analysis.

- **Data Management and Analysis**

The collected data were checked for completeness, coded, and entered into Epi Data 4.6, and the analysis was performed via SPSS version 25. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to describe each variable. Bivariate logistic regression analysis was conducted for each predictor variable concerning ASRH service utilization. Variables associated with adolescent SRH service utilization ($p < 0.25$ significant levels) were included in the multivariate logistic regression analysis. Variables with a p-value less than 0.05 were considered statistically significant in multivariate logistic regression analysis. Both the crude odds ratio (COR) and adjusted odds ratio (AOR) with 95% CI were used to report the associations between SRH service utilization and explanatory variables. Finally, the results are summarized and presented in graphs and tables.

- **Ethical Consideration**

Ethical approval was obtained from the Ethical Review Committee (ERC) of Wolaita Sodo University College of Health Science and Medicine. An official letter was written to the South Omo Zone and its districts for permission. Written consent was obtained from each participant after explaining the study objectives. All participants were encouraged to participate in the study and, at the same time, were informed that they had the right not to participate. Data collection commenced after ensuring the confidentiality of responses, and written consent was obtained from all study participants.

3. Results

Socio-demographic Characteristics

A total of 493 adolescents (247 from agrarians and 246 from pastoralists) participated in the study, yielding a response rate of 98.2%. There were 305 (61.9%) females and 188 (38.1%) males. The mean age of agrarian adolescent respondents was 15.0 ± 2.75 years, and that of pastoralist adolescent respondents was 14.56 ± 2.53 years. Eleven (4.5%) agrarian adolescent respondents and 58 (23.6%) pastoralist adolescent respondents did not start formal education. Four hundred sixty-five (94.3%) adolescents were single, whereas 24 (4.9%) were married. More than half (56.6%) of the adolescents lived with their parents.

The majority, 287 (58.2%), of the adolescents' fathers had no formal education, 73.6% of whom were from pastoralist areas. Among the fathers, 28% had completed elementary school, whereas 8.7% had completed primary school. Approximately 7.7% of those who attended secondary school were from agrarian areas. Similarly, 81.1% of the adolescents' mothers had no formal education, of whom 89.4% were agrarians and 72.9% were pastoralist dwellers. The remaining 14% were elementary schools, 3.2% were primary schools, and 1.6% had secondary school education in that order.

- **Behavioral and Psychosocial Factors Affecting SRH Services**

Among the total study participants, nearly one-third (30.4%) of the adolescents had a boyfriend/girlfriend during the last year. Three hundred forty-three (70%) adolescents had no sexual partners in the past year. Eighty-one (16.4%) adolescents attended primary school while having a boyfriend/girlfriend, and 115 (23.3%) of the adolescents aged 15-19 years were in their first sexual intercourse. Twenty-two adolescents (4.5%) had their first sexual intercourse protected (with a condom). Adolescents discussed SRH services with their parents in the last 12 months, 52 (21.1%) from agrarian communities and 31 (12.6%) from pastoralist communities.

More adolescents discussed SRH services with their friends/peers in the last 12 months in agrarian communities than in pastoralist communities (80 (32.4%) and 35 (14.2%), respectively). A total of 94 (19.1%) adolescents had discussed physical and psychological changes during puberty with their parents/friends in the last 12 months, whereas had not. Compared with their parents, adolescents were encouraged by their friends/peers to use SRH services in 199 (40.4%) and 136 (27.6%) cases, respectively.

- **Knowledge and Information on Sexual and Reproductive Health**

Among the study participants, 291 (59%) had heard about sexual and reproductive health, of which 66.4% were agrarian and 51.6% were pastoralist. More than 60% of the adolescents were aware of the importance of sexual and reproductive health, with 64% being agrarians and 56.1% being pastoralists. Among the study participants, nearly one-third (71.8%) of the adolescents supported them by using SRH services.

Two hundred six (41.8%) of the adolescents had information on how to terminate unwanted pregnancies, of which 47.8% were agrarian and 35.8% were pastoralist. More than 37.1% of the adolescents had good knowledge of SRH services. Compared with pastoralist adolescents, agrarian adolescents had better knowledge of SRH services (106 (43.1%) and 77 (31.2%), respectively).

- **Organizational and Service Provider-Related Factors Related to Adolescent SRH Service Utilization**

Only one-fourth of existing health institutions greeted adolescents when they came to health institutions. Fear of being seen by parents or others (103 (20.9%)) and a lack of confidentiality (107 (21.7%)) were factors associated with adolescents not using SRH services in existing health institutions in both groups. Two hundred and twenty-two (45.0%) of the adolescents were far from their residents to health institutions, 50.6% were agrarians, followed by 39.4% who were pastoralists. Approximately 24.7% of the adolescents had separate youth-friendly services (YFS) in nearby health institutions, followed by 96 (19.5%) youth clubs/centers, and more than half (51.7%) of the adolescents wanted to receive SRH services in health centers/hospitals in all agrarian and pastoralist populations. Overall, more than half (56.2%) of the adolescents were satisfied with any sex of SRH service providers, and approximately 77.5% of the adolescents preferred out-of-work

time for SRH services.

- **Sociocultural Factors Affecting SRH Service Utilization**

Almost three-fourths (74.8%) of the adolescents, 72.5% and 77.2% in the agrarian and pastoralist communities, respectively, responded that adolescent sexual and reproductive health services were not accepted in their communities or cultures.

- **Adolescent SRH Service Utilization**

The overall utilization of SRH services by adolescents was 27.4% (95% CI: 26.9, 27.8). There was a significant difference in the rate of SRH service utilization between agrarians 89 (36%) (95% CI: 35.5, 36.5) and pastoralists 46 (18.7%) (95% CI: 18.3, 19.1) (Figure 2). SRH counseling, information, and education were the most frequent SRH service items received by both agrarian and pastoralist adolescents, with 82 (33.2%) and 48 (19.5%), respectively. Only 7 (2.8%) agrarian and 2 (0.8%) pastoralist adolescents received sexually transmitted infection (STI) diagnosis and treatment services.

Overall, only 10.8% of the adolescents had used modern contraceptives in the past year. Adolescents treated for abortion/ post-abortion care in life were the least common SRH service items received by both agrarian and pastoralist adolescents, with 5 (2%) and 2 (0.8%), respectively. Only 6.3% of the adolescents used condoms in recent sexual intercourse, 9.7% in agrarian areas and 2.8% in pastoralist areas. Nearly one fourth (23.1%) of the adolescents had received HIV counseling and testing during the last 12 months (Table 2).

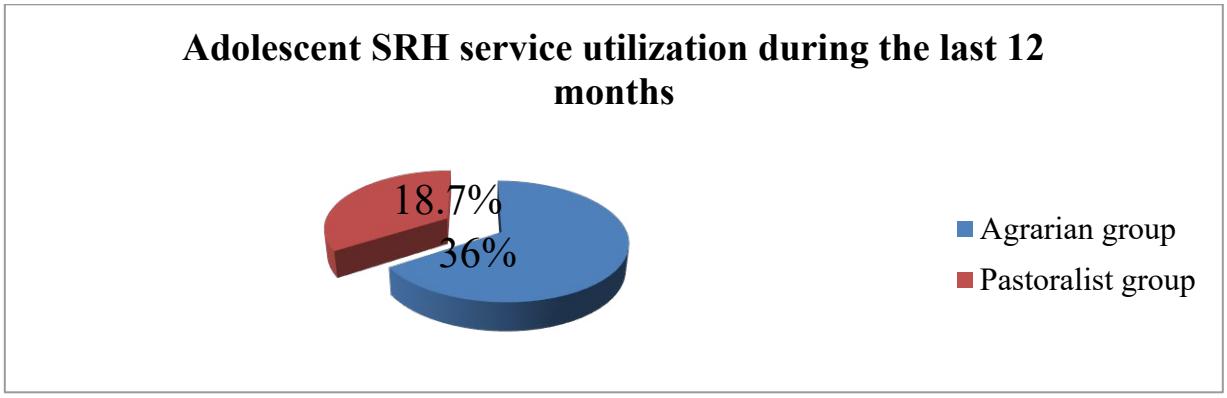

Figure 2: Comparison Of Srh Service Utilization Among Agrarian And Pastoralist Adolescents

S.No	Variables	Agrarian (n=247)		Pastoralist (n=246)		Total (n=493)		± SD	95% Confidence Interval	
		n	%	N	%	n	%		Lower	Upper
1	SRH service utilization	89	**36.0**	46	**18.7**	135	27.4	0.44638	26.9	27.8
2	Used condom in recent sexual intercourse	24	9.7	7	2.8	31	6.3	0.24299	6	6.5
3	Used any modern contraceptives	35	14.2	17	6.9	52	10.5	0.30748	10.1	10.8
4	SRH counseling, information, and education	82	33.2	48	19.5	130	26.4	0.44108	25.9	26.8
5	Had any STI symptoms during the last year	8	3.2	2	0.8	10	2.0	0.14111	1.8	2.1
6	Diagnosed and treated for STI during the last 12 months	7	2.8	2	0.8	9	1.8	0.13401	1.6	1.9
7	HIV counseling and testing during the last 12 months	69	27.9	43	17.5	112	22.7	0.41944	22.2	23.1
8	Treated for abortion/post abortion care in life	5	2	2	0.8	7	1.4	0.14904	1.2	1.5

Table 2: SRH Service Utilization Among Agrarian And Pastoralist Adolescents

- **Factors Associated with ASRH Services**

To identify factors associated with ASRH services, bivariate analysis variables with p-values less than 0.25 were included. Variables with p-values less than 0.05 in the bivariate analysis were included in the multivariate analysis and interpreted with adjusted odds ratios with 95% confidence intervals. Multivariate analysis revealed that the level of education, fathers or mothers' encouragement, and distance to SRH services in nearby SRH

service centers were significantly associated with agrarian and pastoralist adolescent SRH service utilization.

The participants' educational level was also found to be significantly associated with agrarian and pastoralist adolescent sexual and reproductive health service utilization. Uneducated adolescents were 0.187 times less likely to use sexual and reproductive health services than educated adolescents (AOR=0.187, 95% CI (0.065, 0.536)).

Father/mother encouragement was also significantly associated with agrarian and pastoralist adolescent sexual and reproductive health service utilization. Adolescents encouraged by their father/mother were 2.817 times more likely to use sexual and reproductive health services than their counterparts (AOR=2.817, 95% CI (1.120, 7.089)). This study revealed that distance to SRH services in nearby SRH service centers was also significantly associated with agrarian and pastoralist adolescent sexual and reproductive health service utilization. Compared with adolescents with more than 30 minutes of travel distance, those with less than 30 minutes of distance from their residents to health facilities were 3.645 times more likely to utilize sexual and reproductive health services (AOR=3.645, 95% CI (1.423, 9.337)) (Table 3).

Variables	Categories	Adolescent SRH service utilization		Bivariate		Multivariate	
		Yes	No	P value	COR(95%CI)	P-value	AOR(95%CI)
Age	10-14 yrs.	19	186	.000	0.151(0.089, 0.257)*		
	15-19 yrs.	116	172		1		
Marital status	Single	120	345	.002	0.301(0.139, 0.652)*		
	Married and others	15	13		1		
Level of education	Uneducated	1	68	.001	0.032 (0.004, 0.232)*	.002	0.187(0.065, 0.536)*
	Educated	134	290		1		
Residence of respondent	Urban	29	37	.001	0.421(0.247, 0.718)*		
	Rural	106	321		1		
Occupation	Student	133	290	.000	15.593(3.765, 64.578)*		
	Non student	2	68		1		
Father Education	Uneducated	32	169	.000	0.347(0.222, 0.544)*		
	Educated	103	189		1		
Mother education	Uneducated	61	248	.000	0.366(0.243, 0.549)*		
	Educated	74	110				
Had a boy/girlfriend	Yes	85	65	.000	7.663(4.932, 11.907)*		
	No	50	293		1		
Number of sexual partners	No sexual partner	50	293	.000	0.130(0.084, 0.203)*		
	One sexual partner & above	85	65		1		
Educational level while had a boy/girlfriend	Uneducated	60	53	.024	0.345(0.137, 0.867)*		
	Educated	23	7		1		
Had premarital sexual intercourse	Yes	83	58	.000	8.26(5.284,12.9)*		
	No	52	300		1		
Had first sexual intercourse protected (used a condom)	Yes	18	4	.027	3.61(1.153, 11.323)*		
	No	66	53		1		
Discussed SRH services with their parents	Yes	39	44	.000	2.90(1.780, 4.722)*		
	No	96	314		1		
Discussed SRH services with their friends/peer	Yes	53	62	.000	3.09(1.986, 4.795)*		
	No	82	296		1		

Father/mother encourage using SRH services	Yes	65	71	.000	3.754(2.452, 5.747)*	.028	2.817(1.120, 7.089)*
	No	70	287		1		1
Friend/peer encourage using SRH services	Yes	77	122	.000	2.57(1.713, 3.850)*		
	No	58	236		1		
Distance of SRH service from residence	Less than 30 minutes	101	121	.000	5.82(3.725, 9.089)*	.007	3.645(1.423, 9.337)*
	Greater than 30 minutes	34	237		1		1
Had any youth club/ center	Yes	39	57	.001	2.15(1.344, 3.424)*		
	No	96	301		1		
Adolescents want to prefer to be an adolescent SRH provider	Provider of the same sex	23	60	.212	0.212(0.032, 2.154)		
	Provider of any sex	61	164	.215	0.269(0.034, 2.145)		
	Adult provider of the same sex	26	61	.177	0.235(0.029, 1.928)		
	Any provider could be	24	63	.214	0.263(0.032, 2.162)		
	Others	1	10		1		
SRH provider adolescents were satisfied	Male	25	38	.014	0.485(0.273, 0.862)*		
	Female	43	110				
	Any sex	67	210		1		
Convenient time for adolescent SRH services	In working time	29	49	.190	0.541(0.216, 1.355)		
	Out of work time	98	284				
	Others	8	25		1		
Approaches of service provider	Good	105	297	.104	1.587(0.909, 2.770)		
	Bad	7	20				
	In any approach	23	41		1		
Knowledge	Good	35	148	.002	0.49(0.320, 0.770)*		
	Poor	100	210		1		
NB:-1= indicates a statistically significant association for the reference group at p <0.05.							

Table 3: Bivariate And Multivariate Analysis of Agrarian and Pastoralist Adolescents

4. Discussion

This study aimed to determine disparities in sexual and reproductive health service utilization and associated factors among agrarian and pastoralist adolescents in the South Omo zone of southern Ethiopia. The findings revealed that overall sexual and reproductive health service utilization was 27.4% (95% CI: 26.9, 27.8). This finding was higher than those of studies conducted in Gamo Gofa (16.9%) the Philippines (13.8%) Indonesia (24.3%) East Gojam, Ethiopia (21.5%) and Ethiopia 19.18%) [18-26]. However, this percentage is lower than that reported in studies conducted in Jima Ethiopia, 41.1% Eastern Ethiopia, 39.3 Wolaita, Southern Ethiopia (49.8%) and Kenya 36%) this disparity may be explained by time differences, study populations, and settings.

There was a significant difference in SRH service uptake between adolescents in agrarians (36%) (95% CI: 35.5, 36.4) and pastoralist communities (18.7%) (95% CI: 18.3, 19.0). This difference may be due to the distance from health institutions and cultural influences in pastoralist communities (Karamoja, Uganda) and may be greater than that reported in studies conducted in southern Ethiopia This study revealed that pastoralist ASRH service utilization was lower than that reported in studies conducted in northern Ethiopia (24.9%) [27-29]. This difference may be due to cultural and study setting differences.

This study revealed that condom use during recent sexual intercourse was 6.3% (95% CI: 6, 6.5), which is lower than that reported in studies conducted in Gurage, Ethiopia (13%) and Debre Berhan, Ethiopia (26%) [17,30]. The prevalence of sexual and reproductive health information and education was 26.4% (95% CI: 25.9, 26.8). This finding was higher than that of a study conducted in Debre Berhan, Ethiopia 23.7% [30]. However this value is lower than that reported in a study conducted in Haramaya District, Ethiopia (29.5%) the percentage of adolescents who used

any modern contraceptives was 10.5% (95% CI: 10.1, 10.8) [31]. This finding was lower than that of a study conducted in the United States (24%) and similar to that of a study in Gurage, Ethiopia 10.8% [17,32]. The percentage of adolescents diagnosed with and treated for STIs during the last 12 months was only 1.8% (95% CI: 1.6, 1.9). This finding was lower than those of studies conducted in West Badwacho, southern Ethiopia 23.4%, and the United States (22%) [15,32].

A total of 16.8% (21.1% agrarians and 12.6% pastoralists) of the adolescents discussed SRH services with their parents (95% CI: 16.4, 17.2). This finding was lower than those of studies conducted by East Gojam (32%), Debre Brebrehan town (36.4%), and Asgede Tsimbla (51.7%) [21,30,33]. A total of 23.3% of the respondents discussed SRH services with their friends. This finding was lower than that of a study conducted in Goba town, Ethiopia (73%) [34].

A total of 59% (64.4%) agrarians and (51.6%) pastoralists) of the adolescents reported having SRH (95% CI: 58.5, 59.5).This finding was higher than those of studies conducted in Gurage 56.7% and East Gojam (38.3%) [17,21]. A total of 37.1% (95% CI: 36.6, 37.6) of the adolescents had good knowledge. This finding was higher than those of studies conducted in Uganda (33.7%) and Malaysia (10.8%), and lower than those of studies conducted in Gurage (47.2%) and East Gojam (67%) [35, 36, 17, 21].

According to the results, uneducated adolescents were less likely to utilize SRH services than adolescents educated by both agrarians and pastoralists. Research in Nigeria and Ethiopia supports this finding [37,38]. Adolescents who had to travel for less than 30 min to obtain a health facility were more likely to use SRH services than those who had to travel for more than 30 min in both agrarian and pastoralist areas. This is supported by studies conducted in Kathmandu, Nepal, Philippines, Awabal, and Ethiopia [19,39,40].

Adolescents who discussed SRH services with their parents were more likely to use SRH services than adolescents who did not discuss them with their parents among pastoralist adolescents. This finding is supported by studies in Ethiopia [33,39,41,42]. Adolescents encouraged by their fathers or mothers were more likely to use SRH services than those who were not. This finding was supported by studies conducted in Martapura Health Center, Indonesia, which indicated that family support is vital for adolescents to use reproductive health services [43].

5. Conclusions

Sexual and reproductive health service utilization in the study area among both agrarians and pastoralists was very low, and adolescents in the pastoralist community utilized all SRH services less than agrarians did. Promoting father/mother encouragement and establishing sexual and reproductive health service centers at the health institution and school levels should be emphasized. The health sector and other stakeholders need to strengthen their efforts to establish sexual and reproductive health services near adolescents in places where they do not yet exist, in both agrarian and pastoralist areas.

Limitation of the Study

This study focused on the sensitive personal issue of which most adolescents felt very uncomfortable, but with the assurance of privacy and confidentiality of the information supplied, they became very cooperative. To address this, trained research assistants who were young and could relate well to the study population were recruited.

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References

1. United Nations Population Fund. Sexual & Reproductive Health: UNPF; [11 November 2022].
2. United Nations Population Fund. Adolescents and Youth Dashboard - Ethiopia: UNPF; 2017 [11 November 2022].
3. Debebe, D., Daka, K., & Daka, D. (2022). Early sexual debut and associated factors among high school students in Kindo Koyisha district, Wolayta Zone, South Ethiopia. Ethiopian Journal of Reproductive Health, 14(2), 18–27.
4. Little, M. A. (2015). Pastoralism. In M. P. Muehlenbein (Ed.), Basics in human evolution (pp. 337–347). Academic Press.
5. Sociology Group. (2017, November 20). Agrarian society: Meaning, history and characteristics.
6. Odo, A. N., Samuel, E. S., Nwagu, E. N., Nnamani, P. O., & Atama, C. S. (2018). Sexual and reproductive health services (SRHS) for adolescents in Enugu state, Nigeria: a mixed methods approach. *BMC health services research, 18*(1), 92.
7. Addo, I. Y., & Gyamfuah, A. I. (2015). Utilization of reproductive health services among young people in Sawua, Ghana. *Clinical Medicine Reviews in Patient Care, 3*.
8. Kinaro, J. W., Wangalwa, G., Karanja, S., Adika, B., Lengewa, C., & Masitsa, P. (2018). Socio-cultural barriers influencing utilization of sexual and reproductive health (SRH) information and services among adolescents and youth 10-24 years in pastoral communities in Kenya. *Advances in Sexual Medicine, 9*(1), 1-16.
9. Sertsu, A., Eyeberu, A., Bete, T., Yadeta, E., Lami, M., Balcha, T., ... & Negash, A. (2023). Reproductive health service utilization and associated factors among secondary school students in Harari regional state, eastern Ethiopia, 2022: a multicenter study. *Reproductive Health, 20*(1), 45.
10. World Health Organization. Sexual and Reproductive Health and Research: WHO; [12 November 2022].
11. World Health Organization. Adolescent Sexual and

Reproductive Health: WHO; 2019 [09 October 2022].
12. World Health Organization. (2024). *Working for a brighter, healthier future: how WHO improves health and promotes well-being for the world's adolescents*. World Health Organization.
13. World Health Organization. (2024). *Working for a brighter, healthier future: how WHO improves health and promotes well-being for the world's adolescents*. World Health Organization.
14. South Omo Zone Health Department. (2022). Annual report 2022. South Omo Zone Health Department.
15. Cherie, N., Tura, G., & Aderajew, N. T. (2015). Reproductive health needs and service utilization among youths in West Badewacho Woreda, Hadiya Zone, South Ethiopia. *Journal of public health and epidemiology, 7*(4), 145-153.
16. Ansha, M. G., Bosho, C. J., & Jaleta, F. T. (2017). Reproductive health services utilization and associated factors among adolescents in Anchar District, East Ethiopia. *Journal of family & reproductive health, 11*(2), 110.
17. Sundewall, J., & Kaiser, H. (2019). Sexual and Reproductive Health and Rights:: An Essential Element of Universal Health Coverage. Background document for the Nairobi Summit on ICPD25-Accelerating the promise.
18. Boti, N., Kerbo, A. A., Gidebo, K. D., & Wado, Y. D. (2023). Sexual and reproductive health services utilization among adolescents in South Ethiopia: Examining the role of stigma, social support, and self-efficacy. *Ethiopian Journal of Reproductive Health, 15*(4), 12-12.
19. Cortez, L. A. G., & Canila, C. C. (2022). Prevalence and determinants of the utilization of sexual and reproductive health services in the Teen Health Kiosk of a public secondary school in the City of Dasmariñas. *Acta Medica Philippina, 56*(5), 23–33.
20. Violita, F., & Hadi, E. N. (2019). Determinants of adolescent reproductive health service utilization by senior high school students in Makassar, Indonesia. *BMC public health, 19*(1), 286.
21. Abajobir, A. A., & Seme, A. (2014). Reproductive health knowledge and services utilization among rural adolescents in east Gojjam zone, Ethiopia: a community-based cross-sectional study. *BMC health services research, 14*(1), 138.
22. Jisso, M., Feyasa, M. B., Medhin, G., Dadi, T. L., Simachew, Y., Denberu, B., ... & Teklu, A. M. (2022). Sexual and reproductive health service utilization of young girls in rural Ethiopia: What are the roles of health extension workers? Community-based cross-sectional study. *BMJ open, 12*(9), e056639.
23. Tegegn, A., & Gelaw, Y. (2009). Adolescent reproductive health services in jimma city: accessibility and utilization. *Ethiopian Journal of Health Sciences, 19*(2), 91-102.
24. Ansha, M. G., Bosho, C. J., & Jaleta, F. T. (2017). Reproductive health services utilization and associated factors among adolescents in Anchar District, East Ethiopia. *Journal of family & reproductive health, 11*(2), 110.
25. Gunta, M., Tantu, T., Wolka, S., Meskele, M., Ayza, A., & Duko, B. (2021). Sexual and reproductive health services utilization among Wolaita Sodo University students, Ethiopia: a mixed method approach. *The Scientific World Journal, 2021*(1), 2415023.
26. Embleton, L., Braitstein, P., Di Ruggiero, E., Oduor, C., & Wado, Y. D. (2023). Sexual and reproductive health service utilization among adolescent girls in Kenya: A cross-sectional analysis. *PLOS Global Public Health, 3*(2), e0001508.
27. Achen, S., Atekyereza, P., & Rwabukwali, C. B. (2021). The role of culture in influencing sexual and reproductive health of pastoral adolescent girls in Karamoja sub-region in Uganda. *Pastoralism, 11*(1), 25.
28. Habte, A., Dessu, S., Bogale, B., & Lemma, L. (2022). Disparities in sexual and reproductive health services utilization among urban and rural adolescents in southern Ethiopia, 2020: a comparative cross-sectional study. *BMC public health, 22*(1), 203.
29. Zepro NB, Ali NT, Tarr N, Medhanyie AA, Paris DH, Probst-Hensch N, Merten S. Sexual and Reproductive Health Services Use among Adolescents in Pastoralist Settings, Northeastern Ethiopia. BMC Health Serv Res. 2023 Jun 22;23(1):677.
30. Tlaye, K. G., Belete, M. A., Demelew, T. M., Getu, M. A., & Astawesegn, F. H. (2018). Reproductive health services utilization and its associated factors among adolescents in Debre Berhan town, Central Ethiopia: a community-based cross-sectional study. *Reproductive health, 15*(1), 217.
31. Abdurahman, C., Oljira, L., Hailu, S., & Mengesha, M. M. (2022). Sexual and reproductive health services utilization and associated factors among adolescents attending secondary schools. *Reproductive health, 19*(1), 161.
32. Kazmerski, T. M., Sawicki, G. S., Miller, E., Jones, K. A., Abebe, K. Z., Tuchman, L. K., ... & Borrero, S. (2018). Sexual and reproductive health behaviors and experiences reported by young women with cystic fibrosis. *Journal of Cystic Fibrosis, 17*(1), 57-63.
33. Gebreyesus, H., Teweldemedhin, M., & Mamo, A. (2019). Determinants of reproductive health services utilization among rural female adolescents in Asgede-Tsimbla district Northern Ethiopia: a community based cross-sectional study. *Reproductive health, 16*(1), 4.
34. Gebreselassie, B., Takele, A., Bililign, N., Adera, A., Ayene, Y. Y., Woreta, A., & Kidane, M. (2015). Assessment of reproductive health service utilization and associated factors among adolescents (15-19 Years old) in Goba town, southeast Ethiopia. *American Journal of Health Research, 3*(4), 203-212.
35. Nr, K. (2018). Factors Associated With Utilisation Of Sexual And Reproductive Health Services Among Adolescents in Luwero Town Council, Luwero District Uganda. *Bugema University*.
36. Othman, S., Kong, S. Z., Mydin, F. M., & Ng, C. J. (2019). Knowledge, utilization and barriers to primary care services for sexual and reproductive health among adolescents in secondary schools in Selangor, Malaysia. *Malaysian family physician: the official journal of the Academy of Family Physicians of Malaysia, 14*(1), 10.
37. Odo, A. N., Ofuebe, J. I., Anike, A. I., & Samuel, E. S. (2021).

Predictors of young people's use of sexual and reproductive health services in Nigeria: a mixed-method approach. *BMC public health, 21*(1), 37.

38. Belay, H. G., Arage, G., Degu, A., Getnet, B., Necho, W., Dagnew, E., ... & Worke, M. D. (2021). Youth-friendly sexual and reproductive health services utilization and its determinants in Ethiopia: A systematic review and meta-analysis. *Heliyon, 7*(12).
39. Ayehu, A., Kassaw, T., & Hailu, G. (2016). Level of young people sexual and reproductive health service utilization and its associated factors among young people in Awabel District, Northwest Ethiopia. *Plos one, 11*(3), e0151613.
40. Pokhrel, S., Nepal, S., Mali, P., Baskota, S., Aryal, R., Thapa, A., Chaudhary, V., & Malla, N. (2020). Utilization and associated factors of sexual and reproductive health services among adolescents of Kathmandu district, Nepal. International *Journal of Community Medicine and Public Health, 7*(12), 4737–4744.
41. Birhan, Z., Tushune, K., & Jebena, M. G. (2018). Sexual and reproductive health services use, perceptions, and barriers among young people in southwest Oromia, Ethiopia. *Ethiopian journal of health sciences, 28*(1), 37-48.
42. Malango, N. T., Hegena, T. Y., & Assefa, N. A. (2022). Parent–adolescent discussion on sexual and reproductive health issues and its associated factors among parents in Sawla town, Gofa zone, Ethiopia. *Reproductive health, 19*(1), 108.
43. Febriana, A., Mulyono, S., & Widyatuti, W. (2021). Family support on utilization of adolescent reproduction health service at the area of public health service (Puskesmas) of Martapura. *Enfermeria clinica, 31*, S135-S138.