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Assessing the Availability and Utilisation of Adolescent Reproductive Health Services in Northern Region of Ghana

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Abstract

Youth-friendly sexual and reproductive health services involved range of Sexual and Reproductive Health services that are delivered to the specific needs, vulnerabilities, and desires of young people. This study aims to determine the availability and utilization of adolescent sexual and reproductive health services among youths in selected districts and municipalities in the Northern Region of Ghana. A descriptive cross-sectional study design was conducted in four selected districts using a mixed method of quantitative and qualitative approaches to data collections. Both male and female adolescent and young person aged 10-24 years were selected by simple random sampling through balloting. Convenient sampling was used to select four health workers for interviews. Quantitative data was analysed using descriptive and inferential statistics, and qualitative analysis was done using manual thematic analysis. The qualitative data was collected using an unstructured interview guide and analysed with thematic analysis. Findings showed average age was 16.64 years, and 70.5% had good knowledge score of SRH services availability. Types of SRH services provided include counselling and education on SRH issues, STIs screening, diagnosis, and management. About 69.8% have ever visited the health facilities for SRH service, and 36.1% covered more than an hour before accessing SRH services. About 21% had access contraceptives and family planning services. Barriers to accessing SRH services were attributed to; cost of healthcare (21.9%), long queues at facilities (15.3%), and distance to healthcare facility (12.4%). Associated factors were sex (OR = 1.72; 95%CI 1.16-2.57; p = 0.007), father educational attainment (OR = 2.03; 95%CI 1.35-3.03; p = 0.0001), and district of residence (OR = 5.72; 95%CI 2.01-16.25; p = 0.0005). Most adolescents and young people from the study findings had increased knowledge score on the types and availability of SRH services in the district health facilities. But utilization of the SRH services was low because, the point of delivery of these SRH services were far, and most have to cover long distance.

Keywords: *Adolescent, Availability, Utilization, Reproductive Health Service, Ghana.*

Introduction

Youth-friendly sexual and reproductive health services are those services that deliver a comprehensive range of Sexual and Reproductive Health (SRH) services in ways that are responsive to the specific needs, vulnerabilities and desires of young people [1]. Although Adolescent Sexual and Reproductive Health has become an issue of concern to governments, demographers, and planners all over the world, the needs of the young people remain poorly understood or served in much of the world. Adolescents are an important segment of the population and play a vital role in the

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economy of societies and countries. Adolescents need promotive, preventive, curative and rehabilitative health services to help them maintain, attain and restore good health [2]. Investing in adolescent health can prevent pregnancy and health related problems in the next generation such as prematurity and low birth weight in infants born to very young mothers, and reducing other complications associated with pregnancy and childbirth [1, 3].

Inequity of accessibility to and utilization of reproductive health (RH) services among adolescents is still a global concern, especially in resource-limited areas. The level of inequity also varies by cultural and socio-economic contexts [3]. Low accessibility to and utilization of RH services creates a universal concern since unintended pregnancies, unsafe abortions, and sexually transmitted infections (STIs) have been shown to contribute to high morbidity and mortality rates, especially in developing countries [3].

Ghana's population is made of 21.9% adolescents [4], neglecting them will have major implications, which will affect the development of Ghana negatively. Especially so when this group faces numerous life challenges as they grow into adulthood which impact negatively on their sexual and reproductive health [4]. Available data suggests that pre-marital sex is quite common among adolescents and young persons in Ghana [5].

Because a large proportion of sexual practices among adolescents and young person's take place without any protection, many of them are exposed to diverse reproductive health problems. These problems include unplanned teenage pregnancies, school dropouts, drug and substance abuse, unsafe abortion, STIs, including HIV/AIDS [5].

Ghana has come up with policies and interventions aim at curbing these problems and improving the adolescent health [6]. The chief among them is the provision of guarantees of rights and freedoms for all persons including the youth in the 1992 Constitution [6]. Apart from the 1992 constitution, others policies and programmes include the establishment of the National Population Council (NPC) in 1992 by an Act of Parliament, to co-ordinate all population related programmes in Ghana and to advise government accordingly, the creation of Adolescent Health and Development (ADHD) programmes in the Ghana Health Service, the establishment of the National Youth Authority (NYA) and the creation of multi-purpose youth centres known as "Young and Wise Centres" by the Planned Parenthood Association of Ghana (PPAG), to provide recreational activities in addition to sexual and reproductive health services, using peer educators for service promotion and non-traditional condom distribution at the community level. Despite the fact that ASRH has been promoted globally, the disparities of access remain among adolescents and young persons, especially those living in resource-limited areas largely due to non-availability and or inadequacy of the services. Northern region is one of the resource-limited areas in Ghana. It is in this light that the study is being conducted to assess the availability and utilization of such services in some selected districts/municipalities in the Northern Region of Ghana.

Methods and Materials

Research Approach and Design

The study design covers the setting, sample size and techniques, data collection and analysis. A descriptive cross-sectional approach was employed in four selected districts in the Northern Region of Ghana using mixed method of quantitative and qualitative approaches to assess adolescents' exposure to SRH services and the outcome of knowledge, access, and use of SRH services among adolescents and young people in the selected districts and municipalities of Northern Region.

The mixed-method system equally enabled the researcher to collect quantitative and qualitative data concurrently, analysed the two data sets separately, and merged the results and

then interpret the combined results to draw conclusions [7].

Description of Study Setting

Northern Region of Ghana is found in the Northern part of the republic of Ghana. It is the largest region in the country, by Geography (with a land size of 70, 384 square kilometers) [4], It shares boundaries with the upper East and Upper West Regions at its Northern border, Code d'Ivoire at the Western border, and Togo at the Eastern border.

It has 16 administrative districts and abounds with untapped natural resources: including iron ore, manganese [4]. The region is sparsely populated and is inhabited by different ethnic groups, including Dagombas, Mamprusi, Nanumbas, Gonja, etc. The main activities of the people are farming of cereal crops, and tubers at subsistence level.

Even though, Ghana is listed as a middle-income country, the Northern region is one of the regions with the high poverty rate in the country. It has a very high social and cultural heterogeneity.

Study Population

The study population included the adolescent and young people within the ages of 10 to 24 years who reside in the selected district in the Northern Region of Ghana.

Inclusion and Exclusion Criteria

All adolescents and young people, both male and females aged 10-24 years from the four selected districts/municipalities in the Northern Region of Ghana were included in the study. On the other hand, all those who were between the ages of 10 to 24 years and were not ready to participate in the study during the questionnaires administration, were excluded.

Sample Size Determination

Sample size calculation was done using Epi Info version 7.1.1.14 (Centers for Disease Control and Prevention [CDC] USA) at of 80% power, 95% confidence interval, and 5% margin of error. Assuming that the factors influencing the availability and utilization of Adolescent Sexual and Reproductive Health services in the Northern Region of Ghana were similar to those observed by Kumi-Kyereme, A., (2021); Sex of respondents (odds ratio [OR] = 1.08), Educational level of respondents (odds ratio [OR] = 2.53), and Ecological zone of respondents (odds ratio [OR] = 1.54) [6]. A sample size of **576** would have adequate power (of more than 80%) to detect both factors (Refer to Table 1). However, an estimated sample size of **596** was chosen to cater for non-response by adding 20 to help cater for losses and missing questionnaires during the administration process.

Table 1. Sample Size Estimation

No.	Variable	AOR	Estimated sample size
1	Sex of respondents	1.08	531
2	Educational level	2.53	**576**
3	Ecological zone	1.54	212

Source: Author's calculation, 2022

Sampling Techniques

Probability and non-probability sampling techniques were used in the selection of districts, municipalities, adolescents, and young people aged 10 to 24 years residing in the Northern Region for the study. After these districts were selected, a simple random sampling technique was used to select the required sample size through balloting, whereby pieces of papers were numbered based on the required sample size and selected at random [6]. This process

involved writing of numbers from 1 to 50 in relation on pieces of papers included blank papers; the papers were put into a bowl. The target population was then asked to pick the papers at random according to the proportionate number of each district or municipality. At the end all those with numbers written on their papers were picked to form the sample size for the study and participated in answering the questionnaire, while whose who selected the blank papers were excluded [8].

The researcher adopted convenient sampling techniques to select four (4) participants who were reproductive health personnel providing adolescent sexual and reproductive health services to participate in the interviews to share their views on the availability and utilisation of Adolescent Sexual and Reproductive Health services in the Northern Region as well as the awareness, and utilization of SRH services among adolescents and young people. In each health facility, one (1) healthcare worker/reproductive health personnel were selected for the interview to be conducted on the study topic.

Data Collection Techniques and Tools

Quantitative Data Collection

A structured questionnaire was used to collect data for the quantitative study because the respondents were literate who could read and write. The questionnaire contained both closed and open-ended questions. The closed questions required direct answers from the respondents, whilst the open-ended questions enabled respondents to express their views as they wished.

Also, open-ended questions helped in sourcing relevant information that was not obtained by the closed questions. The questionnaire was distributed to 596 adolescents and young persons aged 10-24 years that were sampled from four (4) districts/municipalities and their major health facilities with ASRH centres where SRH services were provided after the health facilities authorities granted permission in the selected districts and municipalities. The questionnaires were made up of four sections. The section A included the demographic characteristics of respondents such as age, sex, education; section B and C had information's on the study variables such as knowledge, access, and utilization of the SRH services such as types of contraception, STIs/HIV/AIDS prevention and management, counselling on SRH matters. Section D provided information's on factors that affected adolescents and young people access to and use of SRH services. The questionnaires were administered by the researchers, with the assistances of trained research assistants after the questionnaires were explained to the respondents in the language they understood and instructions on how to answer the questions. The research assistants were trained before they were engaged in administering the questionnaires. Questionnaires were administered in each selected district and municipality, and the responses were collected on the same day and cross-checked for completeness before leaving the district and municipality.

Qualitative Data Collection

The qualitative data was collected using an unstructured interview guide to conduct key informant interviews among healthcare workers (reproductive health personnel) who provide sexual and reproductive health service to adolescents and young people aged 10-24 years. The interview comprised of 4 health workers/reproductive health personnel who provided healthcare services to adolescents/young people and has experience in RH services were purposively selected from the four health facilities in the four districts/municipalities. During the interview, each participant had the opportunity to share their knowledge, experiences, and views on the adolescents' knowledge, access, and use of SRH services. Detailed field notes were written on the demeanour of respondents, facial expressions,

and gestures. Each interview section took a maximum of 30 to 45 minutes.

Data Processing and Analysis

Quantitative Data Analysis

Before analysis, all the completed questionnaire was checked for completeness and consistency manually. During this cross-checking on the questionnaires, wrong entries, and inconsistent data recordings on the face of the questionnaires were corrected, and those questionnaires that were inappropriately filled or not correctly filled were removed. After that, the pre-coded data were keyed into Microsoft excel spreadsheet 2019 version and then transported into STATA version 12.1 (StataCorp LP 4905 Lakeway Drive, College Station, Texas 77845 USA). Quantitative data was analysed using descriptive and inferential statistics. Descriptive statistics were used to analyse respondents' socio-demographic characteristics, knowledge of sexual and reproductive health, access to SRH services, utilization of SRH services, and factors/barriers that affect access and utilization of SRH services among adolescents and young people. All frequencies and percentages generated were presented into frequency tables, pie charts and bar graphs. Adolescent's knowledge of SRH services availability was measured by evaluating their responses to ten (10) questions on SRH services among adolescents, including awareness, sources of SRH information, preventive methods of STIs, FP methods and side effects of contraceptive method use, and benefits of SRH information. Each correct response was coded to attract a score of "+1" while each "incorrect" or "undecided" ("don't know") response was assigned a score of "0". The scores for each adolescent were summed and graded as follows; scores 0-3 = poor, 4-7 = average and 8-10 = good. This was further categorised as "good' or 'poor" knowledge if a respondent had 5 or more and less than 5 questions correctly respectively. Inferential statistics was done using Pearson Chi-square (X^2) correlation test to establish the association between respondents' socio-demographic characteristics and knowledge level, access, and utilization of sexual and reproductive health services. The statistically significant level was set at 5% ($p \leq 0.05$) points for the analysis. The statistically associated factors were then subjected to further analysis using logistic regression to help determine predictive factors influencing respondents' knowledge, access, and utilization of sexual and reproductive health services as well as the odd ratios of significant factors at 95% confidence level and 5% significant level.

Qualitative Data Analysis

For the qualitative analysis, manual thematic analysis was done. The objective of adopting the manual thematic analysis was to identify the patterns or similar subjects from the interview process [6]. This was done by transcribing the written notes of the responses and the audio recordings of the interview with the healthcare workers and reproductive health personnel. The transcribed results were then organized into various themes (major and sub-themes). This process involved the researcher reading through the transcriptions and jointly generating a list of recurring codes. Afterwards, coding was done by assigning a code, number or symbol to the data. The transcribed data was analysed by using a six-phase approach to thematic analysis. The six-phase approaches of the thematic analysis procedure include: (1) familiarizing yourself with the data, (2) generating initial codes (3) searching for themes (4) reviewing themes (5) defining and naming themes, and (6) producing the report. The first phase involves the researcher reading through the raw data of the interview recorded on tape and the field notes from the participants. The researcher read through the material several times to understand and become familiar with the critical concepts found in the data collected. Then the participants' ideas were then outlined verbatim as they expressed it and took notes of them by highlighting the main point that can be traced

back and putting them in direct quotations for a careful transcription. In the second phase, a data-led approach was used. This was where the generation of codes guided analysis of the data. The researcher then scrutinized the data to identify codes that described the contents of a line or even a paragraph. The researcher then coded the chunks of data by using highlighters and inserted comments in the text to identify sections of the data. The researcher then codes all the transcripts and matches the data extracted to demonstrate a particular code and added new codes where necessary. The third phase of the thematic analysis involves searching for themes from the previously determined codes from the data.

The researcher then organized the various codes into possible themes. This was done by looking for patterns in the coding and categorized them into undefined themes. The fourth phase involved the researcher reviewing the undefined themes, and then re-read the entire data set to certify whether all the themes were really themes or not and whether other themes needed further break down into different themes. The researcher also reviewed the themes and examined the themes concerning the data to see whether they appeared in a consistent pattern. Some themes were abandoned during this process; some were modified while others were subdivided for more themes to be generated. The fifth stage now involved defining and labelling themes and organizing them into consistent descriptions.

At this point, the researcher had identified some subthemes that she defined and labelled in each theme which were then tailored into the broader research objectives. The final stage of thematic analysis involved report writing. Here, the researcher made available all the descriptions and explanations of the themes in the form of a report. Extracts from the data was used to illuminate the findings. The researcher adopted convergent parallel design to merge the results of both quantitative and qualitative set data quantitative and qualitative results.

Pretesting

To ensure validity and reliability of the data collection tools, a pre-test was conducted on adolescents and young people in East Mamprusi district because of their comparable characteristics that were likely to contribute significantly to adolescents and young people knowledge, available types of SRH services and utilization of SRHS. Fifty (50) adolescents and young people were randomly selected for the quantitative interviews; and two (2) health workers were purposively selected from the Walewale hospital for the pre-test. The pretested questionnaires enabled the researcher to identify issues with the data collection tools and corrected most of the mistakes before the actual data collection. The researchers, through the pretesting, also familiarized themselves with the research instrument [6]. The pre-test interviews were tape-recorded to ensure the correct use of the tape recorder. These were done to help in improving the interviewers' ability to record, collect and manage data. The researchers also coordinated, direct and supervises all the data collection activities on a daily basis to ensure completeness and clarity in the data collected.

Ethical Consideration

Ethical approval was obtained from the Tamale Teaching Hospital Ethics Committee. Also, permission to conduct the research in the study area was obtained from the Regional Health Directorate, and various selected Districts and Municipalities Directors of Health Service of the Ghana Health Service of the Northern Region of Ghana before the commencement of the study. An introductory letter was sent to all the four (4) selected health facilities cited for this study to request for permission, assistance and assurance of the benefit of the study to their facilities. Parental consent and assent from the minors (10-17 years) were sought before the commencement of the research. For adolescents and young people who were between ages of 18 to 24 years, and health workers, a consent form was signed. Once

permission was granted, an arrangement was made with the health facilities in-charges and staff. The research also ensured respondents and participants' confidentiality and anonymity by stripping off respondents and participants' details during the data collection and analysis. The researchers, therefore, declared that no compensation was given to respondents and participants whose data was used in work. Data gathered from all the interviews were transcribed and typed out and was stored in files created on a personal computer. Transcriptions of the data collected were kept for three (3) to five (5) years, after which they were destroyed. Access to the transcribed data was available to only the researchers.

Results

Basic Characteristics of the Respondents

Table 1 presents the basic characteristics of respondents. Average age of respondents was 16.64 years, and standard deviation of 2.26. About 44.6% aged between 14-17 years, and a little over half (60.6%) were female. Over two-third (71.1%) were single, 72.5% belong to the Islamic religion, 43.1% had senior high school as their highest level of education. About 40.6% of respondents' father were engaged in farming, and 45.8% of father's education were literate. Occupation of respondents' mother showed 64.3% were traders and 38.4% of the respondents' mother were literate (Table 2)

Table 2. Basic Characteristics of the Respondents

Variable	Frequency (N = 596)	Percentage (%)
Age category (Mean = 16.64±2.26)		
10-13 years	67	11.2
14-17 years	266	44.6
18-22 years	263	44.1
Sex		
Male	235	39.4
Female	361	60.6
Relationship status		
Single	424	71.1
Married	26	4.4
Dating	134	22.5
Co-habitating	12	2.0
Religion		
Christians	152	25.5
Islam	432	72.5
Others	12	2.0
Educational level		
No formal education	19	3.2
Primary	93	15.6
Junior High School	186	31.2
Senior High School	257	43.1
College/Tertiary	41	6.9
Been sexually active		
Yes	370	62.1
No	226	37.9
Age start menstruation (N=370; Mean = 13.59±1.78)		

8-12 years	98	26.5
13-16 years	263	71.1
17-18 years	9	2.4
Occupation of father		
Farming	242	40.6
Civil servant	126	21.1
Trading	124	20.8
Artisan	62	10.4
Others	42	7.1
Father educational level		
Literate	273	45.8
Illiterate	323	54.2
Occupation of mother		
Farming	87	14.6
Civil servant	74	12.4
Trading	383	64.3
Artisan	15	2.5
Others	37	6.2
Mother educational level		
Literate	229	38.4
Illiterate	367	61.6
Location of residence		
Tamale metro	271	45.5
Gushegu	78	13.1
Zabzugu	100	16.8
Sagnarigu	147	24.7

Awareness and Knowledge of Availability of Adolescent Sexual and Reproductive Health (ASRH) Service

Table 2 shows respondents' awareness and knowledge of availability of adolescent sexual and reproductive health service. About 73.8% said the health facilities provide ASRH service in their district, 30.8% said they were aware of SRH health facility outside their location.

Table 2. Awareness and Knowledge of Availability of Adolescent Sexual and Reproductive Health (ASRH) Service

Variable	**Frequency (N = 596)**	**Percentage (%)**
Health facilities provide ASRH service in district		
Yes	440	73.8
No	156	26.2
If yes, type of facility providing service (N = 440)		
Government	314	71.4
Private	88	20.0
NGO	38	8.6
If no, aware of any facility outside district (N = 156)		

Yes	48	30.8
No	108	69.2
Other ASRH service providers		
Drugstore/pharmacy	4	8.3
Hospital (West, TTH, & Central)	22	45.8
Health workers/nurses	3	6.2
Clinic/health centre	3	6.2
School	14	29.2
Marie Stopes	1	2.1
Private hospitals	1	2.1

Knowledge Score of SRH Service

Figure 1 showed the knowledge of adolescents and young people on adolescents sexual and reproductive health services. About three-quarters (70.5%) had good knowledge score of SRH services availability, 20.8% had average knowledge of SRH services availability, and only 8.7% had poor knowledge of SRH services availability in the selected health facilities in the Northern Region of Ghana.

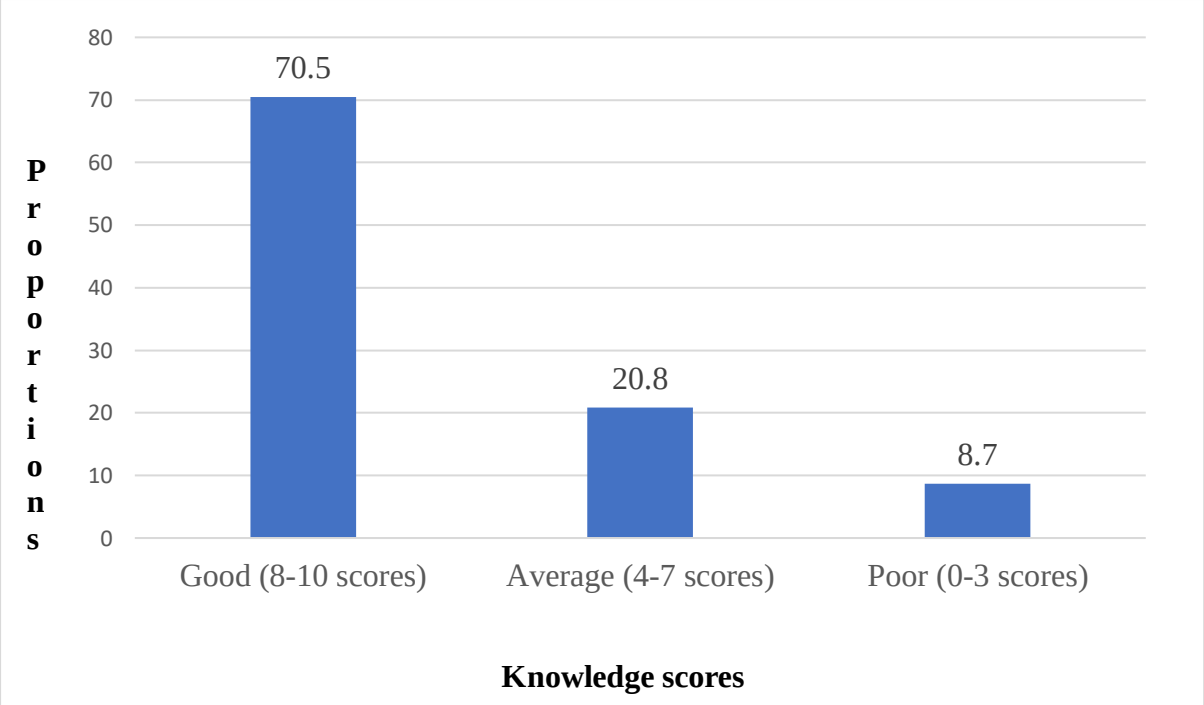

Figure 1. Knowledge of SRH Service

Access and Utilization of Adolescent Sexual and Reproductive Health Service

Table 3 presents on the access and utilization of Adolescent Sexual and Reproductive Health Service. Over two-third (69.8%) have ever visited the health facilities for SRH services to access SRH services, over a third (36.1%) said their place of residence to SRH service centre was far, 70.1% have obtained SRH service 1-2 times.

Majority of the respondents (54.2%) got support from their parents, a little over half (55.2%) said they did not have enough privacy during SRH service delivery, 48.5% of the respondents said they feel comfortable enough to ask questions during SRH service provision, 54.7% said the staffs at the facilities were

friendly, and over half (53.9%) of the respondents said staffs at the health facilities were helpful in providing information during SRH service delivery.

Table 3. Access and utilization of Adolescent Sexual and Reproductive Health Service

Variable	Frequency (N = 596)	Percentage (%)
Ever visited the health facilities for SRH service		
Yes	416	69.8
No	180	30.2
Distance to health facility from residence (N = 416)		
Near, short walking distance	124	29.8
30 minutes walking distance	142	34.1
Far, 1 hour or more walking distance	150	36.1
Number of times sought SRH services (Mean = 2.04±1.75)		
Never	30	5.0
1-2 times	418	70.1
3-4 times	113	18.9
5 times, and above	35	5.9
Get support from parents		
Yes	323	54.2
No	273	45.8
Have enough privacy at the health facility		
Yes	267	44.8
No	329	55.2
Feel comfortable enough to ask questions		
Yes	289	48.5
No	307	51.5
Questions asked during consultation answered adequately		
Yes	312	52.4
No	284	47.6
Staffs at the clinic friendly		
Yes	326	54.7
No	270	45.3
Staffs at the clinic helpful in providing information		
Yes	321	53.9
No	275	46.1

Factors that Hinder/Delay Access to SRH Services

Figure 2 presents on the factors that hinder or delay respondents' access to SRH services. A quarter (21.9%) of the respondents cited the cost of healthcare, 15.3% cited long queues at facilities, distance to healthcare facility (12.4%), and lack of privacy (12.4%), poor attitudes of healthcare workers (11.9%), 9.9% also mentioned families and friends' presence, 8.6% of the respondents cited inconvenient time only 7.6% cited cultural and religious restriction to hinder and delay their access and utilization of SRH service among the respondents.

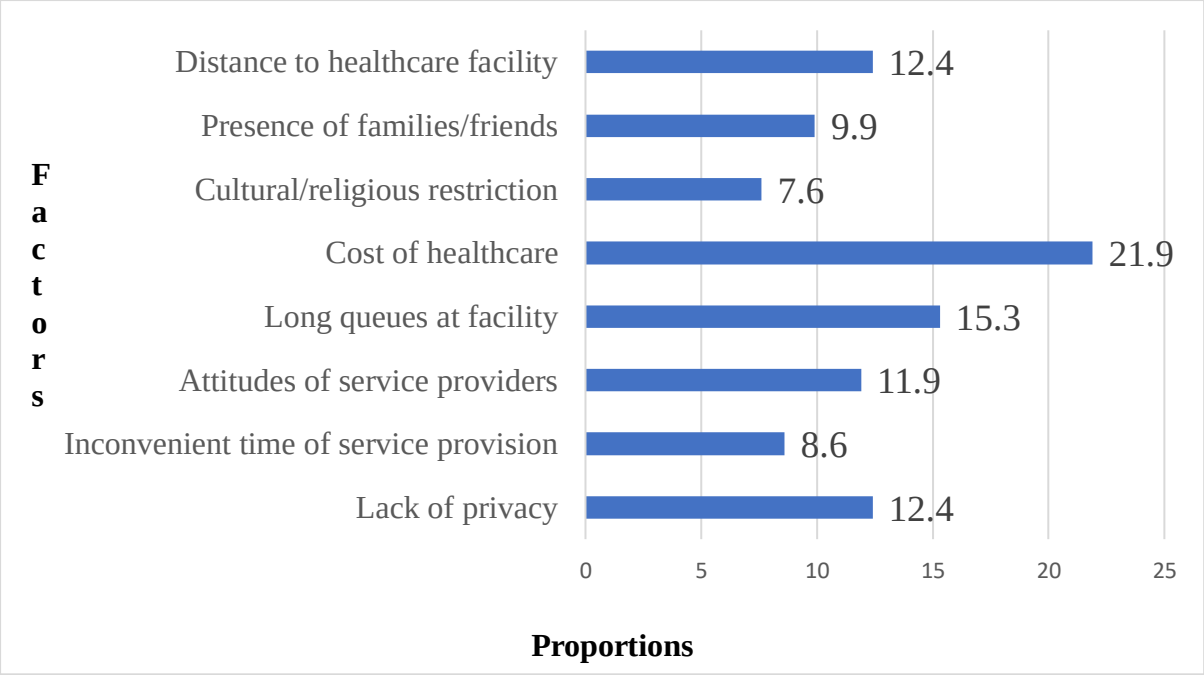

Figure 2. Factors that Hinder Access to SRH Services

Logistic Regression of Associated Factors Influencing the Knowledge Level of Adolescents on SRH Service Availability

Table 5 presents on the logistic regression of associated factors influencing the knowledge of adolescents and young people on the availability of SRH services. Adolescents and young people who were females had increased odds of 1.72 times likely to have had increased knowledge of SRH services availability than those were males (OR = 1.72; 95%CI 1.16-2.57; p = 0.007). Also, adolescents and young people who walked for 30 minutes to access SRH services such as contraceptives and sex education were 2.30 times more likely to have had increased knowledge of SRH service availability than those who walked for short distance or stay near the SRH service centre (OR = 2.30; 95%CI 1.24-4.26; p = 0.03).

Father educational attainment was also found to have significant influence on the knowledge level of SRH services availability because, adolescents and young people who fathers were illiterate had an increased chance of 2.03 times of having increased knowledge of SRH service availability as compared to those who father's literate (OR = 2.03; 95%CI 1.35-3.03; p = 0.0001). To add, educational attainment of mothers was also found to have statistically significant influence on the knowledge level of adolescents and young people on the availability of SRH services. Adolescents and young people who were found to have resided in the Gushegu district were found to have had an increased chance of 5.72 times of having good knowledge level regarding the availability of SRH service at the selected health facilities (OR = 5.72; 95%CI 2.01-16.25; p = 0.0005).

Table 5. Logistic Regression of Associated Factors influencing the Knowledge Level of Adolescents on SRH Service Availability

Variables	Knowledge score	Unadjusted OR (95%CI)	P-value	Adjusted OR (95%CI)	P-value
	Good n (%)				
Sex of respondents					
Male	173 (73.6)	1	0.007	1	0.005
Female	299 (82.8)	1.72 (1.16-2.57)		2.08(1.25-3.48)	
Distance to health facility					
Near, short walking	90 (72.6)	1	0.03	1	0.01
30 minutes walking	122 (85.9)	2.30(1.24-4.26)		2.31(1.22-4.39)	
Far, 1 hour/more walking	119 (79.3)	1.45(0.82-2.53)		1.59(0.88-2.87)	
Father educational level					
Literate	199 (72.9)	1	0.0001	1	0.03
Illiterate	273 (84.5)	2.03(1.35-3.03)		2.01(1.08-3.70)	
Mother educational level					
Literate	170 (74.2)	1	0.02	1	0.62
Illiterate	302 (82.3)	1.61(1.08-2.40)		1.16(0.63-2.10)	
Location of residence					
Tamale metro	207 (76.4)	1	0.0005	1	0.004
Gushegu	74 (94.9)	5.72(2.01-16.25)		4.89(1.65-14.48)	
Zabzugu	79 (79.0)	1.16(0.66-2.02_		0.52(0.24-1.09)	
Sagnarigu	112 (76.2)	0.98(0.61-1.58)		1.23(0.66-2.26)	

Qualitative Findings on Health Workers' Views on Adolescents SRH Services Availability and Utilization

Awareness and Knowledge of Availability of ASRH

Types of Adolescents SRH Services Provided

From the study, awareness, and knowledge of health workers on types of adolescents SRH services provided at the selected health facilities were found to include counselling and education on SRH issues. In term of the counselling and education, most facilities provide counselling and education on sexually transmitted infections (STIs) screening, diagnosis and management of STIs among the sexually active adolescents. Other SRH services provided were found to include contraception and family planning service, pregnancy testing, post-natal care service (PNC), comprehensive abortion care (CAC), and voluntary counselling and testing of HIV.

"Yes, when it comes to adolescent SRH services, we provide at this facility (RCH) include pregnancy test, where people can just walk in and request for pregnancy testing. We also have voluntary counselling, and testing for HIV, CAC (comprehensive abortion care) which involves cases that are life threatening to the unmarried adolescents" (Participant 2, RCH).

In term of who can access SRH service, the results revealed that all individuals including the adolescents can access SRH service. Both males and females were noted to qualify accessing SRH service in the selected health facilities.

"For people accessing or those who can access these SRH services are the community members, both males and females. Generally, everyone can access the service including the adolescents" (Participant 2).

Guidelines and Policies used in Provision of SRH Service

From the study, the GHS protocol for adolescents' health service distinguished adolescents as special group in healthcare service delivery and require special attention different from the general adult population. Some participants also cited the Ghana healthcare access and delivery policies which make healthcare access a basic right to all individuals and people living in Ghana, including the adolescents, therefore SRH service provision and delivery is a basic right to all adolescents to access freely without restriction from anyone.

"Yes, we use the general GHS protocol for adolescents' health service, and which is distinguishing the adolescents from the general population such that you give special attention to them to avoid any criticism by the adult. Because, when you put all the adolescents together with the general population there is always some resistance for fear of name calling, because they won't want the adult to judge them on whatever service you provide to them" (Participant 1).

Measures to Ensure Quality SRH Services are Provided to Youth and Unmarried Adolescents

From the study, measures and strategies adopted by healthcare workers to attract the youth and unmarried adolescents for SRH services were reported by almost all study participants to include home visits, community durbars to identify youth and adolescent groups for SRH service provision. Some study participants also cited the use of the adolescents' health corners to attract unmarried adolescents for SRH services as well as ensuring that services are provided on time to avoid long waiting period or overstaying of adolescents at the clinic to be seen by a closed relation who may criticize them.

"Yes, the strategies we are now using is that we identified them in the communities and bring them to the facility for the services to be provided, and also during home visits we add them to our home visit plan" (Participant 1).

"We have also ensured that adolescent's privacy, confidentiality issues and self-dignity of the adolescents are respected. We should not let them feel like they are being rejected by us. For example, if an adolescent walk into your facility at a certain time, and maybe he/she came in late (at odd hours) and such adolescent is rejected, he/she will not like to come again and so we should treat them with respect" (Participant 3).

Procedures or Protocols used in the Provision of SRH Service to Adolescent Clients

In relation to procedures and protocols used by healthcare providers in the provision of SRH service to adolescents showed almost all participants said they used Ghana Health Service procedures and protocols for the provision of adolescent SRH service among adolescent. It also points out that, when adolescents come to the facility, most health worker used the triaging to separate the adolescents from the adult population in the provision of SRH service to adolescents.

"In our facility, when a youth client visits the facility including the unmarried one, we make sure we do triage of the adolescents from the other population so that the elders will not know what the adolescent is at the facility to do. For example, at the OPD, there are two separate entrance and the adolescents' corner is available at the other entrance, and most especially when the adolescents come, we usually take them to the adolescent corner to have discussion with them without the adult knowing what they are here for" (Participant 2).

On issues of confidentiality and privacy during healthcare service provision. All participants admitted that they ensure outmost privacy and confidentiality during SRH service provision by protecting the identity and information of adolescents to ensure their

identity is not disclosed and as well as their personal data is kept safe.

"Yes, we ensure outmost privacy and confidentiality, and that is why the adolescent corner is separate, and before you do any discussion with the adolescent, we always assure them by saying whatever things we are going to discuss is confidentiality or what we are discussing is between the two us, and is for your good, and also for all of us our collective goal" (Participant 1).

Factors that Affect Unmarried Adolescents in Accessing SRH Service at Facility

From the study, factors that affect unmarried adolescents in accessing SRH services at the selected health facilities were cited to include the unease feelings of been unmarried adolescent and want to use SRH service which could fuel the perceptions of people regarding SRH service access, and that if you are unmarried and you used SRH services, then you are probably into prostitution. Some other factors cited were found to include shyness due to negative perception of people, lack of knowledge on sex bargaining, poor dieting and exercise which create uncomfortable feelings among adolescents to visit the health facility.

"Actually, the adolescents have some kind of feeling once you are not married and you are going in for SRH services, which is said to mean that, you are preparing yourself for prostitutions. So, most do not usually want to come to the facility to have a chat regarding their sexual life and other health issues such as dieting, exercise, and especially the girls, some don't even know how to bargain for sex" (Participant 1).

"I think that they (adolescents) feel shy coming to the facility to access SRH service. Because of this, we have developed the adolescents' health corners, which create a separate entrance only for adolescents at the back of the clinic so that they can freely pass through without feeling uncomfortable been seen by other adult people" (Participant 3).

Attitudes of Health Workers toward Provision of SRH Service to Unmarried Adolescent

Regarding the attitudes of health workers toward unmarried adolescents in the provision of SRH services, results revealed that some healthcare workers are always rude and disrespectful toward unmarried adolescents. Other participants also cited health workers' bad attitudes toward unmarried adolescents to include lack of privacy and confidentiality. However, few of the participants also cited some of the health workers to exhibit positive attitudes by assisting them in the provision of healthcare services to adolescent clients.

"You know, when it comes to health workers, some people tag them as been rude at their workplace, and so some (health workers) mishandle the adolescent clients when they come to them at the facility. Also, some of adolescents do not have the confident to express themselves and so will not be able to tell the truth, and so some health workers disrespect them" (Participant 3).

Location of Facility in Attracting the Unmarried Adolescents

In relation to the location of the health facility, and the provision of SRH services, the results showed all participants said the location of the facility was good and support the provision of SRH service to adolescents. Facilities were cited to have been located in the outskirt of town which enable adolescents to easily come to the facility without any infringement or impediment from the adults.

"Yes, the location of the facility is not a problem because it is at the outskirt of town, and if an adolescent is coming to the facility, he/she can easily pass-through corners and come, but I will say from some experience when a health staff is located in a community, the people

sometime locate you in the house, and you will come for you attend to them" (Participant 3).

The Utilisation of the Services by Adolescents

In term of strategies healthcare workers adopt to mobilize the youth and communities' members for adolescent SRH service were cited to include identification of community groupings such as farming groups, youth groups, women groups, men groups and other community groups for focus groups discussions on the issues of adolescents SRH services to help mobilizes adolescents for the SRH service delivery.

"We usually locate the various groups of the communities depending on their purpose of formation, because some of the farming groups if you try to locate them there is resistance because it is not something that relate to what they do but sometimes we make them to understand that it is not about what they do but it is about their own health" (Participant 4).

"Yes, we have strategies we use in mobilizing the youth, we have durbars for adolescents, we also have WhatsApp groups for adolescents, since there are sensitive issues that some people cannot meet you one-one to discuss those issues but through WhatsApp such issues can be discuss among the adolescents" (Participant 3).

In term of measures to limit gender-based discrimination and promote gender-based equality and equity among community members, youth and adolescents in mobilizing them for SRH services showed all participants said they promote gender equality by ensuring that all clients both males and females have equally right in the access of SRH service without any form of discrimination.

"For the gender-based discrimination, we always advocate against that, it is does not help in our socio-economic development, and so when we are planning any activities, we always make sure that women are involve" (Participant 3).

Category of Health Workers who Provide SRH Service to Adolescents

From the study, almost all participants said the category of healthcare providing SRH service comprise of both males and females which includes registered general nurses, midwives, community health nurses, enrolled nurses, nutrition officers, and among others who provide SRH service to adolescents. In term of youth counsellors, almost all participants said they lacked youth counsellors in the provision of SRH service.

"Yes, we have RGN (registered general nurse), registered mental health nurses, enrolled nurses, community health nurses, nutrition officers, and midwives who support the provision of SRH services to adolescents. But for the youth counsellors, we do not have them, even the whole District Health Directorate we have only one person" (Participant 2).

Roles of Community Members in Supporting Adolescents to Use SRH Service

From the study, the roles of community members in supporting adolescents to use SRH service were reported among participants to involves health committee members, opinion leaders, queen mothers, and assembly men/women who support and encourage adolescents in the uptake and utilization of SRH services. Some participants also point out that, the community-based volunteers support and mobilize adolescents from the communities to health facilities for education, counselling and treatment of SRH issues.

"For the role of the community members, we usually encourage the health committee members as well as the opinion leaders in the community, women leaders (Magasia), and the assembly men/women always take part in the adolescents' health services, and involve in carrying out activities on adolescent health service" (Participant 1).

Aside the community health committee, other stakeholders in the establishment and

management of adolescents SRH service and adolescents' health corners were noted to include opinion leaders such as the pastors, teachers, chiefs, queen mothers, and assembly men/women contribute to the effective running and management of adolescents SRH services.

"For adolescent SRH services we initiated by first having a meeting with the community health committee, and from there we again met with the opinion leaders from the various communities, and with other stakeholders like the pastors, teachers are all involved, and made to understand the need for adolescent SRH service" (Participant 1).

Ways to Promote the Utilization of SRH Service among Unmarried and Married Adolescents

From the study, ways to promote the utilization of SRH service among unmarried and married adolescents were reported among the study participants to include the need for more sensitization of community members and adolescents at the clinic, communities and through radio stations to educate communities about the adolescents SRH services. Some participants also cited the need to organize community durbars, and youth groups durbars to educate and train more community volunteers on adolescents SRH services.

Discussions

The study aims at assessing the knowledge, availability and utilization of SRH services in some selected districts/municipalities in the Northern Region of Ghana. Increased awareness and good knowledge of adolescents and young people about adolescents sexual and reproductive health services help contribute to successful utilization of the services among adolescents and young people. Almost a third was unaware of the provision of SRH services in the available health facilities in their residing district. This finding was inconsistent to study of [9] in Nigeria which reported that, most youths knew what adolescent/youth-friendly service area but equally found that majority of youths did not know where to get these services because they were not aware of the available adolescent/youth friendly facilities. Also, findings of the current study indicate a little over two-third of the type of health facilities that provide SRH services were government facilities, and less than a quarter of the health facilities were private facilities, and non-governmental organizations which support in the provision of SRH services. The limited number of health facilities in the selected districts could equally contribute to the awareness and knowledge level of adolescents and young people.

The study showed that most adolescents and young people do not have Adolescents SRH health facilities in their location/district of residence, and only a third were aware of SRH health facility outside their location or district of residence and was consistent with study of [10]. Not having SRH service facility in the district could equally contribute to the awareness and knowledge level of adolescents and young people regarding the type of SRH services that are provided by health facilities in the district. This can also influence the utilization of SRH services among adolescents and young people. This is because the uptake and utilization of SRH services depend on the awareness of adolescents and young people on the type of SRH services that are available in health facilities in the district. This assertion is supported by similarities studies including [10, 11] and the 2014 Ghana Demographic Health Survey whose findings reported that, young people lack knowledge on SRH services because of the significant influence of adolescents' access and utilization of SRH services [4].

The current study further indicates that, most sources of adolescents and young people awareness of SRH services were attributed to education promoted health facilities such as the Tamale Teaching Hospital, drugstore/pharmacies, and health workers/nurses through school health education.

Other sources also cited were found to include clinics and health centres, Marie Stopes International, schools, and private hospitals which provide education and sensitization to adolescents on adolescent sexual and reproductive health services [12]. Good awareness creation promotes adolescents and young people knowledge of SRH services and contribute to increased utilization of SRH services [13]. From the current study, findings further revealed adolescents and young people knowledge score of SRH service to indicate about three-quarters had good knowledge score of SRH services availability, and less than a third had average and poor knowledge score of SRH services availability in the selected health facilities in the Northern Region of Ghana.

Having the knowledge about the service could influence usage, and therefore adolescent and young people knowledge score level of SRH service could be attributed to education provided by health workers and international organization like Marie Stopes who supported in the provision of free community SRH services to adolescents and young people as well as general women in fertility age population. Findings from [13] study in Ethiopia**;** and [14] in Kenya shared similarities with the current study noticing adolescents' knowledge of SRH services to be affected access and availability of the service. Availability of SRH services preferred by adolescents and young people which the heath facilities provide help to enhance access and utilization of the services. However, when the services are unavailable or when adolescents and young people do not meet their preferred available SRH services at the facility, it thus affects their access and utilization of SRH services among adolescents and young people [15].

From the current study, various types of adolescents SRH services that are available to adolescents and young people were reported to include sex education and counselling, contraceptives and family planning services, abortion care and post-abortion counselling, HIV testing and counselling, treatment of STDs, pregnancy testing, maternal and child health services and other gynaecological services that promote the health and dignity of adolescents and young people. These findings could be related to studies of [16, 17]. Findings further revealed that a less than a quarter were aware of the availability of contraception and family planning services and had visited the health facility to request for the service. Education of adolescents and young people on contraceptives and family planning services availability and where to access these services contribute to their utilization [18]. The low number of adolescents and young people becoming aware of contraceptives and family planning services could be due to low education and sensitization of adolescents and young people on the available contraceptive methods and where to access these methods. This was in relation with [5] report, and World Health Organization report which findings report that [1], in some places where these services were available, young people were unable to access them because of factors such as provider bias, fear of being branded as a bad boy or girl, distance to services, and or simply lack of knowledge about the availability of such services. In fact, findings in the current study further showed that, not up to twentieth of adolescents and young people were aware of the treatment of sexually transmitted diseases (STDs) at health facility, and almost same proportion has done HIV testing and counselling, gynaecological examination, pregnancy test, access of maternal and child health service, and few has actually visited the health facility for pregnancy termination, and as well as receiving pre and post abortion counselling. This was also found to share similarity with studies of [18, 20]. These findings point to the fact that, though the SRH services were available in the health facilities for adolescents and young people use, most were not accessing the service because of lacked awareness and knowledge about the availability of these services which could contribute to low

and poor access and utilization of the services [21, 22]. However, this was different from studies of [23] which attributed adolescents access to available SRH service to better SRH education. Also, findings from studies attributed adolescents access to, and utilization of SRHS to poverty as well as mismanagement of SRH issues of adolescents especially within the transitional stage of adolescents [12].

From the current study, over two-third of adolescents and young people said to have ever visited the health facilities for SRH services, and only a third have never visited the health facility for SRH service. Ability of adolescents and young people to visit health facility to access SRH services could be attributed to the counselling and education given to them at school and during health services delivery at the health facility. Because these education and counselling could influence adolescents thought and desire to access SRH services like contraceptives and STDs treatment. In term of distance to the health facility, over a third of adolescents and young people said to cover long distance of about an hour or more before accessing SRH service, only less than a third said to have covered either a distance of 30 minutes or less than 30 minutes walking distance before accessing SRH services. These views were equally shared by studies of [24, 26] study in Ghana; and [25] study in the United State of Ammerica all cited distance to contribute to the utilization of SRH services.

Findings further point out that, half of the adolescents and young people said their parents support their utilization of SRH services. In term of confidentiality and privacy during adolescents SRH services provision showed a little over half said they did not have enough privacy during SRH service delivery, and less than half said enough privacy was provided during SRH service delivery. Ensuring privacy and confidentiality during SRH services delivery help boost the confidence of adolescents and young people and thus promote their access and utilization of SRH services, and were found related to the studies conducted by [3, 27] and Ghana's Demographic Health Survey equally shared similar views with the current study on the need to ensure privacy and confidentiality during SRH services provision to adolescents to help enhance their access and utilization of SRH services [4]. In term of interaction between adolescents and health staff workers showed more than half said their interaction with health workers was friendly and less than half said their interaction was not friendly. Having positive interaction with adolescents during SRH service delivery allay fears and boost confidence of adolescents and young people to approach their healthcare providers freely with SRH issues [28]. Findings further indicate that, little over half of the respondents' said staffs at the health facilities were helpful in providing information during SRH service delivery, and this thus help them to access the service without fear and intimidations. Fear and intimidations from health workers formed major barriers that prevent adolescents and young people from accessing and utilizing SRH service. These were found in tandem with studies of [29, 10], which findings point out that, young people often feel uncomfortable and reluctance in accessing SRH services. Because they perceive that there is lack of privacy, confidentiality, respect, discrimination, fear of being labelled as bad people in the society by friends, teachers, parents and health care providers. Another barrier that was found to affect adolescents and young people utilization of SRH services indicate less than a quarter cited the cost of healthcare as a barrier to the access of SRH service. Cost to accessing healthcare formed a major barrier to accessing general healthcare service, and especially adolescents and young people regarding SRH services because, most adolescents and young people are unemployed and do not engage in any economic activities. Therefore, most can't afford to pay for the healthcare services charges especially SRH services [15, 29]. Findings again revealed that, poor attitudes of healthcare service providers

toward adolescents and young people during SRH services delivery prevent them from subsequent utilization of the service because, most often developed fear relating such bad attitudes been put forward by the healthcare providers, and therefore will not want to visit such facility again to be intimidated by the healthcare providers. Also, opening time of the SRH clinic was found as a barrier because most respondents said the opening time of SRH service provision inconvenient, and make it difficult for them to access the service. These barriers correlate with the studies of [21, 13], which findings equally cited healthcare providers' attitudes, and opening time of the SRH clinic to posed challenge to the uptake and utilization of SRH among adolescents and young people. In term of socio-demographic factors that influence knowledge and utilization of SRH services among adolescents and young people. Findings revealed adolescents who were females had increased odds of 1.72 times likely to have had increased knowledge of the availability of SRH services to enable access and utilization [28, 13]. Also, adolescents and young people who fathers had some forms of educational attainment were found to have significant influence on their knowledge level of SRH services availability as well as those who mothers had some levels of education were found to have had influence on their knowledge level and the utilization of SRH services [30]. District of residence of adolescents and young people was equally found to have a statistically significant influence on their knowledge level and utilization of SRH services. Because adolescents and young people who were found to have resided in the Gushegu district were found to have had an increased chance of 5.72 times of having good knowledge and utilization level of SRH service. Studies from literature equally identified parental education, place of residence, and among other factors to have significant influence on the sexual and reproductive health of adolescents and young people [30].

Conclusion

Conclusively, most adolescents and young people from the study findings had increased knowledge score on the types and availability of SRH services in the district health facilities. But utilization of the SRH services was low because, the point of delivery of these SRH services were far, and most have to cover long distance of 30 minutes or more to access and utilize SRH services in the district. Types SRH services provided in the district health facilities were youth friendly, but most facilities lacked youth corners to promote the access and utilization of SRH services. Barriers and associated factors affecting the knowledge, availability, and utilization of SRH services among adolescents and young people were cost of healthcare, long queues at facilities, distance to healthcare facility, poor attitudes of healthcare service providers, sex, father and mother educational attainment and district of residence.

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Competing Interests

The authors have declared that no competing interests exist.

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