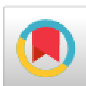

Reproductive health education: a qualitative study of health seeking behaviour of in-school female adolescents

Robert Tanti Ali, Felix Kofi Damte, Adjoa Afriyie Poku, Kojo Oppong Yeboah Gyabaah, Duke Appiah

Corresponding author: Felix kofi Damte, Department of Geography Education, University of Education, Winneba, Ghana. fkdamte@uew.edu.gh

Received: 14 Feb 2022 - **Accepted:** 12 Oct 2022 - **Published:** 14 Oct 2022

Keywords: Adolescent, sex education, reproductive health, school health education programme, sexual reproductive health, sexually transmitted diseases

Copyright: Robert Tanti Ali et al. PAMJ - One Health (ISSN: 2707-2800). This is an Open Access article distributed under the terms of the Creative Commons Attribution International 4.0 License (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article: Robert Tanti Ali et al. Reproductive health education: a qualitative study of health seeking behaviour of in-school female adolescents. PAMJ - One Health. 2022;9(11). 10.11604/pamj-oh.2022.9.11.33759

Available online at: https://www.one-health.panafrican-med-journal.com/content/article/9/11/full

Reproductive health education: a qualitative study of health seeking behaviour of in-school female adolescents

Robert Tanti Ali[1], Felix Kofi Damte[2,&], Adjoa Afriyie Poku[2], Kojo Oppong Yeboah Gyabaah[2], Duke Appiah[3]

[1]School of Public Health, University of Ghana, Legon, Ghana, [2]Department of Geography Education, University of Education, Winneba, Ghana, [3]Department of Public Health, Texas Tech University Health Sciences Center, Lubbock, Texas

[&]Corresponding author

Felix kofi Damte, Department of Geography Education, University of Education, Winneba, Ghana

Abstract

Introduction: *adolescents in developing countries are often vulnerable to sexually transmitted diseases (STDs) and unplanned pregnancies. It is estimated that about 13 million adolescent girls have unplanned births each year in developing countries. This study examined the scope of the School Health Education Programme (SHEP) and health-seeking behaviours of female adolescents in Junior High School (JHS).* ***Methods:*** *this qualitative research used the narrative approach. Group discussions were conducted among 100 female adolescents aged 12-19 years. Interviews were conducted among five community health workers in five health centres that provide reproductive health services. The in-depth interviews and group discussions were documented, transcribed and analyzed using NVivo 11, whilst thematic analysis was used in analyzing data.* ***Results:*** *the mean age of adolescents was 15.5 years, with 74% reporting having knowledge of STDs. It was observed that the SHEP offers various information on health issues such as menstrual hygiene, STDs, personal hygiene, contraceptives, personal development and unsafe abortion practices. Adolescent reproductive health services were also available in the health centres but patronage was low as a result of perceived negative attitude of health workers and trust. Knowledge on issues of reproductive health is insufficient among JHS female adolescents, with many of them relying on the media and peers for reproductive health support.* ***Conclusion:*** *in this study, female adolescents are generally involved in risky sexual behaviour due to their low level of knowledge on reproductive issues and their unwillingness to patronize available reproductive health services because of the health system and cultural barriers.*

Introduction

The adolescent is a stage in life where a person reaches sexual and reproductive adulthood. This degree elicits psychological and biological modifications characterized via sexual experimentation [1]. Adolescents represent an essential part of the population and mostly live in sub-Saharan Africa [2]. The International Conference on Population and Development (ICPD) in 1994 in Cairo defined reproductive health as "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health, therefore, implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so" [3]. The World Health Organization (WHO) also defines an adolescent as a person aged between ten and nineteen (10-19) years [4]. However, the term adolescent encompasses different ideologies as a result of backgrounds and societal understanding. Adolescence as a stage could differ in coverage and age by definition and range from puberty to adulthood, often 10 to 21 years [5]. At the adolescent stage, young people usually are in a state of dilemma and are often torn between peers and parents, information and knowledge, societal norms and religion. Adolescents can be propellers of positive economic growth in any country [6]. The Ghana Demographic and Health Survey (GDHS) report, for example, indicates that growth in adolescents´ population could serve as an economic potential for the nation if investments are made suitably among them [7].

Adolescents are among the most vulnerable populations exposed to sexual exploitation, and they are exposed to the risk of adverse reproductive health effects [7]. Earlier studies have established that lack of knowledge about effects of early and unsafe sex among adolescent females expose them to unplanned pregnancies, school dropouts, unsafe abortion and the associated complications, and sexually transmitted infections [8,9]. The Ghana Health Service (GHS) has partnered other agencies in the Adansi South District to implement adolescent-friendly reproductive interventions aimed at increasing

adolescent health seeking behaviour [10]. Such interventions include but not limited to postpartum and antenatal services, birth control services, STDs, regenerative health and nutrition, School Health and Education Programme (SHEP), and comprehensive abortion services [11]. The SHEP policy framework has four main thematic areas: skills-based health education, disease control and prevention, nutrition education and control, and a healthy and safe school environment for primary and JHS pupils [12]. The questions not answered are (i) whether these services are accessible to adolescents, especially those in JHSs? (ii) how these services affect adolescent sexual behaviours? The Ashanti Region is currently experiencing a downward movement in teenage pregnancy. Between the years 2012 to 2016, the region recorded 89,856 cases of teenage pregnancy. In 2016, 18,461 teenage pregnancies were recorded. The number decreased in 2017 and 2018 recording 18,066 and 17,447 cases respectively [13]. However, within the same period, the Adansi South District has experienced an increased registered number of pregnancies among adolescents. The district recorded 580 and 640 pregnancies among adolescents in 2015 and 2016, respectively [14]. In light of this, this study was conducted to assess the SHEP services provided to adolescents in the district and their health-seeking behaviours of female adolescents in JHSs in the Adansi South District of the Ashanti Region, Ghana.

Methods

Study design: the study utilized qualitative research design informed by a thematic analysis [15] to understand the reproductive health-seeking behaviour of in-school adolescents in Ghana.

Study setting and population: the selected study area for the study is the Adansi South District (Figure 1). It is part of the thirty (30) Local Government Administration in the Ashanti Region, Ghana. The district was carved by a parliamentary Act (Act 462, 1993) in 2004 through a Legislative Instrument (LI 1752) (Adansi South District Assembly, 2018). New Edubiase is the district capital and is about 92 kilometres from the regional capital, Kumasi, along the Cape Coast - Kumasi highway. Ashanti Region accounts for 5,792,187 (19%) of Ghana´s population in 2019. The region also recorded high prevalence rate of teenage pregnancy of 12.2% in the region [16]. Ashanti region has an adolescent population of about 1,296,634 [17]. The Adansi South district has a population of 115,378. The population comprises 58,039 males and 57,339 females. The Adansi South district has a total fertility rate (TFR) of 4.4 births per woman, with the general fertility rate (GFR) recording 130.4 per 1000 live births [18].

Study area: the map of Adansi South District (Figure 1).

Variables: the variables for the study comprises female adolescents, community health workers, health-seeking behaviour, reproductive health education, SHEP, sexual reproductive health, STIs, knowledge of reproductive health, awareness of reproductive health, barriers to reproductive health services, information on reproductive health, and accessibility and utilization of reproductive health services.

Data resource and measurement

Data collection tools: the study utilized focus group discussions and in-depth interview guides to aid in data collection.

Data collection: the researchers undertook written informed consent, in-depth interviews (IDIs) and focus group discussions (FGDs) with female adolescents in a secured space in their schools. There were 5 individual in-depth interviews with the community health officers. Ten (10) FGDs among 100 adolescent girls with group size of 10 female adolescents were done. The group discussions brought together 10 female adolescents with homogeneous background and

experiences to discuss themes of concern with the researchers. The researchers interviewed the community health officers individually at the places where they work. Conducting the IDIs and FGDs, a semi structured question guide with probing and open-ended questions were used. Key issues examined among adolescent girls included: participation in SHEP services and programmes, in-school female adolescents´ knowledge on safe sex and pregnancy, in-school female adolescents´ knowledge on STIs, information sources of adolescents SRH, and health seeking behaviour of female adolescents. Questions for community health officers centered on scope of the school health education services, types of information on sexual reproductive health and information sources of adolescents SRH. The interview guides were piloted to achieve data efficiency and smooth administering of questions. This further helped to adjust the questions as new issues came up during the piloted collection of data process. The interviews were conducted in English or in the local dialects according to the participant´s choice and efficacy of information. In-depth interviews and group discussions spanned between 40 and 60 minutes, were documented on tape and precisely transcribed, and then interpreted into English. In the IDIs, there was confidentiality and anonymity of participants; however, this could not be achieved in the FGDs as there was sharing of opinion within the group.

Sample size: participants were female adolescents of Junior High Schools, and enrolled in the selected school for at least an academic term between the ages of 12 and 19 years in the Adansi South District at a time of the study. The definition population for this study is the adolescent female (N=100) students in their 1st, 2nd, and 3rd years in the public Junior High Schools aged 12-19 years. Community health officers (CHOs) (N=5) one each from each of the five health centres in the study area who offered school health services to the selected Junior High Schools were also the study population. The schools were selected due to the high school dropout rates among females based on a report from the Ghana Education Service, District Education Office in 2018. The study utilized the criterion sampling in selecting the female adolescents in the JHS because it allows for selection of participants from the target population who fell within the criteria of inclusion for the study [19]. The Simple Random sampling method was then used in selecting the female pupils in each class.

Data analysis: the researchers examined the data using thematic analysis, where major topics and categories were identified and analysed within and across data. It involved reduction of data, data display and conclusion-drawing of data and data verification [20]. Transcripts were coded line-by-line as either tree nodes or free nodes. The data gathered from FGDs and IDIs were documented, verified and transcribed in every detail. Field notes were also transformed into data forms. The transcribed data were carefully studied by the researchers. The narratives' data in English were then fed into Microsoft Word and transferred for analysis in NVivo v11. Query analysis in NVivo was performed to relate the coding to nodes and attributes within- and between-group responses and themes [9].

Ethical consideration: the study was reviewed and approved by the Ministry of Health through the Ethical Review committee of the Ghana Health Service in Accra (Reference number GHS-ERC: 114/12/17), and relevant state agencies. All participants above 18 years of age signed an informed consent form before they participated in the study. For participants <18 years of age, who were required to give informed assent and sign an assent form also did so before participating in the study.

Results

Adolescent participants: there was data saturation after interviewing 100 adolescent females and 5 community health officers with no new information arising. The average age of the

100 female participants is 15.5 years with 72% being in the 12 to 15 year-age-group and 28% being in the 16 to 19 years-age-group. There were 5 community health officers who undertook individual in-depth interviews. The findings comprised inferred views of the two sampled groups recruited for the study, which included students/pupils at the JHS and Community Health Officers. The views of the participants on reproductive health education of adolescents and health-seeking attitudes of in-school female adolescents were the constructed categories from the data gathered. The construct established and explained in the interviews were organized into themes: reproductive and sexual health services provided by SHEP, in-school female adolescents´ knowledge on sexual reproductive health (SRH), attitudes of health seeking among female adolescents on reproductive health, and hindrances to health seeking behaviour of adolescents on sexual reproductive health (SRH).

The provision of sexual and reproductive health services by SHEP: thematic analysis results extracted from the IDIs and FGDs reflects the study's research questions. The participants cited some types of sexual reproductive health (SRH) services provided during SHEP. The researchers also grouped these as SRH information, coverage of SHEP services, and information sources on adolescents SRH.

Types of SRH information: the findings show that the SHEP provides a variety of SRH education to Junior High School pupils in the Adansi South District. School Health and Education Programme also provides information on personal hygiene. The participants cited family planning, personal development, sexually transmitted diseases, teenage pregnancy, hygienic menstrual life and unsafe termination of pregnancies as the SRH information disseminated during SHEP sessions. *"We primarily educate them on vital health matters which are followed through with a screening, and when we recognize any problem, we refer to the health centre and the hospital for early intervention and treatment" (female CHO 2). "We receive education and personal hygiene, especially during menstrual periods. We are also educated on safe sex and prevention of unwanted pregnancies" (female adolescent). "The nurses teach us how to protect ourselves from unwanted pregnancies by using a condom during sex if we can't abstain" (female adolescent).*

Coverage of the school health education services: the issue discussed during a session emerges from current data on adolescent health services for the month. Occasionally, the subject matter is based on teachers' requests as they come face-to-face with a relevant issue that borders the pupils or their observations. *"We usually initiate discussions by alerting the school authorities and management of emerging and pressing health issues that need to discuss and raise awareness among the students" (female CHO 1). "We deliver health education; we enlighten adolescents on vital health issues and after which screening is done" (female CHO 3). "We depend on the complaints and what the adolescents say when they visit the health facility to determine school health sessions discussion forum topics" (female CHO 2). "We educate them on their health and how they will care for themselves during menstrual periods. "We also educate the adolescents how to take care of themselves to avoid unplanned pregnancies and unsafe sex. We provide education on STIs and HIV/AIDS" (female CHO 3).* The findings reveal that school management usually pre-informs the students before health officers pay visit to schools. The health sessions are in talks and lectures and usually end with questions and answers. The data showed a session usually lasts between 30 minutes and 60 minutes. Participants revealed that succeeding dates for a visit is announced before the end of a session. Pupils with health needs are, however, encouraged to visit the facility for individual counselling attention. *"With support from teachers and parents, we have provided treatment for some students who were identified during some of our school sessions" (female CHO 4) "We already have arrangements*

with the schools so at regular times we educate the students on SRH" (female CHO 1)

Source of information on adolescents SRH: community health officers indicated the information sources on adolescent SRH are from the books they read, print and electronic media, the internet, training, and conferences. *"The major source of information for me is from the books on reproductive health that I read and from workshops or training" (female CHO 5). "Even though I am trained on reproductive health matters, I equally use the internet most of the time. I read through my books, and sometimes there is support from the Health Directorate for more insights into the issues" (female CHO 4).*

Participation in SHEP services and programmes: majority (n=89) of the participants indicated that they had attended at least a session on sexual reproductive health education. In contrast, few (n=10) participants said they have never attended such organized events. *"The nurses have been coming to educate us on personal hygiene, menstrual hygiene, sexually transmitted diseases, contraceptives, personal development and unsafe abortion practices" (female adolescent). "Sometimes our teachers will stop teaching for us to meet the nurses when they come around and most of the interactions are on STIs, menstrual hygiene and abortions" (female adolescent). "I always participate in the health talk from the nurses, and I know adolescent reproductive health services are accessible at the health centres in this area where adolescents can access reproductive education, counselling services, family planning services and comprehensive education on reproductive health" (female adolescent)*.

Knowledge of in-school female adolescents on safe sex and pregnancy: the views of the in-school adolescents were sought on pregnancy at first sex by a girl. More than half (n=53) of the participants responded in the affirmative, while 17 of them disagreed. Some (n=30) of the participants however could not establish whether an adolescent can get pregnant at first sex or not. On the contrary, only a few (n=25) of the in-school adolescent participants demonstrated that they understand the concept of protected sex. Majority lacked knowledge on the issue of protected sex. *"Many of us girls have boyfriends, and some girls have intercourse with them without using condoms" (female adolescent). "Abstinence is a difficult practice for the adolescents. Some adolescents try to abstain from sex, but they are usually tagged as being fools" (female adolescent)."Some of my friends´ partners who are mostly adults, so it is common to find a female adolescent having multiple partners because the adults provide materials things and cash" (female adolescent). "My first sex was with a man who takes care of me. When I wanted to quit, he threatened get another girl and stop caring for me. Since I was vulnerable and needed his help, I agreed even though he didn't protect himself during sex" (female adolescent)*.

In-school female adolescents´ knowledge of STIs: it was observed that the majority (n=74) of the participants had heard of STIs, while 26 have no knowledge on STIs. Relating to the meaning of STIs, about three-forth (n=75) of the participating adolescents indicated STIs are diseases acquired from sexual intercourse.

In-school female adolescents' health-seeking behaviour on reproductive health: CHO and adolescent participants indicated that most adolescents likely to choose other forms of seeking healthcare because they consider them relatively economical as compared to clinics and hospitals. The participants indicated a general view that the cost of doing abortion is high at the clinics and hospitals but more affordable to get drugs from the drug stores and pharmacy shops or potions used to unsafely abort pregnancies at home. *"The adolescents who commit abortions at home usually complain they do not have the financial support to visit the health facilities since the national health insurance scheme does not cover it. On the contrary, they are always rushed to the hospital when there are complications after unsafe abortions" (female CHO 5). "I know where*

to visit for safe abortions, but for reasons such stigmatization, finances and others, prefer to use herbs and other concoctions which are cheap and for people not to know" (female adolescent). "Most of us who get pregnant usually prefer concoctions due to the fact that it is cheap and saves you from societal stigmatization" (female adolescent).

Barriers to adolescent's health-seeking behaviour on SRH: community health officers cited financial difficulty as a major hinderance to adolescents seeking sexual and reproductive health from healthcare facilities. There is a general fear of being stigmatized by society when they find out that an adolescent is utilizing or accessing contraception services as revealed by the adolescent participants. Participants (CHOs) also alluded to the fact that their utterances and that of society sometimes push the girls away from seeking proper healthcare services. *"Some of the adolescents I engage regularly complain they do not access healthcare services as a result of not having money to do so. We also found out that majority of these adolescents do not have an active and valid health insurance card" (female CHO 1). "When elders in the society realize that adolescent girls are using family planning services or they are seen buying condoms, they tag them as spoilt girls who are just interested in having sex "(female CHO 2). "When adults find out that an adolescent girl has aborted a pregnancy, even though it is safe, that person would be tagged within the community, so prefer to hide to do it" (female CHO 3). "For family planning, I have heard that it will increase your weight and make you develop certain diseases, so I don´t use them" (female adolescent).*

Discussion

The provision of sexual and reproductive health services by SHEP: the SHEP provides information to adolescents on their sexual reproductive health, particularly menstrual hygiene practices, sexually transmitted diseases, personal development, family planning services available, teenage pregnancy prevention, education, and counselling services. This study's findings are similar to a study which concluded that school-based interventions provide to adolescents, varieties of SRH information [21]. In the current study, the subject matters for discussion during school health sessions are based on a definite request made by teachers, emerging health trends or an observation made during the monthly data analysis by health staff. Other influential factors are the commonly identified conditions adolescents report to healthcare facilities. CHOs who moderate the SHEP sessions indicated their information sources on adolescent SRH from literature, training workshops and emerging issues from the media, and internet. Similar to the study by Joshi (2006), the results from this study suggest that policymakers and programmers initiating adolescent-friendly services should consider conducting needs assessments [22].

In-school female adolescents´ knowledge on SRH: majority of adolescent participants (n=96) have general knowledge of SRH. Adolescent participants delineated SRH to encompass abortion, pregnancy, menstruation, and personal hygiene, whereas 45 added that it also comprises STIs/STDs prevention matters. The findings indicate that participants knew about SRH. This finding is corroborated by [23], who established an increased awareness of adolescent females on their sexual and reproductive health.

Health-seeking behaviour of female adolescents on reproductive health: most of the female adolescent's (65%) resort to various primitive means of aborting unplanned pregnancies. The participants cited intake grounded bottles, herbs, consuming alcoholic beverages with herbs, and purchasing drugs from the pharmacy shop or drug store. The findings corroborate those reported among Nigerian students, where the authors observed that adolescents' consumed concoctions to truncate unplanned pregnancies [3]. The results also bring to the fore the quick rationalization female adolescents´ actions with goals and

educational ambitions even though they know the adverse effects of unsafe abortion practices. In addition, the misconceptions on the negative side effects of contraception use, especially infertility in future, stood out as a major barrier to female adolescent's using family planning methods. The CHOs reiterated these as some concerns voiced out by the adolescents when they access the health facilities. Participants are of the view that to improve adolescents' access to SRH services, education and healthcare professionals should be involved and lead the process. However, few of the participants supplemented the need for parents to be more proactive by making available the needs of their female adolescents.

Barriers to adolescent's health-seeking behaviour on SRH: the results indicate that female adolescents know where to go for assistance when faced with challenges with their SRH according to the CHOs. They are, however, restrained by the cost of healthcare, delusions and myths about family planning methods, and the stigmatization by society to adolescents who access and use SRH services such as safe abortion and family planning services. Misconceptions on the negative side effects of contraceptive usage, especially infertility in future, stood out as a significant hindrance that deters female adolescents from utilizing family planning services/methods. This perception is supported by Okereke (2010), who revealed that several practices and beliefs, associated with personal experiences, have made adolescents form negative views about contraceptive use. Other studies also reported that adolescents usually align contraceptive use with future bareness, heavy flow during menstrual periods and unnecessary weight gain or weight loss [24]. The findings from the current study call for an innovation and enhancement in providing detailed reproductive health services, more importantly, to female adolescents on contraceptive usage.

Conclusion

This study reveals that the SHEP offers health information spanning personal hygiene to sexual and reproductive health. In the current study, in-school female adolescents are mostly knowledgeable on their reproductive matters such as menstrual hygiene, unplanned pregnancy, unsafe abortions, and STDs, among others. The findings show that the SHEP created no avenue for individual counselling since most sessions are lecture forms, short and in cohort discussions. Advocates and providers for reproductive health service must develop alternative and innovative means to deliver this vital service to in-school adolescents. In-service training and sensitization of health and educational workers are important to reduce barriers to and intensify the utilization of reproductive health services for female adolescents in school. Moreover, SRH educational and promotional activities should gear towards teachers and parents as a way of breaking barriers to adolescent access to reproductive health. This study also identifies stigmatization, myths and misconception and high financial burden of healthcare services as hindrances to adolescents from accessing available reproductive health services from healthcare facilities. Female adolescents generally involve in risky sexual behaviour due to their low level of knowledge on reproductive issues and their unwillingness to patronize available reproductive health services because of the cost of healthcare service and cultural barriers.

What is known about this topic

- *Evaluate the influence of interventions with reference to adolescent sexual reproductive health;*
- *It also reiterates that fact that adolescent girls face a lot of obstacles in their quest to seek adolescent health.*

What this study adds

- *The study has provided a vital information to adolescent reproductive health practitioners especially counsellors and healthcare providers on the barriers adolescents face in assessing reproductive health services;*
- *This study will influence more researchers and scholars to conduct further studies using the findings as a base;*
- *Assess the SHEP and how it relates with adolescent sexual and reproductive health-seeking attitudes.*

Competing interests

The authors declare no competing interests.

Authors' contributions

Robert Ali Tanti and Felix Kofi Damte envisaged and designed the study and oversaw data collection. Robert Ali Tanti, Felix Kofi Damte, Adjoa Afriyie Poku, Kojo Oppong Yeboah Gyabaah and Duke Appiah undertook data analysis, manuscript drafting, reading and approval of the final manuscript.

Acknowledgments

We wish to appreciate the staff of Ghana Health Service who availed themselves for the interviews. We also wish to express our profound gratitude to Ghana Education Service staff as well pupils who supported us in diverse ways to collect the needed data.

Figure

Figure 1: a map of the study area

References

1. Esere MO. Effect of sex education programme on at-risk sexual behaviours of school-going adolescents in Ilorin, Nigeria. Nigeria Afr Health Sci. 2008 Jun;8(2): 120-5. **PubMed** | **Google Scholar**
2. Abajobir A, Seme A. Reproductive health knowledge and services utilization among rural adolescents in east Gojjam zone, Ethiopia: a community based cross-sectional study. BMC Health Serv Res. 2014 Mar 29;14;138. **PubMed** | **Google Scholar**
3. United Nations. Report of the international conference on population development. United Nations 1994. UN, New York. 1994. Accessed Mar 10, 2021.
4. World Health Organization. Health for the world´s adolescent: a second chance in the second decade: summary. WHO; 2014. Accessed Mar 10, 2021
5. MacKay A, Duran C. Adolescent health in the United States. USA; 2007. Accessed Mar 10, 2021.
6. Rondini S, Krugu JK. Knowledge, attitude and practices study on reproductive health among secondary school students in Bolgatanga, Upper East Region, Ghana. African J of Reprod Health. 2009;13(4): 51-6. **PubMed** | **Google Scholar**
7. Ghana Health Service. Reproductive health: strategic plan 2007-2011. GHS, Accra; 2000. Accessed Mar 10, 2021.
8. Okereke CI. Unmet reproductive health needs and health-seeking behaviour of adolescents in Owerri, Nigeria. African J of Reprod Health. 2010;14(1): 43-54. **PubMed** | **Google Scholar**
9. Kyilleh JM, Tabong PT, Konlaan BB. Adolescents´ reproductive health knowledge, choices and factors affecting reproductive health choices: a qualitative study in the West Gonja District in Northern region, Ghana. BMC Int Health Hum Rights. 2018 Jan 24;18(1): 6. **PubMed** | **Google Scholar**

10. Tegegn A, Yazachew M, Gelaw Y. Reproductive health knowledge and attitude among adolescents: a community-based study in Jimma Town, Southwest Ethiopia. Ethiop J Health Dev. 2008;22(3): 243-51. **Google Scholar**
11. Ghana Statistical Service. Ghana demographic and health survey, 2014. GSS, Accra. 2014.
12. Ghana Education Service. School health education programme: policy guidelines. GES; 2012.
13. Citi Newsroom. Teenage pregnancies in Ghana hit 555,575 in five years. Accesses Aug 10, 2021.
14. Daily Graphic. Adansi South District records high teenage pregnancies. Graphic Online. 2021 Jun 13. Accessed Mar 10, 2021.
15. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psych. 2006;3(2): 77-101. **Google Scholar**
16. Ghana Statistical Service. 2010 Population and housing census final results. GSS, Accra; 2012.
17. 17. Ghana Statistical Service. Ghana Maternal Health Survey, 2017. GES, GHS and ICF, Accra; 2017.
18. Ghana Statistical Service. 2010 Population and Housing Census District Analytical Report for Adansi South District, Ashanti Region. GSS, Accra; 2014.
19. Polit D, Beck C. Essentials of nursing research: appraising evidence for nursing practice. Wolters Kluwer Health. 2020.
20. Castleberry A, Nolen A. Thematic analysis of qualitative research data: is it as easy as it sounds. Curr Pharm Teach Learn. 2018;10(6): 807-815. **PubMed**| **Google Scholar**
21. Mason-Jones A, Crisp C, Momberg M, Koech J, De Koker P, Matthews C. A systematic review of the role of school-based healthcare in adolescent sexual, reproductive, and mental health. Syst Rev. 2012 Oct 26;1: 49. **PubMed**| **Google Scholar**
22. Joshi B, Chauhan S, Donde U, Tryambake V, Gaikwad N, Bhadoria V. Reproductive health problems and help seeking behavior among adolescents in urban India. The Indian J of Ped. 2006;73(6): 509-13. **PubMed**| **Google Scholar**
23. Hessburg L, Institute AG. Protecting the next generation in Ghana: new evidence on adolescent sexual and reproductive health needs. Alan Guttmacher Institute. 2007. **Google Scholar**
24. Adogu P, Udigwe I, Udigwe G, Nwabueze A, Onwasigwe C. Pattern, types and predictors of contraception among female in-school and out-of-school adolescents in Onitsha, Anambra State, Nigeria. Adv in Sex Med. 2014 Jul 1;4(3): 33-41. **Google Scholar**

Figure 1: a map of the study area