

Perceptions of Young People on the Use of Mobile Phones to Access Reproductive Health Care: A Qualitative Study in Tamale, Ghana

John Stephen Agbenyo¹ & Daniel M. Nzengya (PhD)²

Faculty of Social Sciences, St Paul's University
P.O. Private Bag, Limuru, 00217, Kenya

Abstract

Young people, 10-24 years, go through many physical, psychosocial and emotional changes as they transition to adulthood. This period is also critical for young people as they gradually establish health-promoting behaviours that will contribute to their present and future well-being. Africa has the largest number of young people who face the worst health challenges. Technology can help us address the health challenges that young people face. This study explored how young people use mobile phones to access reproductive health in Tamale, Ghana. The research used a qualitative method in three communities in Tamale: Tishigu, Tutingli, and Warizehi, in the Northern region of Ghana. Data were collected from 18 Focus Group Discussions (FGDs) with young people of ages between 10-14, 15-19 and 20-24 in three locations in Tamale and triangulated with nine (9) in-depth interviews with key informants (KII) working with non-governmental mHealth service providers and researchers. All respondents were selected through purposive sampling. The interviews were tape-recorded, fully transcribed, and uploaded into NVivo Pro 11. The results showed that the prime health care risks young people face are sexually transmitted diseases, teenage pregnancy, and early marriage. The issues which young people sought healthcare information most for were female reproductive health and menstruation issues. The issue of shame was a major reason why young people failed to discuss their reproductive health needs with others. Illiteracy posed a communication barrier to young people accessing reproductive health services. Young people faced financial constraints in accessing reproductive health information and services. The poor attitude of healthcare providers towards young people was a concern. The top most social media platforms for sharing reproductive health information were WhatsApp, Facebook and Instagram. There is a need to ensure that health service providers get trained to provide youth-friendly health services to young people. Reproductive health service providers and policymakers need to incorporate technology in addressing the challenges faced in accessing reproductive health.

Keywords: mHealth, Reproductive Health, Young people, Healthcare.

1.0 Introduction and Background

Young people undergo many physical, psychosocial and emotional changes as they transition to adulthood. This period is also critical for young people as they gradually establish health-promoting behaviours that will contribute to their present and future well-being (WHO, 2014). The World Health Organization (WHO) considers a person to be in good reproductive health if they can have children, control their fertility, engage in sexual activity, and take pleasure in it. Additionally, it refers to safe pregnancies, deliveries, sexual encounters, and the use of contraceptives. It also has to do with the methodologies, techniques, and services that contribute to reproductive health through the prevention and treatment of associated challenges (WHO, 2019). It is reported that there are inequalities that young people face in realising SRH, and these inequalities lead to poor health outcomes (Kismödi et al., 2015).

Despite the progress in health care delivery, young people are still exposed to health risks which result in premature deaths (WHO, 2014). The world's young people face various socio-cultural and technological changes that expose them to many health challenges. These challenges limit their choices and can lead to emotional stress, conflict and risk-taking behaviour. This is largely because of a low level of awareness, social stigma, policies and procedures that prevent girls from receiving contraception and abortion services, and healthcare professionals' judgmental attitudes (Williamson, 2013).

1.1 Problem Statement

Africa is said to have the highest number of young people with the worst health profiles (Patton et al., 2012; Kabiru et al., 2013). A significant proportion of sub-Saharan African young people are growing up amid widespread poverty, high unemployment rates, rapid urbanisation, sometimes restricted education and fast socio-cultural transitions marked by the weakening of social control and disruption of the conventional norm (Blum et al., 2012; Kabiru et al., 2013). There is no doubt that some of these issues can have a detrimental impact on young people's health and well-being, so too can they impact the future contribution of young people to the economies of African nations.

In Ghana, social stigma persists regarding young people's reproductive health issues and health-seeking behaviours (Aninanya et al., 2015). Reproductive health is particularly a sensitive issue among young people in Ghana. Between the years 2016 and 2020, Ghana recorded 542,131 pregnancies amongst young girls aged 15-19 years and 13,444 pregnancies amongst young girls aged 10-14 years (GHS-DHIMS, 2021).

In most parts of Ghana, access to formal healthcare is severely hampered by a number of factors, including a scarcity of qualified medical personnel and basic medical supplies, an absence of adequate infrastructure, widespread poverty, entrenched societal, cultural norms and practises, geographic isolation, a lack of transportation options, and an absence of health insurance (Peprah et al., 2020). The health and lives of many young people are jeopardised due to a lack of access to reproductive and sexual health information, services, and supplies, despite the fact that young people play an essential part in fostering the expansion and development of the continent. In 2020 alone, the Northern Region of Ghana recorded 9,249 pregnancies among young girls aged 10-24 (GHS DHIMS, 2021).

1.2 Research Objectives

The study had four research objectives namely: to analyse the perceptions of the use of the mobile phone to access reproductive health services among young people in Ghana, to analyse the significance of household socio-economic and demographic characteristics on the use of mobile phones to access reproductive health services, to examine the social influence on young people's use of mobile phones to access reproductive health services and to analyse the influence of ICT skills on young people's use of mobile phones to access reproductive health services.

2.0 Literature Review

2.1 Perceptions on the use of Mobile Phone to Access Reproductive Health Services

The use of mobile phones to access reproductive health provides an opportunity for young people to get knowledge on reproductive health. How young people perceive an mHealth platform's ability to resolve their healthcare-related issues influences the acceptance of mHealth. Some people believe that mHealth will improve the quality of treatment, enhance connectivity, provide timely information and minimise costs. Feroz et al., (2017), assessed access to mobile phones between teenage girls and young women in 6 Nigerian States to seek sexual and reproductive health (SRH) related information and services. They found high access to mobile phones but with limited use of the mobile phones to access sexual and reproductive health information and services. They established a number of barriers, including anonymity, confidentiality, and lack of confidence in the service.

Jadhav and Weis (2020) found that owning a mobile phone was associated with the overall contraceptive use among people. They found that mobile phone access did not completely explain sexual and reproductive health uptake. They concluded that uptake depended significantly on how individuals understood the role of mobile phones in providing access to reproductive health services and that positive perceptions were likely to influence adoption and vice-versa.

2.2 ICT skills and Healthcare Access

Several studies have been conducted in different countries on the impact of ICT skills on accessing health information and services via mobile phone. According to a survey by Nouri et al. (2019), in an attempt to understand the barriers to the use of mHealth among disadvantaged populations, they found that most participants had smartphones (18/20, 90 per cent) and regularly used text messaging (15/20, 75 per cent), but 14 (70 per cent) suggested difficulty texting, due to the inability to type and level of ICT skill. Ten (10) participants were considered poor in digital literacy. Half of the participants needed the card sorting task changed because they did not understand it or could not read the cards at the allotted time. This research supports the notion that ICT abilities play a critical role in using mobile phones to access health services and information, where low ICT abilities are significantly correlated with a negative impact. However, the study did not involve young people, thus an uncertainty on the applicability of these findings to this age cohort.

Similar studies by Olivia et al. (2018), which aimed at investigating the use of digital devices for primary healthcare in rural South Africa, found that some patients and health workers accessed digital devices for health information but lacked internet search strategies. Many did

not know where to look or how to search for the details. The study found that doctors could harness the use of mobile phones more often than nurses because they had higher incomes and more extraordinary technical skills. Younger patients who were more knowledgeable about mobile devices, used digital platforms to obtain health information more frequently than older patients who were less familiar with mobile devices. Their findings indicated that mobile health apps and internet use were less likely to lead to individuals gaining access to health information in rural areas and those with low levels of ICT awareness.

In Ghana, sexually transmitted diseases are a severe public health problem. There have been attempts to develop mobile phone technologies to improve health education and prevent sexually transmitted diseases. Al Hassan et al. (2019) surveyed 250 adolescents and young people aged 18-24 at the University of Ghana, where they looked at the use of mobile phones among adolescents and young people, seeking higher education and their help in education and prevention of sexually transmitted diseases. Their study found that 99% of the 250 young people surveyed, owned mobile phones thus making them easily reachable with mHealth services. All the studies reviewed reinforce that even in low-resource environments, mobile phones can increase access to healthcare information and services. Further studies are however needed in other low-resource settlements under different contexts.

2.3 Social Influence and Health Care Choices

Social influence is the process by which one's actions or thoughts are influenced as a direct result of the actions or thoughts of other people. It is one of the rising topics in healthcare access research. In a study to establish the relationship between social networks and hypertension, Renta et al. (2022), established that in Ghana, having low levels of social networks was connected with having worse hypertension results. Herberholz and Phuntsho (2018) also examined survey data from Bhutan and reported that there are social influences on rural health care choices. They found that the more isolated the living, the more valuable individual social networks became. They found that the likelihood of seeking care when sick or wounded, is positively linked to an individual's social networks or connections. The findings indicate that strategizing and organizing social capital can help improve healthcare use. However, the ties between one's social networks and access to knowledge and services in the field of reproductive health were only indirect, and the direction of the recorded impacts was mixed (Eskenazi et al., 2014). The existence of the effects of social influence among young people, therefore, needed to be studied.

2.4 Socio-cultural and demographic influence on mHealth

Although there is a need for young people to have access to information about their sexuality, there are socio-demographic factors that have prevented young people's access to sexual and reproductive health. The Ghanaian culture considers discussions about sexuality as a sacred topic for young people; thus, teaching about sexuality is generally perceived as introducing young people to early sexual intercourse. Culture accounts for this (Owusu, 2012). Parents hold the position that cultural taboos prevent the education of young people on sexuality. For example, among some ethnic groups in Ghana, it is considered an abomination to talk about sexual issues with a child because the belief is that the child could be 'spoilt'. This further goes to the point where even if the child needed to find out certain things about sexuality, the child was told he or she was not of age to know about such issues (Baku et al., 2017). The socio-cultural factors such as stigma, myths and misconceptions are reported to have

negatively affected the provision of reproductive health services and hindered the delivery and utilisation of sexual reproductive health services for young people (Akazili et al., 2020).

Peprah et al. (2019) found that specific demographics significantly influence decisions to use mHealth. They found that students' socio-demographic characteristics such as ethnicity, class and monthly income predicted mHealth use with significance.

3.0 Methods

3.1 Procedure and Sample

In order to understand how young people, use mobile phones to access reproductive health in Ghana, the researchers conducted nine (9) in-depth interviews with key informants (KII) including non-governmental mHealth service providers in the Northern Region of Ghana and 18 focus group discussions (FGDs) with young people of ages between 10-14, 15-19 and 20-24 in three locations in Tamale: Tishigu, Tutingli, and Warizehi in November 2021. The choice of purposive sampling method was aimed at identifying participants who are most appropriate for providing in-depth views and insights to help answer the research questions regarding the perceptions of young people in Tamale, Ghana, on the use of mobile phones to access reproductive health information and services. Three (3) out of the six (6) communities were randomly selected, with one (1) from each stratified zone (high-income residential area, middle-income residential area, and low-income residential area). Two separate FGDs (one male group and one female group) were organized in each of the three randomly selected zones for each age cohort (10-14 years, 15-19 years and 20-24 years), making a total of 18 focus group discussions. Each FGD comprised 6-8 respondents of young persons within the age cohort (10-14 years or 15-19 years and 20-24 years). The researchers sought the consent of the participants and promised to hold their data with high levels of confidentiality and anonymity. Ethical clearance was requested for and approved by the Navrongo Health Research Centre Institutional Review Board.

3.2 Data Collection

Semi structured interview guides were used to conduct the KII and FGDs (see Appendix 1 and 2 respectively). The KII took an average of 30 minutes and FGDS took an average of 60 minutes. Nine (9) Key Informant Interviews (KIIs) and Eighteen (18) Focus Group Discussions (FGDs) were conducted. The focus group discussions conducted were digitally audio recorded. An interview guide was prepared based on the specific objectives of this study. The interview guide was used to guide the interviews that were conducted. A digital audio recorder was used as the main data capture equipment, while a backup mobile phone was used as a backup recorder to help prevent any possible data loss. Active interviewing skills were used to ensure that good quality data was gathered through the discussions (Rubin & Rubin, 2005). The techniques used include active listening, using body language, paraphrasing the main ideas, following up and probing issues that were the focus of the study. The researcher also looked for facial expressions and hand gestures as well as moments of surprise or worry, and depending on the issue, follow-ups were needed to get more information or clarity on the responses. Each focus group discussion session lasted approximately one and a half hours. During the focus group discussions, field notes were also taken that captured the salient points and themes mentioned by the participants. This helped the researcher keep track of the conversation, shaped and reshaped the discussions and helped with a deeper understanding of the issues. The notes also served as backup and supplement to the recorded voice data.

3.3 Data Analysis

All nine (9) KII interviews and (18) FGDs were transcribed and uploaded into NVivo Pro 11. The final tables were prepared in Excel. Qualitative content analysis was done and inductive coding - codes from the data itself was done to identify categories. According to Krippendorff (2004), content analysis is, “a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use”. Content analysis is hailed because it has features of both quantitative and qualitative data (Hsieh & Shannon, 2005). Quantitative content analysis has its roots in communication where it focused on deriving tallies. Later on, content analysis was incorporated in other interpretive social sciences; which make use of themes/categories and thick descriptions to show a plurality of reality (Mayring, 2014). Thus, in qualitative content analysis, besides identifying tallies/frequencies, it identifies themes/categories and thick descriptive quotes as well. There are many protocols in coding, but this study used Tracy (2019) two cycle-coding protocol. In the first cycle, a few stories/interviews were picked to identify initial codes which guided the coding of the rest of the interviews. In addition, thick descriptive quotes were also identified. These codes are descriptive in nature. The researcher sought to answer questions to do with ‘what’, ‘who’, ‘when’, ‘where’ the phenomena happened (Appendix 3). In the second coding cycle, the codes/categories were more analytical in nature and relationships, cause and effect are established. The researcher sought to answer the ‘why’ the phenomena took place (see Appendix 4). The constant comparison process involves comparing like things with other like things and grouping them together (Strauss & Corbin, 1988). It was used to collapse codes into categories. To increase the authenticity of the coding process and codes/categories, the codes and the process were shared with the researcher’s thesis advisor. The findings were also shared with some of the participants to corroborate that what is written is what they shared with the researcher. Below are the results.

4.0 Results

4.1 Introduction

The results of the coding process are organized along the research questions. The study had four research questions namely: 1) to analyse the perceptions of young people’s mobile phone use to access reproductive health services in Ghana. 2) To assess the influence of mobile phone users’ socio-economic and demographic characteristics on accessing reproductive health services. 3) To examine the influence of young people’s social networks on the use of mobile phones to access reproductive health services, and 4) To analyse the influence of ICT skills on the use of mobile phones to access reproductive health services.

4.2 Young People’s Perceptions on Mobile phone Use to Access Reproductive Health Services in Ghana

4.2.1 Perceptions of young people’s reproductive health care risks

Table 4.1: *Perception about reproductive health care risks*

Categories	Explanation	No of mentions	%	Thick Quotes
Teenage pregnancy and early	This category involves the dangers of early pregnancy and the consequential early	19	19	1) When you follow boys there is the tendency to easily get pregnant.

marriage	marriage			2) Early pregnancy and parenthood.
Body odour and hygiene issues	This category involves the stigma that go with bad odours and lack of good hygiene.	7	7	1) Bad odour at your private parts. 2) It can distract your ambition.
Negative sexual-related activities	This category involves the consequences of sexual related activities e.g., sexual attraction, prostitution, sexual abuse, trauma and being gay.	13	13	When you have psychological trauma, it will be difficult to voice it out or raise your voice to seek for people who will counsel you.
Sexually transmitted diseases (STD) not checking partner background, rashes	This category includes getting sexual transmitted diseases due to lack of adequate partner background checks and its consequences.	37	37	1) One main risk has to with the risk of multiple sex partners causing sexually transmitted infections. 2) We have STI, HI and candidiasis. 3) Not properly checking the female before sex is a risk. 4) The fear of following friends and becoming gay. 5) Sexual violence 6) Exposure to pornography materials
Lack of reproductive health knowledge e.g. no one to talk to shy	In this category, young people lack appropriate reproductive health information due to lack of counsellors or fear to ask.	4	4	1) Feeling shy of the opposite sex. 2) Lacking education on STI in adolescent age and how to keep our reproductive system.
Sexual development and sexual weakness	This category includes young people concern about how their body is sexually developing and sexual weaknesses.	5	5	1) Development of small breasts. 2) Development of pimples that make the face not to be smooth. 3) Growing fat. I don't want to grow fat, girls will laugh at me.
Menstrual disorders	This category includes menstrual cycle related disorders that concern the young people.	7	7	Abdominal pain during menstruation.
Abortion matters	This category includes all matters to do with abortion. E.g., where to get counselling or services.	8	8	Unsafe abortions
		100	100	

An assessment of the perceptions of health care risks showed that the three top most health care risks that young people faced had to do with: 1) sexually transmitted diseases, 37 %, 2) teenage pregnancy and early marriage 19%, and 3) sexual activities 13% and the three constituted 69% of all health care related risks. Abortion contributed to 8% of the issues. The remaining issues composed of 23% which constituted of body odour, menstrual disorders, concerns of sexual development and sexual weakness, and a lack of sexual health knowledge.

4.2.2. Reproductive healthcare risks that young people sought information using mobile phones

In line with reproductive health care risks, (see Table 4.2), young people reportedly sought healthcare information on female reproductive health and menstruation related issues (23%). Young females were concerned with issues that had to do with their menses, yeast infection, fibroids, and breast cancer. The issue of menstruation and yeast infection seemed to cut across the female ages’ “Menstrual pains... its common among we girls and when it comes to our menstrual cycle the pains are a little high, you find it difficult to walk due to abdominal pains...most girls spent time searching such things to reduce pain in some way” (15-19 Girls FGD)”. Also, there were reported sex- related matters and sexually transmitted diseases. These constituted 36%. The sexual related challenges included sexual performance, pornography and managing relationship with the opposite sex. For older boys (20-24) their concern was sexual weaknesses and prowess. Some had this to say; “Let me say sexual weakness. All the time when you are with them, they always complain about sex. This one will say I brought this girl, and she thanked me because I have done it well. Because of that they always trying to compete to be fit” “We do research about that particular issue and also to learn new style especially sex positions. The positions you will learn to satisfy your wife or your girlfriend. So, some of us search for that information, how to position and have a good sexual intercourse”. For young boys 10-14 years, a number of them said they were not involved in those things (sexual issues). They used WhatsApp only for chatting with their friends and did not care about health.

Abortion, pregnancy and contraceptives use constituted 41%. These include the use of contraceptives to prevent pregnancy, pregnancy- related issues and how to secure an abortion. Young males sought how to have sex without impregnating a girl which was a concern for 15–19-year-old boys and girls were concerned with how to avoid getting pregnant and the use of contraceptive /family planning. The issue of abortion cut through all the ages. One girl in the (15-19) category had this to say, “if she wants to have sex, she can search on how to have sex without becoming pregnant. Maybe she would get the information and use a condom”.

Table 4.2: *Reproductive health care risks information sought using mobile phones*

Categories	Mentions	%	Example of quotes
Sex related matters and STI	27	36%	1) Pornography movies just to improve their skills of early sex. 2) How to prevent and manage sexual transmitted diseases.
Abortion, pregnancy and contraceptives use	31	41%	1) They spend most of their time looking for information on how to correctively use contraceptives, how to avoid unintended pregnancy, and substances to use for abortion. 2) We normally spend most of our time searching information about how to prevent yourself from impregnating girls by use of contraceptives.
Female reproductive health issues and menstruation	17	23%	I think candidiasis is one and that’s why most of us ladies and women are always in contact with and that is what we search on to ask how to stop or prevent it.
	75	100	

4.2.3 Reproductive health issues that made young people schedule consultations

The participants were further asked the type of reproductive health issues they would schedule consultation for. There were three main categories. 1) For sex related matters and STI (40%); they would seek for consultation for things like STI, candidiasis, sex weakness and sexual enhancing stuff. 2) For abortion, pregnancy and contraceptives (47%) and 3) for female reproductive health issues and menstruation (13%). The most cited was menstruation. Among the young boys 10-14, consultation was not common. They had this to say, “it is not much... their attention is not to health issues. You can tell someone to help you search for health solution and the person will tell you to leave them alone they are looking for money.” Some respondents indicated they would seek consultation for urinary problems and gonorrhoea. One FGD for 10–14-year-old boys have not been involved in any such consultations. Another comment from the 10–14-year-old boys narrated; “health issues are not discussed by boys. Its most at times discussed by girls especially when they are menstruating, they can call any health facility that she is menstruating, and they will tell them what to do.” For 15-19 boys, it is mostly STI and how to avoid impregnating a girl. For 20-24 boys they sought issues to do with sex enhancing stuff, STI and abortions. One of the comments among the 20-24 boys on abortion was that since abortion is a crime, they tended to use the word *kpakpakpa*; “When someone does ‘kpakpakpa’ and remove unwanted, the person will book appointment so that they will go through counselling to see whether like they should leave the pregnancy or they should get rid of the pregnancy. When you want to do an abortion, you go through the stages and have it”. For girls, the issue of abortion and contraceptives cut through the ages. In one 10-14 girls FGD, they had this to say; “Abortion. This is because you may go to the hospital and meet a familiar face and if the person asks you what you want you cannot lie. So, you don’t want people to know what you went to the hospital to do so you do it online”.

4.3 Young People’s Socio- economic and technical Demographics Characteristics/factors that Influence their Mobile Phone Assess to Reproductive Health Services in Ghana

Young people had different experiences in their pursuit of using mobile phones to access reproductive health. A number of questions that asked the general challenges in accessing reproductive health care services were combined and included: general challenges in looking for health related information; sources of money to access RHS; challenges young people face when accessing RHS information through their mobile phones; and challenges young people face with mobile phones as they interact with health service providers. These factors influenced young people’s experiences in accessing reproductive health services: 1) communication, 2) facility related, 3) financial, 4) cultural and 5) technological factors (see Table 4.3).

Table 4.3 Socio- economic, technical and demographics Characteristics/factors that Influence young people’s mHealth use

Categories	Explanation	Sub-categories	No. of Mentions	% of Mentions	Example of quotes
Communication related factors	This category included individual and health related factors that influenced the nature of	Individual communication related constraints	46	18	Shyness to talk to others about the reproductive health needs.

	communication between the young person and the RHS provider.	Health information related constraints	32	13	Let me say sometimes wrong information. Sometimes when you want to access health care and you do not get the right person, the person with the requisite knowledge to give you much information then it's a challenge.
Financial related factors	In this category, the lack of financial resources posed challenges for young people to access RHS information and services		20	8	Poverty. Lack of money, you may want to download an app and you don't have bundle and if you don't have bundle, you don't have money too to buy bundle then it means you can't download.
Cultural-related factors	In this category cultural factors hindered the youths from accessing RHS information and services.		29	11	Sometimes it may not be the matter of the friends but community people will be teasing the person so it will encourage the girl to go and abort the pregnancy without going to the hospital. Can lure you to do those things which our religion frowns at".
Health facility related factors	In this category the health facility- related factors influenced the young people access to RHS services	Poor customer care	16	6	The health workers are not friendly and they always want to judge you
		The capacity of medical facilities.	16	6	Inadequate facility, some of the facilities are not enough for people to access. So, it's a challenge.
Technological related factors	Technological factors and technological aptitude	Lack of data and network issues.	52	21	Network problem, sometimes the network is not good.
		Mobile phone issues (hardware).	25	10	You need a smart phone.
		Lack of phone navigation	17	7	Skills to access the app knowing where to go to get what you are looking

		skills			for. Ability to copy links and paste them at appropriate places.
Total			253	100	

4.3.1 Communication related characteristics/factors

The communication related factors posed a barrier to the young people in accessing medical health services. This category had two subcategories (See Table 4.3)

Individual communication related constraints

Young people did not communicate with other young people, elders, or medical personnel partly due to being embarrassed, shy, timid and illiterate. First, the cause of shame was due the sensitivity of the reproductive health matters. The issue of shame cut across the age groups and genders. A quote from ages 20-24 Girls FGD had this to say, “lack of confidence, some girls don’t have the confidence to speak to their colleagues or older people... shy to speak in public”. Young people were also embarrassed to talk to the health professional on issues of reproductive health This is because they feared the nurses will stigmatise or insult them. An issue which was highlighted among the girls focus groups. For example, in one 10-14 Girls FGD commented thus, “You will be thinking that the health expert will bring the issue to the community and discuss it with their friends” In addition, one 20-24 Girls FGD, observed that, “most girls felt embarrassed when they went to the hospital and the nurse or doctor there pass unnecessary comments on them.”

Second, illiteracy was mentioned as a communication barrier to young people who accessed reproductive health services. This was a concern especially among the school dropouts. For those who could not read, write, or speak English, they faced challenges when they received written information in English or they met a doctor who could not speak their local dialect e.g., *Dagbani*. A comment from a 10-14 Boys FGD noted that, “Some of them do not know how to read. So, reading will be a problem. So, if you cannot understand English language, you cannot call someone who understands English to help explain to you, so that you follow the steps.”

Health-information related constraints

This second communication sub-category has to do with issues such as access, availability, reliability, privacy of information. It was found that information received by young people had reliability issues or young people had no access to it nor ideas of where to get it. Some young people were ignorant of sexual education as well. Moreover, for those who had access to reproductive health information, they found it to be costly to access, or the health apps required the users to disclose too much information. A young person from the 20-24 Boys FGD had this to say, “Since there are many organisations out there with the information now, if you go to any hospital, they make you feel like information is everywhere and you should get it outside there and not from them”. This concern shows there are limited places one could get reproductive health service information. Another challenge was physical access to the locations where the reproductive health services was offered. For instance, a comment from the (10-14 Boys FGD) noted thus, “getting information is difficult since they are around the market with their announcement vans. If you do not go to the market side, you wouldn’t hear anything and the market place is far.”

To add on, the reliability of the information sought by young people raised concerns among young people. This implies there could be fake information too and young people doubted the origin and the content of information that they received. The 15-19 girls FGD had this concern, “lack of information and where to get correct information”. Privacy was also a concern raised by young people. They expressed reservations about sharing personal information on the apps or meetings or places where young people could be sharing information about their reproductive health concerns. For instance, from the 10-14 Girls FGD, their concern was “having people around you since you don’t want them to have knowledge of your reproductive health issues. So, there is no privacy” Young people also experienced privacy issues when they borrowed other people’s phones to access reproductive health services.

Financial related characteristics/ factors

Young people faced financial constraints in accessing reproductive health information and services. This was due to lack of money or income. One comment from 20-24 Girls FGD was stated as thus, “If you don’t have money, you cannot access it. Sometimes you may want to but if there is no money you can’t.” The costs related issues could be linked to the cost of buying credit/internet bundle for calling or accessing websites. A comment from the 20-24 Girls FGD states; “sometimes where to get the money to buy credit is a problem.”

Young people were further asked about the source of their income to pay for access fees to reproductive health apps. Out of 85 mentions, parents were the highest source of fees (27%), savings (18%), work or business (18%), friends 11%, partners in the relationship (11%), and others, 13% (others consisted of loans and stealing) only 2% had never paid for an App.

4.3.2 Health facility related characteristics/factors

Some constraints young people faced were due to the manner reproductive health services were provided and the manner the health staff handled young people’s health-related issues. This category had two subcategories, namely the capacity of the medical facilities and poor customer care. Inadequate infrastructure, proximity, cost of service, corruption, lack of drugs and contraceptives and no specialised youth corners in medical facilities were some of the issues raised by young people related to medical facilities. Medical facilities were far away and costly to access. The services offered there were costly as well. These concerns cut across all the group discussions. For instance, a concern from the 20-24 boys FGD stated, “we don’t have enough service providers in this locality...sometime when you want to access the health care the person with the requisite information is not there”. Also, these facilities were crippled and lacked an adequate supply of drugs and contraceptives, “inadequate access to contraceptives” (KII R2).

Young people sought for a safe youth friendly corner in health facilities. However, these facilities were either non-existent or were not manned. Sometimes, young people were afraid to approach a health professional of the opposite gender. One participant from the 10-14 Boys FGD had the concern that, “sometimes the health professional is a woman”. Also, poor health service provision by service providers was an issue. This referred to the manner the health personnel responded to young people’s reproductive health issues. They were unfriendly, did not exercise privacy/confidentiality, they stigmatised young people and handled them in disrespectful ways. The lack of good customer care and professionalism skills among health professionals made them to respond to young people’s health reproductive issues in unethical ways. For instance, the staff was unfriendly and gossiped about the young people. This issue was raised by one of the KII2, “there is a negative tagging of young people who visit information and service delivery centres”. Young people are

tagged as bad or spoilt. This shows poor customer care. Besides being stigmatised in hospitals, young people could not trust the health professionals with their reproductive health information. Participants indicated in the 15-19 girls FGD that, “you cannot trust that your information will not become gossip” The lack of keeping a patient’s information confidential is a breach of professional ethics.

4.3.3 Cultural related characteristics/factors

A third category had to do with cultural factors. Some cultural orientation hindered the access to reproductive health services. Culture cut across issues to do with religion, parent-child relationships, cultural education, norms, and stigmatising on reproductive health education and services. From a 15-19 Boys FGD, they mentioned that “for now, some of our fathers even when you want to discuss issues with them, they will look at it as normal. How do we discuss issues with them?... For those with the knowledge of reproductive health, we are not close to them...most of our parents have no time”.

To add on, the community tended to stigmatise reproductive health services. There was stigma and name calling and this cut across all groups. This was noted “when you contract those diseases you cannot seat among your peers and people will point fingers at you” (Boys 15-19 FGD). There is teasing in the community and friends, and “the teasing will encourage the girl to go and abort the pregnancy without going to the hospital.” (20-24 Girls FGD).

Equally, stigma would make them lose the courage to share reproductive health issues as people will start discussing their problems, laughing and gossiping. Religion was also mentioned as a hindrance. It is a challenge to raise such a topic and not be considered spoilt, when young people ask about reproductive health information. “Religion – Islam is of the religion which hardly speaks about sex openly and freely” (KII R4).

4.3.4 Technological related characteristics/ factors

Technology oriented factors influenced to some extent how young people accessed reproductive health information. This category had three sub-categories: lack of data and slow network, mobile phone issues, and lack of phone navigation skills.

First, young people experienced a lack of data and slow network. This could be attributed to the high cost of bundles, lack of electricity and or network challenges. “You need wifi to be able to download big information or video or even to share and wifi is expensive” (15-19 Boys FGD).

Second, young people mentioned that the cost of a good phone (smart phone) was high. Some young people had defective phones while others had no phone or failed to keep up with the constant update of phone innovations. For others, their phones could not support some Apps. For instance, “if am using a keypad phone, I can’t download. I won’t be able to use it to get apps that those using android phones are having so I will not be able to access” (Girls 20-24FGD). “Not everyone has a mobile phone” (Boys 15-19 FGD).

Third, young people’s lack of phone navigation skills was a hindrance. This mainly had to do with the skills on how to search for information. Challenges included lack of typing skills, too much distraction from adverts, inability to navigate through the phone, blocked accounts and forgotten passwords. Searching information was a challenge, “you may know this is the information you want but how to search and get it is a problem. Sometimes you download an app on your phone, you wake up one day and try to use the app and it’s not working” (Boys’ 20-24 FGD).

4.4 The Influence of Young People’s Social Networks in Accessing Reproductive Health Services in Ghana

A number of interview questions that sought to find out how peer influence made young people access reproductive health services using mobile phones were combined. Young people were asked how they used their online social networks to share reproductive health information, the types of social platforms they used for sharing RHS information, and how they used their friends to authenticate online RHS information that consultants shared.

4.4.1 Peer influence to access RHS on mobile phones

Table 4.4: *Peer influence in accessing RHS on mobile phones*

Categories	Explanation	No of mentions	% of Mentions	Examples of Quotes
Search and share information and referrals	Peers influenced the youth to create a space to search and share, discuss RHS information and get solutions	26	83	Call for friends to avoid a certain illness.
Seek financial support	Peers influenced the youth to join social groups for financial support	2	5	By buying data and internet bundles
Belong to a social network	The peers influence the youths to created social networks to provide a place to belong for various reasons—some for health and non-health purposes e.g., showing their extravagant lifestyles	5	12	The pressure from the person, why you need to do it
		42	100	

Young people’s peers played an important role influencing their access to reproductive health information through their mobile phones. This category had three sub-categories: search and share information and referrals, seek financial support, and belong to a social network (see Table 4.4). Firstly, it was revealed that peers used the phones to share reproductive health information they gather online. They would share information in the form of links, articles, and health remedies. Though, sometimes the information shared could be misinformation. This sharing cut across the genders and the KII commented on them as well. One KII R2 had this to share, “By sending those links to articles they have accessed themselves”. Young people showed others or recommended apps that their friends could download, as stated by KII7 “they introduce them to apps where they can access reproductive health issues”. Furthermore, they shared the advantages of using the apps, “when you are facing problems and you ask your friend if she also had a similar problem and used mobile to solve, you will also want to get a mobile phone” (10-14 Girls FGD).

Secondly, peers acted as a source of financial support when seeking for airtime or internet bundles to use the phone or even visit the clinics. One comment from the 15-19 Boys FGD noted that, “You can share your problem with your friends, and they can help you with money to go to the hospital to check your health status”.

Thirdly, young people experience pressure from their peers to join the reproductive health groups, so they can look the same as them, and enjoy the benefits of belonging to such a group. One participant from the 15-19 Girls FGD commented thus, “You cannot go out with

them unless you too do what they are doing. So that way, you will be forced to also use the phone to practice what they also practice”.

4.4.2 Ways young people used online social networks to share RHS information

Young people were asked how they used their social networks to share reproductive health information. There were four categories: share ideas and experiences, share online links, create online groups, and a miscellaneous category.

To start with, 47% of mentions indicated that young people used online social networks to share ideas and experiences as echoed in this quote, “You can post something on your status or you upload a picture that describes what you are posting and then educate the people around you” (15-19 Boys FGD).

To add, 17% of mentions indicated young people used social networks to share online links as noted here, “There are some people, they can post through links. They share a link and when someone sees the link, they click on the link to see what it contains. So, they use Facebook and WhatsApp and when you open, and the message is good you can also share it or screen shot it and also share” (15-19 Boys FGD).

Also, 17% of the mentions indicate young people used their social networks to create online groups. As echoed in this FGD, “through WhatsApp groups, like sometimes, if your friend does not belong to any group, you can add her to that group so that she will get more information...” (20-24 Girls FGD).

Lastly, 19% of young people used their social network for other miscellaneous activities. These activities were to create videos, seek sexual education, share screen shots of their status, tag their friends on their posts and inquire information. Further, young people were asked how they authenticated the information in regard to consultants that were shared via mobile phones by friends. Out of 66 mentions the three main ways was to Google it up (30%), use another health provider they trust to verify the information (29%), and referrals (14%). Other ways were the using of intuition or just taking the risk (12%), asking friends, peers and parents (12%), and finally calling the advertised number to verify or request for practioners’ certificate (3%).

4.4.3 Commonly used social media and other platforms for sharing RHS information

The topmost social media platforms for sharing reproductive health information were WhatsApp, Facebook and Instagram which accounted for 67% of social media platforms (see Table 4.5). Young people were further asked on the apps they access for reproductive health information and services and apps mostly downloaded on mobile phones (see Table 4.6). Apart from using social media platforms such as WhatsApp and Facebook, other non-social media apps averagely used were the Flow App and Sexual Health Education Plus (SHE+). A small number of young people had no idea of a reproductive health app. The menstruation and fertility (e.g., Flow App, Fertility Friend, Period Tracker, Yonny Cycle, Menstruation cycle, Cycle Calendar) seemed to be more common than those for other reproductive services.

Table 4.5 *Commonly used social media platforms for sharing RHS information*

Social media platforms	No of Mentions
WhatsApp	25
Twitter	7
Facebook	24

Instagram	10
Tiktok	4
Google	5
YouTube	5
Likee	2
Snapchat	2
Telegram	3
pin press	1
Total	88

A further inquiry was made on the use of online social groups to share reproductive health information. Out of 37 mentions, 73% did not specify the nature of their groups, 16% were not in any social group, 5% formed business communities, and another 6% used their parents' online groups. Young people were asked to state the number of online social platforms they used to share reproductive health information using mobile phones.

Some young people were in more than one online social group. Out of 52 mentions, 8% were not in any of the groups; 17% were in one group; 37% in two groups, 19% in three groups and 19% were in four and above. These show that young people are active in these groups, however, it has to be established the extent they use these groups for reproductive health service purposes.

Table 4.6: Apps accessed for reproductive health information and mostly downloaded using mobile phones

Apps	Apps accessed for RHS information	RHS services Apps mostly downloaded for mobile phones
WhatsApp	13	5
Instagram	7	1
Twitter	8	1
Google	10	5
YouTube	6	8
Facebook	10	8
Ghana Health services You Must Know	3	2
Glow	2	
Clue	2	
Flow App	5	8
UNICEF Agoo	7	1
Sav Sign TV Series	1	
Sexual Health Education Plus (SHE+)	7	
My Doctor	1	
MY health care	1	
Healthy life	1	
My wellbeing	1	1
Ovia	2	
Yenkasa	2	
Fertility Friend	1	

Love tips	1	1
period tracker	2	2
Yonny cycle	1	1
Menstrual cycle	2	3
Cycle calendar	1	1
Telenurse	1	
No idea of an RHS App	4	8
Pregnancy app		1
abortion app		1
Savana signature platforms		1
Total	102	59

4.5 The influence of Young People's ICT Skills on the Use of Mobile Phones to Access Reproductive Health Services

4.5.1 Individual ICT competencies in accessing RHS Apps

Table 4.7 Individual ICT competencies in accessing RHS Apps

Categories	Explanation	Number of mentions	%of Quotes	Examples
Navigate Apps	The youth ease in access and download apps	13	34	To download and install health apps
Search websites	The youth is able to search the right websites and explore more and verify information	19	50	Will help you to get the right information by going to the right search engine.
Basic Phone and ICT skills	The youth is able to navigate the phone features with ease.	6	16	Ability to perform basic operations like typing saving information and sharing information with others
Total		38	100	

Young people were asked which ICT competencies they required in order to access reproductive health information and services. There were three categories namely to navigate apps, search websites and basic phone and ICT skills (see Table 4.7). Young people required skills to navigate apps. This concern is narrated thus, “when you have ICT skills you have upper hand to manipulate the phone and navigate any application” (10-14 Boys FGD) “more access to the features of the service so you get more information (15-19 Girls FGD).

To add, young people required skills to search for information on websites. There is need to know how to access needed information on a website. Posited here are some of the concerns; “to me it is because with ICT skills, sometimes when you go to Google, you search for questions and they will not give you direct answers, it has another site that you will go to find the actual answers” (15-19 Boys FGD). “You can search other places that are not in the public, so it helps” (Girls 20-24 FGD).

Further, the young people desired to have basic phone and ICT skills. These skills are necessary to navigate the mobile phone. This is echoed in this quote; “one should know the keys and software of the computer” (Girls 15-19 FGD); “if you know how to use the phone very well, you can use the service always but if you do not have ICT skills, you cannot benefit fully” (10 -14 Boys FGD).

4.5.2 ICT skills for sharing photos/images of RHS Information with friends on the mobile phone

Table 4.8 *ICT skills for sharing Photos/images of RHS with friends on the mobile phones*

Categories	Explanation	No of mentions	% of mentions	Example s
Navigate Apps	The youth ease in access and download apps	5	6	You need software skills
Search websites	The youth is able to search the right websites and explore more and verify information	1	1	Online search word processing
Basic Phone and ICT skills	The youth is able to navigate the phone features	51	57	Basic emoji awareness and basic phone navigation skills
Literacy and typing skills	The youth possess reading and writing and typing skills	25	28	Skills to be able to type. Literary skills might be needed to read and type.
Social media navigation skills	The youth have the ability to navigate various social media platforms	7	8	Ability to navigate social media
Total		89	100	

There were five categories for the skills required to share photos and images of reproductive health services and information with friends on mobile phones. These are, 1) Navigate apps, 2) search websites, 3) basic phone and ICT skills, 4) literacy and typing skills, and 5) social media navigation skills (see Table 4.8). The most cited skills were basic phone and ICT skills followed by that of literacy and typing skills. Unlike searching and sharing reproductive health information, to share photos and images, social media navigation skills are required.

First, Young people required knowledge of how apps function and how to access the play store as posited here “You have to learn the software and also graphic design” (Girls 15-19 FGD); they require, “skills in appreciating the stages involved in downloading apps like the menstrual cycle apps” (Girls 15-19FGD).

Second, searching websites was the least skill mentioned. Young people should be able to use various search engines to access various reproductive health websites. This involves the use of appropriate search words.

Third, young people should be able to navigate their phones and its operations/features irrespective of whether the phone is a smart phone or analogue phone. They should know how to text, voice record, use keyboard among other skills. This need is narrated here “if you know where the pictures are you can go there, select them and send”. (Girls, 15-19 FGD).

Fourth, for a young person to enjoy sharing of photos and images, some knowledge of reading and writing, having a mastery of correct spelling” (20-24 Girls FGD). Young people however did not indicate which language is required for this exercise.

Fifth, a good knowledge of the various social media platforms available out there is required. Not just one. “It’s not all the platforms that is easy to just type and text. Sometimes you have to do many processes... like the way WhatsApp is type and text, for facebook it’s different.

So, if you do not have much knowledge about it, it will be difficult for you” (Boys 20-24 FGD).

4.5.3 ICT skills to join social groups for RHS information

Table 4.9 *ICT skills to join social groups for RHS information*

Categories	No. of mentions	% of mentions
Navigate Apps	5	6
Search websites	5	6
Basic Phone and ICT skills	38	49
Literacy and typing skills	13	17
Social media navigation skills	13	17
No skills	4	5
Total	78	100

Young people were asked which skills they required to join social media groups for reproductive health information. The skills reported by the focus group participants are quite similar to those already mentioned for searching information and sharing photos and images. They indicated that they require skills to navigate apps, search websites, basic phone and ICT skills, literacy and typing skills, social media navigation skills and one group of people were of the opinion you don't need any skills (see Table 4.9). They had this to say; “every group created has a link so you can join through group link. You do not need further ICT skills” (Boys 15-19 FGD).

4.5.4 ICT skills to download and navigate the RHS information stored in mobile phones

Table 4.10: *ICT skills to download and navigate RHS info stored in mobile phones*

Categories	No of mentions	% of Mentions
Navigate Apps	12	16
Search websites	10	13
Basic Phone and ICT skills	32	43
Literacy and typing skills	16	21
Social media navigation skills	5	7
Total	75	100

Young people were asked the skills they required to download and navigate reproductive health information stored on mobile phones. The skills mentioned were the same as those of downloading images and sharing photos. The indicated that it required the skills to 1) navigate apps, search websites, basic phone and ICT skills, literacy and typing skills, and social media skills (see Table 4.10).

5.0 Discussion, Conclusion and Recommendations

This study sought to explore the perceptions of young people on the use of mobile phones to access reproductive health services and information in Ghana. Four major thematic areas emerged from the findings. These are perceptions of young people on reproductive health care risks and challenges, young people's socio- economic and technical demographics characteristics, social influence and ICT skills, competencies and barriers.

Perceptions of young people on reproductive health care risks and challenges

From the research, the perception of the health care risks that young people face showed that the three top most health care risks that young people faced had to do with sexually transmitted diseases (37%), teenage pregnancy and early marriage (19%), and sexual activities (13%). These constituted 69% of all the health care related risks. Abortion contributed to 8% of the issues. The remaining issues composed of 23% which constituted of body odour, menstrual disorders, concerns of sexual development and sexual weakness, and a lack of sexual health knowledge. This finding is further supported by earlier studies by Mehta & Seeley (2001), who found that sexually transmitted infections (STIs) were a major health concern for young people.

The findings also revealed that the reproductive health care risks that young people sought healthcare information on most were female reproductive health and menstruation issues (23%). This is further reiterated by focus group participants; "Menstrual pains... its common among we girls and when it comes to our menstrual cycle the pains are a little high. You find it difficult to walk due to abdominal pains...most girls spent time searching such things to reduce pain in some way" (15-19 Girls FGD). Also, young people searched for sex- related matters including sexually transmitted diseases (36%). These include information on, sexual performance, pornography and managing relationship with the opposite sex. For older boys (20-24) their concern was sexual weaknesses and prowess. Some had this to say; "Let me say sexual weakness. All the time when you are with them, they always complain... when you finish the girl will ask, "is that all?". We do research about research about that particular issue and also to learn new style especially sex positions. The positions you will learn to satisfy your wife or your girlfriend. So, some of us search for that information, how to position and have a good sexual intercourse".

The reproductive health issues that young people scheduled consultation for most were sex related matters and STI (40%). This involved consultation for issues like STI, candidiasis, sex weakness and sexual enhancing. This finding supports earlier finding conducted by Kyilleh et al., (2018), who also found that STIs were the most issues bothering young people as opined by their research participants during a focus group discussion "*Sexually transmitted infections especially white (candidiasis) is very common among the females in the area. Often when they come, they will just say...madam I have white and we have to test them for STIs*" (IDI, Midwife-3).

Cultural, poor healthcare attitude and communication related factors were also found as barriers to young people in accessing reproductive health care. Young people were unwilling to talk to health professionals on issues of reproductive health. This is because they feared the nurses will stigmatise or insult them. This was an issue which was highlighted among the girls focus groups. For example, one participant from the 10-14 Girls FGD commented; thus, "You will be thinking that the health expert will bring the issue to the community and discuss it with their friends" In addition, one 20-24 Girls FGD, observed that; "most girls felt embarrassed when they went to the hospital and the nurse or doctor there pass unnecessary comments on them.". The attitude of providers is frequently cited as one of the most

significant obstacles to accessing health care in a variety of LMIC settings. Many health workers discourage young people from using services because of a lack of confidentiality, attitudes of judgement, disdain, or a failure to take seriously, the sexual and reproductive health needs of adolescents. (Chandra-Mouli et al., 2014).

Another constraint faced by young people were health-information related. Issues such as access, availability, reliability, and privacy were raised by young people as challenges that they faced. Study participants were worried about the reliability of information received, lack of access to information and or service points, Also, some young people were ignorant of sexual education as well. Moreover, for those who had access to reproductive health services and information, they found it to be costly to access, or the health apps required the users to disclose too much information. Young people find it hard to get good, comprehensive information about sexual and reproductive health because they feel embarrassed and think adults do not care about their privacy and confidentiality (Ippoliti & L'Engle, 2017).

The finding of this research reiterates those of Vo et al., (2019), who found that the majority of their respondents expressed concern about the information's reliability despite finding mHealth apps and other services enlightening and helpful. Cost has been identified as a critical factor in determining app adoption as expressed by participants of this present study and this view is supported by Peng et al., (2016). Young people need access to the needed finances to cover cost of buying credit/internet bundle for calling or accessing websites. A comment from the 20-24 Girls FGD reiterates this; “sometimes where to get the money to buy credit is a problem.”

Social influence in accessing reproductive health services using mobile phones

The young people's peers played an important role influencing their access to reproductive health information through their mobile phones. The study revealed that young people showed others or recommended apps that their friends could download, as stated by KII7; “Introduce them to apps where they can access reproductive health issues”. This finding is collaborated by earlier research that found that young people in Ghana relied on their peers for information on sexual and reproductive health (Kyilleh et al., 2018).

Young people belong to social networks. Through these networks, they experience peer pressure to join various groups that discussed and provided reproductive health related issues. One comment from the 15-19 Girls FGD commented thus, “You cannot go out with them unless you too do what they are doing. So that way, you will be forced to also use the phone to practice what they also practice”.

Young people use social media platforms for sharing reproductive health information. From the findings, WhatsApp, Facebook and Instagram accounted for 67% of social media platforms. Previous research work found that WhatsApp is reported as the most popular mobile app for sharing reproductive health information (Kamieniecki et al., 2019). According to Herberholz and Phuntsho (2018), the likelihood of seeking care when sick, is positively linked to individual informal social connections and perceived assistance and support that one gets from society. The use of explicitly developed online communities can be attributed to social support (Nolan et al., 2017).

ICT skills and young people's use of mobile phones to access reproductive health services.

Technology-oriented factors influenced to some extent, how young people accessed reproductive health services and information. This research found that the lack of data and

slow network, mobile phone issues, and lack of phone navigation skills impacted the use of mobile phones to access reproductive health services. Although young people had mobile phones, they faced the limitation of data bundles. This could be attributed to factors such as high cost of data bundles, as well as connectivity challenges. “you need wifi to be able to download big information or video or even to share and wifi is expensive” (15-19 Boys FGD).

The lack of phone navigation skills reported as a barrier to young peoples’ access to reproductive health services using the mobile phone is in respect of the skills on how to search for information. Reported challenges included the lack of typing skills, inability to navigate through the phone and searching information online. This challenge was amplified in a focus group discussion; “you may know this is the information you want but how to search and get it is a problem. Sometimes you download an app on your phone, you wake up one day and try to use the app and it’s not working” (Boys’ 20-24 FGD). This findings are similar to those of Nouri et al., (2019), who sought to assess mobile phone digital literacy and engagement in health care systems and found that 50% of their respondents were categorized as having limited digital literacy and described difficulty using their phones because of low phone navigation skills.

Young people express the desire to have basic phone and ICT skills. These skills are necessary to navigate the mobile phone and to use their mobile phones to access reproductive health information and services. This is echoed in this quote “one should know the keys and software of the computer” Girls 15-19FGD); if you know how to use the phone very well, you can use the service always but if you do not have ICT skills, you cannot benefit fully” (10-14 Boys FGD).

Conclusion

From the findings obtained, it can be concluded that the three topmost healthcare risks that young people face and spend time searching for information on are sexually transmitted infections, teenage pregnancy and early marriage. It can also be concluded that the reproductive health issues that young people scheduled consultation for most were sex related issues, including sexually transmitted infections. Poor healthcare attitude was also found as a barrier to young people in accessing reproductive health care. Young people were unwilling to talk to health professionals on issues of reproductive health because they feared the nurses will stigmatise or insult them. Young people were discouraged to consult health workers because of a lack of confidentiality and attitudes of judgement by healthcare professionals.

From the findings, it can also be concluded that young people’s peers played an important role influencing their access to reproductive health information through their mobile phones. This suggests that there is a lot of information exchange among young people and hence the influence that young people have on each other. This research also concluded that young people use social media platforms to exchange reproductive health information with their friends. Platforms such as WhatsApp, Facebook and Instagram were used for sharing information on reproductive health.

It can further be concluded that the lack of basic ICT skills is a barrier to young people using the mobile phone to access reproductive health information and services. Young people who are competent in basic computer skills and for that matter more conversant with navigating their phones are more likely to use mobile phone to access reproductive health services.

References

- Akazili, J., Kanmiki, E. W., Anaseba, D., Govender, V., Danhondo, G., & Koduah, A. (2020). Challenges and facilitators to the provision of sexual, reproductive health and rights services in Ghana. *Sexual and Reproductive Health Matters*, 28(2), 1846247.
- Alhassan, R. K., Abdul-Fatawu, A., Adzimah-Yeboah, B. (2019). Determinants of use of mobile phones for sexually transmitted infections (STIs) education and prevention among adolescents and young adult population in Ghana: implications of public health policy and interventions design. *Reprod Health*, 16 (120)
- Aninanya, G. A., Debpuur, C. Y., Awine, T., Williams, J. E., Hodgson, A., Howard, N. (2015). Effects of an Adolescent Sexual and Reproductive Health Intervention on Health Service Usage by Young People in Northern Ghana: A Community-Randomised Trial. *PLoS ONE* 10(4): e0125267
- Baku, E. A., Adanu, R. M., & Adatar, P. (2017). *Socio-Cultural Factors affecting Parent Adolescent Communication on Sexuality in the Accra Metropolis, Ghana*.
- Blum, R. W., Bastos, F. I. P. (2012). Adolescent health in the 21st century. *Lancet*, 379(9826), 1567–1568.
- Chandra-Mouli, V., McCarraher, D. R., Phillips, S. J., Williamson, N. E., & Hainsworth, G. (2014). Contraception for adolescents in low- and middle-income countries: needs, barriers, and access. *Reproductive health*, 11(1), 1-8
- Eskenazi, B., Quirós-Alcalá, L., Lipsitt, J. M., Wu, L. D., & Kruger, P. (2014). mSpray: mobile phone technology to improve malaria control efforts and monitor human exposure to malaria control pesticides in Limpopo, South Africa Environment international. *Environment International*, 68, 219–226.
- Feroz, A., Rizvi, N., Sayani, S., & Saleem, S. (2017). Feasibility of mHealth intervention to improve uptake of antenatal and postnatal care services in peri-urban areas of Karachi: a qualitative exploratory study. *J Hospit Manage Health Policy*, 4(1), 1-11.
- Ghana Health Service (GHS). (2021). District Health Information Management System (DHIMS).
- Herberholz, C., & Phuntsho, S. (2018). Social capital, outpatient care utilisation and choice between different levels of health facilities in rural and urban areas of Bhutan. *Social Science & Medicine*, 211, 102–113. <https://doi.org/10.1016/j.socscimed.2018.06.010>.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative health research*, 15(9), 1277-1288.
- Ippoliti, N. B., & L'Engle, K. (2017). Meet us on the phone: mobile phone programs for adolescent sexual and reproductive health in low-to-middle income countries. *Reproductive health*, 14(1), 1-8.
- Jadhav, A., & Weis, J. (2020). Mobile phone ownership, text messages, and contraceptive use: Is there a digital revolution in family planning? *Contraception*, 101(2), 97–105. <https://doi.org/10.1016/j.contraception.2019.10.004>
- Kabiru, C. W., Izugbara, C.O., Beguy, D. (2013). The health and wellbeing of young people in sub-Saharan Africa: an under-researched area? *BMC Int Health Hum Rights*. 2013; 13: 11.

- Kismödi, E., Cottingham, J., Gruskin, S., & Miller, A. M. (2015). Advancing sexual health through human rights: the role of the law. *Global public health*, 10(2), 252-267.
- Krippendorff, K. (2004). Reliability in content analysis: Some common misconceptions and recommendations. *Human communication research*, 30(3), 411-433.
- Kyilleh, J. M., Tabong, P. T. N., & Konlaan, B. B. (2018, January 24). Adolescents' reproductive health knowledge, choices and factors affecting reproductive health choices: a qualitative study in the West Gonja District in Northern region, Ghana. *BMC International Health and Human Rights*. BioMed Central. <https://bmcinthealthhumrights.biomedcentral.com/articles/10.1186/s12914-018-0147-5>
- Mayring, P. (2014). *Qualitative content analysis: theoretical foundation, basic procedures and software solution*. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-395173>
- Mehta, S. D., & Seeley, J. (2001, January 1). Frontiers: Grand Challenges in Adolescent Sexual and Reproductive Health. *Frontiers*. <https://www.frontiersin.org/articles/10.3389/frph.2020.00002/full>
- Nolan, S., Hendricks, J., Associate, R. M., Ferguson, S., Clinical, M., & Towell, A. (2017). Social networking site (SNS) use by adolescent mothers: Can social support and social capital be enhanced by online social networks? – A structured review of the literature. *Midwifery*, 48, 24–31. <https://doi.org/10.1016/j.midw.2017.03.002>
- Nouri, S. S., Avila-Garcia, P., Cembali, A. G., Sarkar, U., Aguilera, A., & Lyles, C. R. (2019). Assessing mobile phone digital literacy and engagement in user-centered design in a diverse, safety-net population: Mixed methods study. *JMIR MHealth and UHealth*, 7(8). <https://doi.org/10.2196/14250>
- Olivia, J., Anstey, T., Goudge, J., Gómez-olivé, F. X., & Gri, F. (2018). Social Science & Medicine Mobile phone use among patients and health workers to enhance primary healthcare : A qualitative study in rural South Africa. *Social Science & Medicine*, 198, 139–147. <https://doi.org/10.1016/j.socscimed.2018.01.011>
- Owusu, S. A. (2012). *Cultural and religious impediments against sex education*. Feature Article Retrieved Wednesday, 5 December, 2012.
- Patton, G. C., Coffey, C., Cappa, C., Currie, D., Riley, L., Gore, F., ... & Ferguson, J. (2012). The health of the world's adolescents: a synthesis of internationally comparable data. *The Lancet*, 379(9826), 1665–1675. [https://doi.org/10.1016/S0140-6736\(12\)60203-7](https://doi.org/10.1016/S0140-6736(12)60203-7)
- Peng, W., Kanthawala, S., Yuan, S., & Hussain, S. A. (2016). A qualitative study of user perceptions of mobile health apps. *BMC Public Health*, 16(1).
- Peprah, P., Abalo, E. M., Agyemang-Duah, W., Budu, H. I., Appiah-Brempong, E., Morgan, A. K., & Akwasi, A. G. (2020). Lessening barriers to healthcare in rural Ghana: Providers and users' perspectives on the role of mHealth technology. A qualitative exploration. *BMC Medical Informatics and Decision Making*, 20(1), 1–12.
- Peprah, P., Abalo, E. M., Agyemang-Duah, W., Gyasi, R. M., Reforce, O., Nyonyo, J., Amankwaa, G., Amoako, J., & Kaaratoore, P. (2019). Knowledge, attitude, and use of mHealth technology among students in Ghana: A university-based survey. *BMC Medical Informatics and Decision Making*, 19(1), 220.

- Renta, V., Walker, R. J., Nagavally, S., Dawson, A. Z., Campbell, J. A., & Egede, L. E. (2022, May 24). Differences in the relationship between social capital and hypertension in emerging vs. established economies in Sub-Saharan Africa. *BMC Public Health. BioMed Central*. [bmcpublichealth.biomedcentral.com. https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-022-13471-8](https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-022-13471-8)
- Rubin, H. J., & Rubin, I. S. (2005). *Qualitative Interviewing: The Art of Hearing Data: Second Edition*. London, New York: Sage.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques*. Thousand Oaks, CA: Sage publications.
- Tracy, S. J. (2019). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons.
- Vo, V., Auroy, L., & Sarradon-Eck, A. (2019). *Patients' perceptions of mHealth apps: meta-ethnographic review of qualitative studies*. *JMIR mHealth and uHealth*, 7(7), e13817.
- Williamson, N. E. (2013). *Motherhood in childhood: facing the challenge of adolescent pregnancy*. United Nations Population Fund.
- World Health Organization (WHO) (2014). *Health for the world's adolescents. A second chance in the second decade*. Geneva: WHO <http://apps.who.int/adolescent/second-decade/>
- World Health Organisation (WHO). (2019, March 15). *Reproductive health*. *Reproductive Health*. [www.who.int. https://www.who.int/westernpacific/health-topics/reproductive-health#:~:text=Reproductive%20health%20is%20a%20state,to%20its%20functions%20and%20processes](https://www.who.int/westernpacific/health-topics/reproductive-health#:~:text=Reproductive%20health%20is%20a%20state,to%20its%20functions%20and%20processes).