Journal of Environmental Science and Public Health
doi: 10.26502/jesph.96120056

Volume 3, Issue 2 **Research Article**

A Qualitative Analysis of Predictors of 'Sexo-Reproductive' Health Needs of Adolescent Girls in the Kumbo West Health District of Cameroon

Frankline Sevidzem Wirsiy[1], Dickson Shey Nsagha[1*], Omer Njajou[1,2], Joseph Besong Besong[1,3]

[1]Department of Public Health and Hygiene, University of Buea, Buea, Cameroon
[2]School of Public Health, University of Minnesota, Minneapolis, United States of America
[3]Department of Educational Foundations and Administration, University of Buea, Buea, Cameroon

[*]**Corresponding Author:** Prof. Dickson Shey Nsagha, Department of Public Health and Hygiene, Faculty of Health Sciences, University of Buea, P.O. Box 63 - Buea, Cameroon, E-mail: nsaghads@hotmail.com

Received: 12 January 2019; **Accepted:** 24 January 2019; **Published:** 04 April 2019

Abstract

Background: In Cameroon, adolescent girls' knowledge on sexo-reproductive health and access to reproductive health services is important for their physical and psychosocial wellbeing. It has been established that, the lack of knowledge about the consequences of unprotected premarital sex among adolescent girls predisposed them to unwanted pregnancies, unsafe abortion and its complications, future reproductive health problems and sexually transmitted infections including HIV/AIDS.

Objectives: The aim of this study was to examine predictive factors associated with comprehensive categories of adolescent girl's sexo-reproductive health, including sources of information and knowledge on sexo-reproductive health, sexual development, risky sexual behaviors, utility and perception of sexo-reproductive health services.

Methods: This was a qualitative study which adopted a narrative approach to qualitative enquiry and made use of the social ecological model. Eight focus group discussions (n=80) were conducted among both in-school and out-of-school adolescent girls aged 10-19 years. The discussions were stratified by sex, studentship and health area. In addition, fourteen in-depth interviews were conducted with various stakeholders in sexo-reproductive health services

and community opinion leaders. Both the focus group discussions and in-depth interviews were recorded, transcribed and analysed using NVivo 11. Thematic analysis was employed in analysing data.

Results: The study found that knowledge on sexo-reproductive health issues was low among respondents with majority of them getting information on sexo-reproductive health from their peers. The issue of lack/insufficient sexo-reproductive health education in schools was reported. Having a sexual partner(s) and engaging in premarital sex was common. Adolescents engaged in unprotected sexual practices as a way of making money and for livelihood. Drinking dry marijuana mixed with water, concoctions and sachet whisky were identified as local methods employed by adolescent girls to induce abortion. Sexo-reproductive health services were available in the community but received low utilization because of perceived negative attitude and intrusiveness of the community health workers, confidentiality and social norms.

Conclusions: Adolescents in this study generally engaged in risky sexo-reproductive health behaviours that can negatively affect their reproductive health. Adolescent girls in this part of Cameroon have challenges utilizing available sexo-reproductive health services because of socio-cultural and health system barriers.

Keywords: Adolescent Girls; Sexo-Reproductive health; Predictors; Cameroon

Abbreviations: PS-RHNAG-Predictors of "Sexo-Reproductive" Health Needs of Adolescent Girls; HIV-Human immunodeficiency Virus; STI-Sexually transmitted Infection; SRH-Sexo-reproductive Health; RATS-Relevance, Appropriateness, Transparency and Soundness; WHO-World Health Organization

1. Introduction

Adolescent girls' knowledge on sexo-reproductive health and access to reproductive health services is important for their physical and psychosocial wellbeing [1]. It has been found in an earlier study that the lack of knowledge about the consequences of unprotected premarital sex among adolescent girls predisposed them to unwanted pregnancies, unsafe abortion and its complications, and sexually transmitted infections [2]. As a result of unwanted pregnancies among adolescent girls, each year almost 3 million girls aged 15-19 years undergo unsafe abortions, often administered by unskilled providers [3], resulting a times in mortality. Adolescent girls are less likely than older women to access to sexo-reproductive health care, including modern contraception and skilled assistance during pregnancy and childbirth [4]. Many adolescent girls are poor, have little control over household income, have limited knowledge about sexo-reproductive health issues, and lack the ability to make independent decisions about their health [5]. Most importantly, adolescent girls sexo-reproductive health needs often go unnoticed or are viewed through the lens of religious and cultural values, which in turn limit the possibility to provide highly needed care [6, 7]. The need for high-impact adolescent sexo-reproductive healthcare programs has become a primary concern for global health organizations such as the World Health Organization (WHO) and the United Nations [8].

Sexo-reproductive education is related to many other markers of health and well-being, including maternal and child health, extreme poverty and gender equality [9]. Therefore, it has become the focus of many youth health advocacy programs. There is an urgent need to increase investment in comprehensive programmes, including sexo-reproductive health care for adolescent girls in Sub-Saharan African countries with Cameroon inclusive [9]. Moreover, recent studies have shown that to address these adolescent sexo-reproductive health barriers, a comprehensive and harmonised sexo-reproductive health system that is youth friendly and takes into account local socio-cultural contexts is urgently needed [10]. Few studies have been carried out in Cameroon to explicitly establish the predictors associated with adolescent sexo-reproductive health needs that is, clearly showing where there are unmet adolescent sexo-reproductive health needs for an evidence based public health intervention to be developed and implemented from the socio-ecological model perspective. We therefore sought in this study to examine predictive factors associated with comprehensive categories of adolescent sexo-reproductive health, including sources of information on sexo-reproductive health, sexual development, risky sexual behaviors, utility and perception of sexo-reproductive health services.

1.1 Operational definition of terms

1.1.1 "Sexo-reproductive" health: This is a state of complete physical, mental and social well-being in all matters relating to the reproductive system such that, people are able to have a satisfying and safe sex life, the capability to reproduce, and the freedom to decide if, when, and how often to do so.

1.1.2 "Sexo-reproductive" health need: This is the accurate information and the safe, effective, affordable and acceptable contraception method of one's choice such that they must be informed and empowered to protect themselves from sexually transmitted infections and poor reproductive outcomes. And when they decide to have children, women must have access to services that can help them have a fit pregnancy, safe delivery and healthy baby.

1.1.3 Adolescent: Adolescence, according to WHO refers to the period between the ages of 10 and 19 years in which the individual progresses from the initial appearances of secondary sexual characteristics to full sexual maturity and during which psychological and emotional processes develop from those of a child to those of an adult.

1.1.4 Social ecological model: The Social Ecological Model (SEM) is a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviors, and for identifying behavioral and organizational leverage points and intermediaries for health promotion within organizations.

1.1.5 Predictor: A predictor is a something such as an event or factor that enables you to say what will happen next as a result of the consequences of unmet sexo-reproductive health needs of adolescent girls or Predictors are those factors that enable us to establish what adolescents girls need to meet their sexo-reproductive unmet health needs.

2. Methods

2.1 Study design

This was a qualitative study that adopted the narrative approach to qualitative enquiry and involved 8 focus group discussions among homogenous adolescent girls (10 in each group) and 14 in-depth interviews-IDIs with male (2) and female (2) opinion leaders, School Counselor (2), biology teacher (2), health workers that is midwife (2), male nurse (2) and female nurse (2). The study was carried out in May to June 2018 in the Kumbo West Health District, a semi-urban/rural community composed of eleven health areas, Figure 1 that shows a map of the Kumbo West Health District. This study also involved community mobilization and made use of an adapted socio-ecological model.

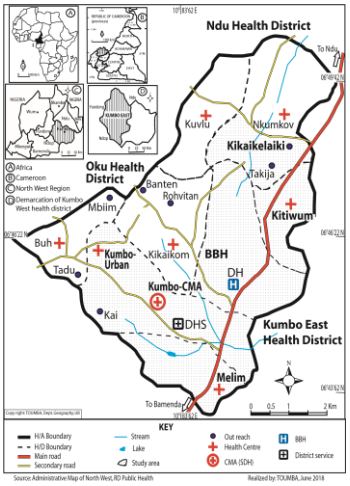

Figure 1: Map of the Kumbo West Health District.

2.2 Study area

This study was specifically carried out in six randomly selected health areas of the Kumbo west Health district namely Banso Baptist Hospital-BBH, Kikaikelaiki, Kitiwum, Kumbo_CMA, Kumbo_Urban and Melim. Kumbo, also known as Kimbo, is the second-largest city in the North West region of Cameroon and the capital of Bui Division. Kumbo is split into three distinctive hilly settlements of Tobin, Mbveh, and Squares [11]. The town is known for horse racing (Tobin Stadium) and traditional medicine, and also for its palace (Nso Palace), a market and two big hospitals (Shisong Hospital and Banso Baptist Hospital). Their traditional language is “Lamnso” (language of Nso).

2.3 Study procedures

2.3.1 Narrative approach to qualitative enquiry: This study adopted a narrative approach to qualitative enquiry. Narrative research allows participants in a study to share their experiences in the community [12]; since the researchers were interested in exploring the predictors of adolescent girls’ comprehensive categories of sexo-reproductive health.

2.3.2 The Social ecological model for predictors of sexo-reproductive health needs of adolescent girls (PS-RHNAG): In this study, we adopted the social ecological model. The social ecological model provides a framework for understanding the multiple and interacting factors of adolescent sexo-reproductive health behavior [13]. This framework posits that adolescent girl's sexo-reproductive health behaviour and their unmet health needs are influenced by interpersonal, community, organisational, and public policy factors. This socio-ecological model recognises that these factors (interpersonal, organisational, community and public policy) interact across different levels, focused on specific health behaviours and that interventions that address the multiple levels are more effective [14]. In the entire research process, steps were taken to adhere to the requirements of RATS guideline for conducting and reviewing a qualitative research [15].

2.3.3 Selection of participants: The participants in this study were adolescent girls aged 10-19 years who lived in the six health areas of the Kumbo West Health District (KWHD) at the time of the study. Both adolescent girls in-school and out-of school were recruited for the study. The communities were selected based on two criteria; high school dropout rates and adolescent pregnancies. The researcher first collected data from the various health facilities of the six health areas of the KWHD and based on that, communities were grouped into two; those with high adolescent pregnancy and school dropout rates; and those with low adolescent pregnancies and school dropout rates. From each category three communities were selected where the study was conducted. At the community level, school authorities were contacted for approval to recruit in-school adolescent girls. However, for the out-of-school participants, they were selected through the assistance of community leaders. For stakeholders in adolescents' sexo-reproductive health, a purposive sampling technique was used. Hence, community opinion leaders and health workers who provide adolescent sexo-reproductive health services were selected.

2.4 Sampling method

The judgment and purposive sampling methods were used in selecting the study participants. This sampling methods ensured that operationalization of the study variables was consistent for all participants. These are appropriate sampling techniques for the selection of a few cases for intensive studies in life history research [16].

2.5 Community mobilization

Mobilization activities at the communities were conducted before the survey team started fieldwork in each cluster. The community mobilization team focused on using key messages of the survey. Mobilization team consisted of individuals who are well-known and respected in the community and were trained to facilitate communication about the survey. The community leaders were consulted and provided with information on the purpose of the survey to share with their community members. During the fieldwork, designated survey staffs monitored the local community response, and addressed/clarify any questions/concerns regarding the survey especially as the study area is experiencing a socio-political unrest.

2.6 Data collection

Two main data collection strategies were employed in this study namely; focus group discussions (FGDs) and in-depth interviews (IDIs). During focus group discussions/in-depth interviews, there was a moderator, a note taker, and a person for recording the discussions.

2.6.1 Focus group discussions (FGDs): The focus group discussions were homogenous for sex, studentship and health area. The FGDs aimed at capturing the local context of sexo-reproductive health of the adolescent girls and, to enable the investigators get a true picture of the social reality. The FGD guide focused on individual, relationship, and community level predictive factors that affect adolescent girls' sexo-reproductive health needs as required by the social ecological framework used for this study. With the aid of an interview guide the investigators introduced the topic to the group and gave them leeway to express themselves. Their responses gave room for further probes. Participants' responses were written in a field note book and recorded using a digital recorder as well.

2.6.1.1 Sample size for focus group discussions: Eight FGDs were conducted; four among in-school adolescents and four among adolescents who were out of school. Each group comprised of 10 discussants making a total of 80 participants in all.

2.6.2 In-depth interviews (IDIs): In-depth interviews using semi-structured topic guide were conducted with individuals who were engaged in reproductive health services in the health areas as well as opinion leaders in the community. This was done to elicit information on both community and the health service related factors that may inform the choices that adolescent girls make.

2.6.2.1 Sample size for In-depth interviews: In all, 14 IDIs were conducted among various stakeholders. The stakeholders were: four community opinion leaders (2 male, 2 female), two midwives, four community health nurses (2 male, 2 female), two school counselors and two biology teachers across the study area. The data collection was ended at the point of saturation as required in qualitative research. The IDI topic guide covered areas such as community and health system related factors, policies and strategies to ensure safe sexo-reproductive health practices among adolescent girls in line with the societal construct of the social ecological model.

2.7 Data management

Research in-depth interview guides as well as work books and other study materials were stored safely in a locker in a safe location and secured by locking it with a lock.The recorded focus group discussions were transferred into a computer that was password protected.

2.8 Data analysis

Data collected during the FGDs and IDIs were digitally recorded and transcribed verbatim. The field notes were converted into data documents. All transcripts were reviewed by an independent person who is an experienced

qualitative researcher. In the review, the independent person listened to the recorded voices and compared the voices with the transcripts. Qualitative narrative data in English were then entered into Microsoft Word and then imported into NVivo 11 for analysis. Thematic analysis was employed in analysing the data. Thematic data analysis process involves data reduction, data display and data conclusion-drawing/verifying. Line-by-line coding of the various transcripts were done as either free nodes or tree nodes. Queries (analysis in Nvivo) were performed to compare the coding against nodes and attributes to compare and contrast within group and between-group responses and themes.

3. Results

3.1 Sources of information on sexo-reproductive health needs (SRHN)

The following sources of information were identified by FGDs respondents: social media, friends, parents, biology school teachers, doctors or nurses, movies, magazines, novels, and associations like Young Women Leadership Program (YWLP). However, majority of the FGDs respondents identified social media and friends, meanwhile health workers and YWLP were identified by few respondents. The result showed that majority of the respondents relied mostly on their parents and biology school teachers for information on sexo-reproductive health. The following are quotes from the participants to illustrate these views.

"....we rely on parents because they cannot allow us to go astray. They tell us what is right. We rely on parents because they are more experienced and can best tell us what we need to know" (FGDs, Kumbo Urban HA, Number 6).

"...we depend more on our biology school teachers because they teach us the good things to do and not the bad ones. We depend on our biology teachers because they will never mislead us" (FGDs, Melim HA, Number 4).

".....we get some information from doctors because they are knowledgeable and know the STDs that we can contract. We also prefer the doctors because they have experimented on it and know good and bad things" (FGDs, Kumbo-CMA HA, Number 1).

"……Our young girls here are very stubborn and sexually excited. If we educate them about sexuality and condom use, they will just go and get involved in it. The only thing to do is to make them ignorant about sexual issues until when they want to get married" (IDI, Kumbo Urban HA, Male Opinion leader).

"....Young girls do not visit sexual health services at the health facilities because they are afraid, ashamed and think that their parents will trouble them if they come to us to sick information about sexuality. The parents think that we are out to contaminate their children with bad sexual practices. They keep relying on their parents who will not tell them the truth and also from the social media where they cannot choose the right and wrong thing to do" (IDI, Midwife, BBH HA).

In addition, majority of the respondents identified social media as the worst source of information on sexo-reproductive health. A good number of the respondents also identified friends as a worse source of information. The following are quotes from the respondents to illustrate these views.

"…the worse source is social media because pornography arose hormones and push you into wanting sex. We get sexual hazards because social media only encourages young people into sex and money. Social media gives us wrong information and wrong ways" (FGDs, Kekaikelaiki HA, Number 5).
"…. the corrupt source is that from friends because when friends who are into dating and sex talk to you about sex, they will encourage you to try it" (FGDs, Melim HA, Number 3 and 8).

In terms of gender variation in the sources of information, majority of the respondents reported that boys prefer social media while girls prefer parents. The results also showed that boys and girls get information about sexo-reproductive health in the same place and the same way but interpret it differently, and boys talk about sex more than girls. Majority of the respondent also pointed out that boys and girls behave differently when it comes to sexuality. These options are captured in the following statements.
….. *"boys prefer social media or sources that are sex oriented, where they can get pornographic films and show the girls while girls prefer parents and more secured sources of information"* (FGDs, Kumbo CMA HA, Number10)
….."boys talk about sex more than girls because that is what they do and they do not control their emotions. Boys talk about sex more than girls because they are more experienced" (FGDs, BBH HA, Number 3)
"….boys behave differently from girls because they are moved by what they see and girls are moved by touch. The way we dress attracts boys towards us and when they start touching us we fall and leave ourselves to them" (FGDs, Kekaikelaiki HA, Number 5).

3.2 Talking about sex with friends

Majority of the respondents reported that they feel comfortable discussing sexo-reproductive issues with their friends. However, few respondents insisted that they cannot talk about sex with their friends. Those that discuss comfortably with friends said it is difficult to discuss sexuality with their parents. The following quotes support these points.
"…..I feel comfortable talking sex with friends because we are of the same age and can best discuss the good and bad part of it and choose the good ones" (FGD, Melim HA, Number 1)
"…..I cannot talk about sex with my friends. "Your best friend is your worst enemy". I can tell them something and they go and transform it and tell people the worst side of it" (FGD, Kitiwum HA, Number 8).

In addition, majority of the respondent reported that during their discussion, they discourage sex but not dating, advice each other and talk about healthy relationship. A good number of the respondents also pointed out that during their discussion with friends, they talk about sex and boyfriend issues. The following statements support these opinions.
"…..In our discussion we discourage sex but not dating. Educate ourselves on avoiding sexual harassment through dressing and avoiding night clubs" (FGDs, Kumbo CMA HA, Number 6).
*"…..with friends, we discuss sex, boyfriends and how to test and know if your boy is good in bed". The saying goes with boys that virginity is not dignity but lack of opportunity***.** (FGDs, Kekaikelaiki HA, Number 9).

3.3 School sex education

All FGDs respondents agree that sex education is taught in school and is very useful. However, the entire respondents reported that more lessons should be offered on sex education. Respondents also reported that generally, parents shy away from sex education and so they can only get that from school. In addition, respondents reported that the teachers that teach them sex education are not qualified or trained on sex education. Furthermore, the FGDs respondents reported that more methods of contraceptive should be taught in school. Also, respondents reported that more lessons should be offered to girls because they are more exposed to sexual harassment and STDs. Below are some quotes to support these points.

"……Much still needs to be done, not all teachers are qualified or trained in sex education. Some teachers are even having sex with students so how can they teach us sex education. Sex education should really be improved, we have recorded high birth rates in the Last 2 years indicating that sex education has failed. Training teachers and empowering peer educators is important" (FGDs, BBH HA, Number 10)

"……More sex education should be offered to ladies because they are most exposed to the danger of early pregnancy and STDs" (FGDs, Kumbo CMA HA Number 7).

The biology teachers and school guidance counselors agreed they offer very limited lessons on sexo-reproductive health. They reported that there was no time allocated for that by the school authorities. These views are captured below;

".....I offer sex education lessons to my students only when am teaching reproduction, but much needs to be done. When am giving them sex education when the topic for the class is not related to reproduction, the school authorities complain. They say am teaching them unnecessary things. The school counselor does not really do that. Other teachers are now giving them bad advices because they are not trained for that and also they want sex from those girls and will hardly say the truth" (IDI, Biology Teacher, Melim HA)

".....I do offer sex education to young girls but not frequently. I offer not up to five lessons for a year because the school has not given me time to use to educate the children. When I am counseling, other teachers will say I am using their period and I have to stop. The parents of these children are also contributing negatively to the lessons offered. When I educate them, their parents will discourage them on those facts and say am polluting the children with sex talk" (IDI, Kumbo Urban HA, School Counselor).

3.4 Dating

The respondents defined dating as a relationship between two persons mostly of the opposite sex, but could also be of the same sex. They said dating does not necessarily involve sex and could lead to marriage.

Majority of the respondents reported that young girls in their community start dating at 15 years of age and few reported that girls start dating at 10 years. In addition, a good number of the respondents reported that there is no precise age for dating. The following quotes strengthen these points.

".....From 15 years because we know the consequences of good and bad and we are knowledgeable on sex and relationships" (FGD, Kitiwum HA Number 5).

".....There is no age for dating. Girls should start dating only when they have started working. That is when they have the impression of getting married and building up a family" (FGD, Kumbo Urban HA, Number 6).

Pertaining to the criteria of selection of a date partner, majority of the respondents reported that young girls in their community selects the date partners that are of good character and virtuous moral background. In addition, a good number of the respondents reported that young girls in their community select date partners who have money and material things. Also, some of the respondents reported that young girls in their community select date partners that are handsome and are intelligent in school. The following are quotes from the FGDs respondents to support these points.

"……*Someone of a good character who can help you to grow up in your Christian faith and study"* (FGDs, Melim HA, Number 9)

"....Money, fashion ('swag'), a saying that tomorrow is pregnant "You will always want to know how the pregnancy will look like and the birth" (FGDs, BBH HA, Number 10).

".....Someone who is intelligent in class and can also make you one of the best students" (FGD, Kumbo Urban HA, Number 3).

In addition, majority of the respondents reported that dating is discouraged in their community. Few of them reported that dating is encouraged, but what is discouraged is sex. The following quotes support these points

"....Dating is discouraged here because "black people are backward in thinking". When parents see us around boys they only think we are having sex with them. Dating is encouraged in our community, what is discouraged is sex. Some parents will say you can have friends, but no sex" (FGDs, Kumbo CMA Number 4).

As concerned what dating entails among young people in their community, majority of the respondents reported that dating involved sex and money. A good number of the respondents also reported that dating involves sharing ideas and advising each other. Kissing and romancing were also identified by the respondents as part of their dating activities. The respondents also reported that they are pressurized by their friends to date. The following are quotes from the FGDs respondents to strengthen these points.

".....first thing is sex, when boys and girls are dating, they are mostly involved in sex. Two types of dating exist: faithful dating (without sex) and unfaithful dating (with sex), dating also involves kissing, romancing and touching private parts" (FGD, BBH HA, Number 4).

".....Friends pressurize us to go into dating by telling us how much money their boyfriends are giving them and how they are enjoying" (FGD, Melim HA, Number 3).

Opinion leaders in Kumbo West Health District all agreed that young girls were not allowed or encouraged to date because they have put sex first. Those who have gone on dates have come back with pregnancy and sexually transmitted diseases. These views are captured below;

"……..We do not encourage dating in this our community because young people have put sex at the apex of dating. Instead of studying one another to see if they can live together in time to come, they get themselves into sexual practices and the result is pregnancy and HIV infection" (IDI, Female Opinion, Kumbo CMA HA).

Furthermore, majority of the respondents expected their date partners to help and assist, discuss and learn with them rather than involving them in unhealthy behavior like sex. The respondents also expected their date partners to date only them alone and to control their emotions. Below are quotes from the respondents to support these points.
"…….Help and assist me in my difficult moments, discuss and learn with me. Not to involve me in any unhealthy behaviors like sex. To date only me alone" (FGD, BBH HA Number 9).

Pertaining to the age at which young girls in the community starts having sex, majority of the FGDs respondents reported that young girls in their community start having sex at 14 years and above. A good number of the respondents also reported that young girls start dating between 10 and 12 years of age. The respondents also reported that there is no specific age for sex. Interestingly, the respondents reported that children at the age of 5 years and even nursery school children are already having sex. The following are from the FGDs respondents to support these points.
".....most girls in Kumbo start having sex at the age of 14-15 years when they have reached puberty stage (FGD, Kekaikelaiki, Number 7).
"……Girls start sex very early in their lives. Many girls in this community start having sex at the ages of 10 and 11 (FGD, Kitiwum HA, Number 2).
"Even children at 5 years because some parents sleep with children and this cause the children to imitate their parents" (FGD, Kumbo Urban HA, Number 3).

Most opinion leaders reported that girls start having sex even at the age of 13. The apex of sexual promiscuity is at 15 and 16 years; a number of them said.
".....we have had pregnancies at ages of 12 and 13, so girls in this community start having sexual intercourse very early (IDI, Female opinion leader, BBH HA).

In addition, the FGDs respondents reported that more than 90% of young girls in their community are involved in sex. However, a good number of the respondents reported that 60% of young girls are into sex, reason being that some of the young girls are Christians and will hardly get involved into sex. Furthermore, the respondents pointed out that before sex, they discuss about money, the boys flatter them with lovely words and also make promises. The following quotes support these points.
"……95% of young people especially girls because of love for material things" (FGD, BBH HA, Number 10).
".....65%, some of the girls are Christians and will not really go in for sex because they are conscious and afraid to be seen" (FGDs, Melim HA, Number 3,).

"……..We discuss about money and they say I will not let you down, they will marry us, it would not pain …….it will be sweet, you will enjoy it" (FGD, Kekaikelaiki HA, Number 7).

As concerned premarital sex, all the FGDs respondents reported that premarital sex is discouraged in their community, because of fear of pregnancy and STDs. If you get pregnant, your parents will abandon you and you will also be isolated in the community. The following quotes from the respondents strengthen these points.

"……..It is discouraged in our community because if you get pregnant your parents may likely abandon you and say all sort of things about you" (FGD, Kitiwum HA Number 5).

"…If a girl is pregnant, she is ignored in all societal issues, friends will laugh at her" (FGD, Kumbo CMA HA, Number 7).

Opinion leaders reported that premarital sex was strongly discouraged but because of immorality and love for money many girls still get themselves involved in this. The following quotes from the respondents strengthen these points.

"….we advise these children on the demerits of premarital sex like pregnancy, HIV and dropping out of school but they still ignore these and bring shame and disgrace to womanhood" (IDI, Kitiwum HA, Female opinion leader).

3.5 Abstinence

Majority of the FGDs respondents reported that abstinence is not promoted in their community, both at home and in school. However, some of the respondents reported that abstinence is promoted, though young girls do not practice it. Below are quotes from the respondents to support these points.

"……Abstinence is not promoted because of lack of parental sex education and negligence. Abstinence is not promoted because teachers and even those of them who are married ask girl students for sex" (FGD, Melim HA, Number 4).

"……Abstinence is promoted, but we do not practice it. When we are taught, we do not practice it and say it is because they are 'pastors' and do not want us to do what they are doing" (FGD, BBH HA Number 9).

Most of the respondents reported that 25 to 30% of young girls in their community do abstain from sex. However, some of the respondents reported that only 5% of young girls abstain from sex. The following are from the respondents to support these points.

"…..25-30%.....Most of the young girls in our community are addicted to social media without thinking on how it will impact us" (FGDs, Kumbo Urban HA Number 8).

"….5% girls abstain from sex, social media has made us very exposed" (FGD, Kumbo CMA HA, Number 1).

As per the techniques young girls use to abstain from sex, majority of the respondents reported that avoiding going to night clubs and parties is a technique they use. Keeping away from bad friends, being God fearing and not dating

were also identified by the respondents as techniques to abstain. The following are quotes from the respondents to support these points.

".....Avoid going to bars and clubs where you can drink and get drunk and boys rape you. Avoiding friends that will ruin your life" (FGD, BBH HA Number 3).

"....Fear of God is the beginning of wisdom. Because the fear of God pricks your conscience not to get into sex" (FGD, Kekaikelaiki HA, Number 10).

3.6 Reason for having sex

Majority of the respondents reported that young girls in their community get involved in to sex because of the love for money and material things. A good number of the FGDs respondents reported pleasure and emotional satisfaction, especially for boys as the reasons why youth get into sexual practices. The respondents also reported that they get involved in to sex after watching pornographic movies and also pressure from their peers. In addition, the FGDs respondents reported that young girls in their community do have sex with boys other than the ones they are dating, usually because they want more money. The following quotes from the respondents strengthen these points.

".....Because of the love of money and material things. When they see their friends having some things, they want to have it also. The way boys see the girl appear, they will say 'See me this figure 8' and by intuition will already see themselves in their mind having sex with you. They can then do everything to convince you into having sex with them" (FGD, BBH HA Number 3).

".....Girls usually have sex with different boys because the boy you are dating might not have enough money and you go to have sex with another boy for money. The more money I get, the more beautiful I become. The boy you are dating may not want to have sex before marriage and you want to satisfy yourself" (FGDs, Kumbo Urban Number 9).

3.7 Homosexual behaviours

Concerning the perception of the respondents about homosexuality, all the respondents reported that it is a very bad practice. A good number of the respondents also reported that homosexuality is frequent among girls, especially girls in the single sex schools. The following quotes from the respondents support these points.

".....It is bad but frequent with girls. Maybe the boy the girl is dating does not want to have sex and because she might have watched that on a movie, she might admire a girl and they fall into that" (FGD, Melim HA Number 2).

"....Bad but common in single sex schools. The girls in single sex schools may be too timid and when another who is from a two sex school and who have had sex comes there, she can cause them to fall into that" (FGD, BBH HA Number 8).

3.8 Pressured into having sex

Majority of the FGDs respondents reported that young girls in their community do have pressure from their peers and boys for sex. A good number of the respondents also reported that social media, many Nigerian and

pornographic films do put young girls in their community in to sex. The respondents also reported that young girls of their community do have pressure in to homosexual experiences from other girls. Furthermore, respondents reported that young girls in their community usually have pressure from older men for sex, because of money. The following are quotes from the respondents to strengthen these points.

".....Yes, from friends. You might want to feel the enjoyment they tell you they are having sex with their boyfriends. Yes, from Nigerian movies and social medial. When we watch how they are making love and having sex over the movie, we are pressurized to go for it" (FGD, Kumbo CMA HA Number 4).

".....Young girls in our community put other girls into pressure for homosexual experiences. If you are poor and maybe in a single sex school, a girl who is rich and maybe belong to a secret cult/group can give you money to have sex with you" (FGD, BBA HA Number 8).

"……Older men put us into pressure for sex. When you ask for something from old men they will demand for sex before giving and will even give more money if you have sex with them" (FGD, Kekaikilaiki HA Number 10).

Opinion leaders also reported that young girls are pressured or forced into sex by older men for money and material things. Poverty played a role in fueling this risky behaviour observed among young girls. The following are quotes from the respondents to strengthen these points.

".....Sex under pressure is very common in this community, and for young girls, it is the older men that take them as their partners. Because of the love for money, material things and also poverty, these young girls depend on these men for money and upkeep and thus these men take advantage over them" (IDI, Male Opinion leader, Kumbo Urban HA).

Majority of the FGD respondents also reported that between 20 and 25% of young girls in their community do have sex out of pressure. In addition, the respondents reported that in order to avoid sex under pressure, they do not visit older people of the opposite sex alone and they also occupy themselves with something doing that can give them money. Below are quotes from the respondents to strengthen these points.

"……Avoid visiting older people of opposite sex alone" (FGDs, Kumbo CMA HA, Number 9).

".....Occupy yourself with something that can give you money. Most of the pressure is with money" (FGD, Melim HA, Number 1).

3.9 Risk taking in sexual activities

The FGDs respondents unanimously reported that young girls in their community do incur risks in sexual activities. The risks that were identified are the risks of getting pregnant and contracting an STD. Majority of the respondents reported that up to 70% of young girls in their community usually have risky sex. However, few respondents reported that only 25% of young girls have risky sex, because they are not offered lessons on risky sex. The following quotes from the respondents support these points.

".....50 - 70% of young girls have risky sex because they just want to satisfy themselves" (FGDs, BBA HA Number 10).

"....25%, because of the lessons that we usually receive on the danger of pregnancy and getting an STD" (FGD, Kumbo Urban HA Number 2).

3.10 Risk prevention in sexuality

The respondents reported that they usually use mechanical methods and contraceptives to prevent the risks of getting pregnant and contracting an STD. The use of condom and intra-uterine device were identified by the FGDs respondents. The respondents also reported that once young girls in their community realize that they have had unprotected sexual intercourse, they immediately drink 2 to 3 sachets of strong alcoholic drinks such as whisky, 'Fighter' and 'nikita'. The respondents also reported that after having unprotected sex, young girls usually use traditional herbs such as Marijuana ("Banga") or in lamnso dialect 'nagma wo bih' to avoid pregnancy. The respondents also reported that young girls drink concoctions like 'omo blue' and limestone ("kanwa") to avoid pregnancy. Below are quotes from the respondents to strengthen these points.

"....Use of contraceptive though it is not 100% effective. Condoms to prevent HIV and pregnancy. Use of family planning methods, like Intra-Uterine Devices which are inserted in their vagina" (FGDs, Kitiwum HA Number 3).

"...Taking drugs or drinking alcohol like whisky, Fighter, nikita, 2 sachets immediately to flush out pregnancy" (FGD, Kekaikilaiki HA, Number 4).

"...When a girl discovers that she is pregnant, she uses traditional herbs such as Marijuana (Banga) or 'nagma wo bih' *to abort. They mix dry marijuana in water and drink"* (FGD, BBH HA, Number 1).

".....Concoctions like omo (omo blue) and limestone (kanwa) are also used to destroy the new baby" (FGD, Kekaikilaiki HA, Number 8).

3.11 Condom use

The FGDs respondents reported that in general, 45 to 50% of young girls in their community use condoms during sexual intercourse. In addition, majority of the respondents reported that they cannot be the ones to go and buy condoms when they want to have sex, the boys should do that. However, some of the respondents reported that young girls usually buy condoms before they go for sex because they use different names like 'chewing gum', 'biscuits' to buy it and not calling it by its name. The following quotes from the respondents strengthen these points.

"...50% of youths in our community use condoms, some youths are caught in the feeling and excitement of sex and cannot use the condom. If you prepare for it you can use one" (FGD, BBH HA, Number 10).

".....A girl cannot be bold to go and buy a condom; instead the boys should do that" (FGD, Kumbo CMA HA, Number 2).

".....It is easy for girls to buy condoms; some have given different names to it like 'biscuit' and 'chewing gum'.." (FGDs, Kumbo Urban HA Number 10).

"……We men in this community do not want contraceptives; it is believed that it can cause infertility in the future. Men of this community bring up adolescent girls to get marry and bear children with them. If they use contraceptives and cannot bear children when they get married, it means the men have failed. A man without children is an empty man" (IDI, Male Opinion leader, Kekaikilaiki HA).

3.12 Awareness of sexual health services

Majority of the respondent reported that sexual health services are available at health facilities. Some of the respondents also reported that sexual health services are provided at single sex seminars ("girls' Conner") and also from novels and magazines. The quote below supports these points.

"....Nearby health centers. The nurses are experts and can give you the best knowledge you need" (FGDs, Kumbo CMA HA Number 9).

".....In this District, nearly all health facilities have service-points for adolescent reproductive health service where we provide education, counseling, contraceptive service and comprehensive abortion care to all including adolescents who visit us. However, majority of them shy away from us because their parents have discouraged them from obtaining such services" (IDI, Male Nurse, Kekaikilaiki HA).

3.13 Utility of sexual health services

Majority of the respondents reported that they do not actually visit health facilities to obtain sexual health services because they are not bold, ashamed, and are afraid nurses will ask them questions that they cannot answer. The respondents also reported that health workers are generally not friendly to young people and are not actually confidential. The quotes below support these points.

"……I do not use the services because I am ashamed and not sure there will be confidentiality. If people see me going to the hospital for issues on sexuality and reproductive health what will people say and think about me? Nurses and health workers are generally not friendly to young people" (FGDs, Melim HA, Number 9).

Healthcare providers reported that they are willing to provide sexual and reproductive health services to adolescents but fear it will increase sexual promiscuity and go against cultural and religious values. The quotes below support these points.

"....Some healthcare workers really wish to provide sexual and reproductive healthcare to adolescents but they fear it might increase promiscuity and go against cultural and religious beliefs" (IDI, Female Nurse, Kitiwum HA).

3.14 Impression of sexual health services

The respondents were asked to give their impression about sexual health services and majority of them complaint about the lack of confidentiality from healthcare workers in their community, and because of that, they prefer their parents to give them sexual education. In addition, the respondents reported that healthcare workers should be taught how to be friendly to young people. The following quotes from the respondents support these points.

"....I cannot effectively visit sexual health services because of lack of confidentiality from nurses. When we discuss with them, they will go to the quarter and expose the situation. Teach the nurses to be friendly" (FGDs, Kumbo Urban HA Number 3).

"....I cannot visit sexual health services because I can best learn about sex at home" (FGDs, BBH HA, Number 6).

".....The lack of confidentiality is due to how our facilities were constructed. Many of our facilities in this District do not have appropriate space for sexual health services. Lack of confidentiality from trained health personnel, as

well as personnel that are not trained on sexual health are some of the challenges that we face every day" (IDI, Midwife, BBH HA).

"….Most of our staff are not well trained as adolescent friendly reproductive health service providers. We are all using our knowledge from school which might be limited and also the working experiences…we are all trying to make the situation better. Inadequate staff numbers is also a big problem for us. There is too much work for one person" (IDI, Male Nurse, Kumbo CMA HA).

"…..We do not have safe counseling rooms. When a person comes with a sexually transmitted infection, they are often not able to tell us the truth because some people may hear the conversation. They tell you other things and leave you to guess the problem" (IDI, Female Nurse, Kumbo Urban HA).

Talking about what young people expect from sexual health services at the health facilities in their community, majority of the respondents reported that healthcare workers should teach them more about STDs; how they are transmitted and can be prevented. The respondents also reported that the healthcare workers should teach them the advantages and disadvantages of sex, when they should and should not have sex. The following quotes from the respondents strengthen these points.

"……They should teach me more on STDs, how it can be transmitted and prevented (FGD, Melim HA, Number 4).

"…..They should give me the advantages and disadvantages of sex. When I should go for it and why" (FGD, Melim HA, Number 9).

The respondents also reported that sex education should be given more in single sex seminars. However, a good number of them preferred to receive sex education from doctors and even psychologists for those who are mentally disturbed. The following are from the FGDs respondents to support these points.

"Seminars, because they teach everything we need to know and we discuss everything there with our peers" (FGD, Kitiwum HA Number 3).

As per how sexual health services should be advertised or promoted, majority of the respondents preferred text messages to their parents, though their parents might still receive the messages and keep them without informing us the children. A good number of the respondents reported that they do not prefer text messages to their parents because their parents will suspect them. The following are quotes from the respondents to support these points.

"….Text messages for parents to inform us the children but, it is not good because some parents will take it and keep without telling us the children what was sent" (FGD, BBH HA, Number 4).

"…..Text messages are good because when they come, parents who were shy to discuss these issues with children will now be forced to do that" (FGD, Kekaikilaiki HA, Number 5).

"…..Text messages to the parent is not good because they will think that if they teach us the children those things, we may instead get into practising it" (FGD, Kumbo Urban HA Number 6).

The FGDs respondents also reported that sex education should be the same for boys and girls. Some of the respondents reported that girls should be lectured by boys so that they can talk comfortably with him, though he might at one point start bringing in things that are out of topic. Below are quotes from the respondents to support these points.

…."The same, so that boys and girls can share ideas together and jointly know good and bad ones. The same, if girls alone receive the services, boys will still pressurize them to have sex" (FGD, Kumbo CMA HA Number 4).

In addition, the respondents reported that boys should be taught on how to control their emotions and when they meet a girl, they should stop touching their sensitive parts. The following quotes from the respondents support these points.

"…..Boys should be taught more on how to control their emotions because it is their emotion that pushes them to follow girls" (FGD, BBH HA, Number 10).

"…..Boys should also be taught to see and not touch. It is when they see a girls private part and touch that push both of them into sex" (FGD, Melim HA, Number 2).

4. Discussion

4.1 Comprehensive knowledge on sexo-reproductive health, an issue

The study found that both in-school and out-of-school adolescents in this part of Cameroon did not have comprehensive knowledge on sexo-reproductive health issues. The issue of lack/insufficient sexo-reproductive health education in schools was reported by adolescent girls and stakeholders in the study. Much still needs to be done, as not all teachers are qualified or trained to provide sexo-reproductive health education. The study reported, some teachers even have sex with students, so the question asked by some adolescent girls was how can such teachers teach us sex education? Also, the respondents reported that more lessons should be offered to girls because they are more exposed to sexual harassment and STDs. Respondents reported that the study area have recorded high birth rates in the last 2 years indicating that sex education has failed. The lack of knowledge becomes a predictor to their sexo-reproductive health need and makes them vulnerable to unsafe sexo-reproductive health behaviours and inappropriate choices. Some of these choices may have detrimental effects on their sexo-reproductive health and the future of these adolescent girls. For example, a wrong choice can lead to STD infection including HIV and unplanned pregnancy with further risk of abortion resulting atimes in death [17]. In another study, it was found that lack of knowledge on sexo-reproductive health was associated with early initiation of coital relations and unwanted pregnancies [18].

4.2 Effects of unplanned pregnancies and informed decisions

Unplanned pregnancies are multifarious with some capable of lasting for a lifetime. These potential human resource and future female leaders end up as school dropouts due to unplanned pregnancy and other attendant complications. Additionally, a good number of adolescents who indulge in early sexual debut may contract HIV and other STIs [19]. As we have shown, most adolescent girls feel comfortable and reliant on their peers who are in-school and the social media for information on sexo-reproductive health. These sources make them vulnerable and predisposed to

misinformation. In that case, they will be making decisions based on incorrect information which can negatively affect them. Parents who could be the most appropriate source of information are inhibited by socio-cultural barriers that prevent them from discussing sexo-reproductive health issues with their children as has been reported by Bushaija et al. [20] and Motsomi et al. [21]. Talking about sex is often frowned upon by both traditional and religious adherents in the Cameroonian society. Most parents fill that if they educate their girl child about sexuality and condom use for example, they will just go and get involved in it. Parents think is better to make them ignorant about sexual issues until when they want to get married. They fail to understand that proper sex education is never immorality talk. This environment makes it difficult and sometimes impossible for adolescents to discuss sex and its related issues with parents or adult family members [19]. The findings of this study underscore the need for innovative ways to expand access to sexo-reproductive health education and services to both in-school and out-of-school adolescent girls. Mhealth approaches have been established to be effective that is in implementing SMS as a way to transmit and facilitate knowledge sharing within varied domains of adolescent SRH. These approaches could be adopted for Cameroonian adolescent girls as a community-related strategy (intervention) in the social ecological model.

4.3 Dating and sexuality

The study found that having a boyfriend who is a sexual partner was a common practice among adolescent girls in the community, though not widely viewed as an acceptable practice. Among adolescents, this is done to conform to socio-economic issues such as peer pressure and poverty. It is worthy to note that, the act of engaging in sexual practice among adolescents has been widely reported across the sub-Saharan African region, with about 25% reporting having sexual contact before attaining 15 years of age [22]. Another study reported sexual debut as early as 9 years among girls and found that having multiple partners was a common practice [18]. Despite the fact that many adolescents reported having more than one sexual partner, the use of condom was reportedly low during sexual encounters. This is a challenge to public health experts involved in sensitizing the population against risk of STIs and HIV among Cameroonian youthful populations. The use of condom is one of the key strategies employed by many government actions including the Cameroon National AIDS Control Committee (NACC) and community-based NGOs to reduce the burden of HIV and STIs. Many studies [23-25] have documented high prevalence of HIV infection among people with multiple sex partners without the use condom as one of the high risk factors in HIV transmission.

4.4 Transactional sex

The study found that transactional sex (sex for gift) was common in the community and many adolescent girls were engaging in this type of sexual acts with adults often referred to as ‘sugar daddies for more money in the community. This issue will require interventions at the community level to empower females. Also enforcing laws that protect the human right of females in the community and use of mhealth approaches to create awareness about the existing laws and policies about adolescent sexo-reproductive health related issues may be essential in addressing transactional sexual practices. The policies and laws fall under the societal construct in the social

ecological model. Transactional sex has been found to be associated with having multiple partners as well as engaging in HIV-related risky behaviour. An earlier study has found high prevalence of HIV infection among people engaged in transactional sex [26]. Therefore people engaged in comprehensive and harmonised sexo-reproductive health systems including HIV prevention must be concern about transactional sex.

4.5 Misconceptions about contraception and abortifacients

From this study, it emerged that respondents believe that some local preparations (concoctions) and herbs are effective contraceptives as well as abortifacients. They belief that the drinking of concoctions like omo (omo blue) and limestone (kanwa), traditional herbs mixed with dry Marijuana (Banga) and water are contraceptives/abortifacient. Such believes were widespread and well-known thereby resulting in an obvious low patronage for modern contraceptives. Some studies [27, 28] have reported similar believes where there was the widespread notion that ingestion of local herbs and concoctions before/after sex had some contraceptive effects. This practice can predispose adolescents to reproductive infections which can negatively affect their reproductive functions.

4.6 Health education from a mHealth perspective

Health education especially from a mHealth perspective to the community should highlight the negative effects of these practices on the future reproductive health of adolescents. It is however obvious in the study that these preparations believed to be contraceptives/abortifacients were ineffective as participants in this study indicated that the incidence of unplanned pregnancies was high among people who had used these items to prevent pregnancy. The findings of this study further show that adolescents who become pregnant engage in unsafe abortion practices by taking traditional herbs and use of drinks that contain alcohol. These unsafe abortion practices have very serious implications on the health of adolescents as it can result in complications and death.

4.7 Sexo-reproductive health services

The study generally found that sexo-reproductive health services were available in the community though majority of the respondents reported that they do not actually visit health facilities to obtain sexo-reproductive health services because they are not bold, ashamed, and are afraid the community health workers will ask them questions that they cannot answer. Also, efforts are being made to bring adolescent sexo-reproductive health services close to the communities through policies and outreach programmes. However, these efforts were undermined by service-related barriers. Key amongst these was the attitude of health workers towards providing sexo-reproductive health services to adolescent girls. The study reported there was widespread feeling of negative attitude of service providers towards adolescents, hence their refusal to patronize the services. The negative attitude was reported by both adolescent girls and stakeholders in this study. This negative attitude was due to community norms and beliefs of health workers. Healthcare providers reported that they are willing to provide sexo-reproductive health services to adolescent girls but fear it will increase sexual promiscuity and go against cultural and religious values. This will require training of health workers on adolescent-friendly approaches to sexo-reproductive health services.

4.8 Sensitization of community on adolescent girls' sexo-reproductive health

Sensitization of community will also be required to increase acceptance. Adolescent girls' sexo-reproductive health service programmes that target health workers to provide adolescent friendly facility-based services with the approval of community have been found to be more effective [29]. Lack of adequate training of health workers has been found to negatively affect the quality of care provided to adolescents in an earlier study [30]. When the attitude of health service providers improves, void of intrusiveness, it will lead to better utilization of the services. In the same light, adolescent girls in this study reported that they cannot effectively go to community health facilities for sexo-reproductive health issues because of lack of confidentiality from health workers. A study [31] found a significant association between friendliness of health service provider, and proximity to service provider as well as uptake of contraceptives.

4.9 Adolescents views of designs of sexo-reproductive health service

Adolescents in this study were of the view that the designs of sexo-reproductive health service outlets did not provide enough privacy. This was therefore a barrier to uptake of such services in the community. Service outlets for adolescent girl's sexo-reproductive health services should be designed to provide good privacy. This is because there are socio-cultural norms that prevent adolescent girls from using sexo-reproductive health services. Therefore, adolescent girls found utilizing sexo-reproductive health service, risk been described in derogatory terms in the community.

5. Conclusions

This study has explored current sexo-reproductive health predictors among adolescent girls in the Kumbo West Health District. Adolescent's sexo-reproductive health remains a public health challenge in Cameroon with significant social and health systems barriers. This study concludes that adolescent girls in this study generally engaged in risky sexo-reproductive health behaviors with potentials of negatively affecting their reproductive health in future. Social and health systems barriers inhibited the utilization of existing sexo-reproductive health services. Training teachers and empowering peer educators on sexo-reproductive health is of utmost importance in a Sub-Saharan Country like Cameroon. Sexo-reproductive health promotional activities should target parents as a way of breaking the social barriers. Community sensitization and training of health workers is required to remove barriers and increase the utilization of sexo-reproductive health services among adolescent girls. Advocates for reproductive health service providers need to develop better innovative ways to provide this important service to adolescent girls. To address these barriers, a comprehensive and harmonised sexo-reproductive health system that is easily accessible, youth friendly and affordable, and which takes into account local socio-cultural contexts is urgently needed. Such a system needs to incorporate robust mhealth sexo-reproductive health education in the community such that the community will be actively participatory in the process. A functional mobile adolescent sexo-reproductive health scheme with adequate resourcing would be of benefit to all Cameroonians.

Declarations

Ethics Approval and Consent to Participate

All the principles of a good ethical research were respected. Ethical approval was obtained from the Institutional Review Board of the Faculty of Health Sciences of the University of Buea.

Consent for Publication

Not applicable

Availability of Data and Material

Not applicable

Competing Interests

The authors declare that they have no competing interests

Funding

No funding for the study was available

Authors' Contributions

FSW and DSN developed the study conception and design. FSW, DSN, ON, JBB wrote the manuscript and contributed in the analysis and interpretation of the data. DSN and ON contributed in the critical revision of the intellectual content of the manuscript. All the authors read and approved the final manuscript.

Ethical Considerations

Ethical approval was obtained from the Institutional Review Board of the Faculty of Health Sciences (IRB-FHS N°: 765-03) of the University of Buea. The administrative approval was also obtained from the Regional Delegation of Public Health for the North West Region of Cameroon as well as relevant authorities. Informed consent/parental/guardian permission/assent was taken from every participant prior to collection of data and interviews were conducted in private.

Acknowledgements

This is part of a Ph.D. thesis by Wirsiy Frankline Sevidzem under the supervision of Prof. Nsagha Dickson Shey and co-supervision of Prof. Omer Njajou and Dr. Joseph Besong Besong in the Department of Public Health and Hygiene of the University of Buea. We acknowledge all stakeholders including the District Medical Officer of Kumbo West Health District, Regional Delegate for Public Health-North West Region, Chief of Health Centres, Community leaders and colleagues for their contributions in the realisation of this study. We equally acknowledge all the participants of this study for their collaboration.

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Citation: Frankline Sevidzem Wirsiy, Dickson Shey Nsagha, Omer Njajou, Joseph Besong Besong. A Qualitative Analysis of Predictors of 'Sexo-Reproductive' Health Needs of Adolescent Girls in the Kumbo West Health District of Cameroon. Journal of Environmental Science and Public Health 3 (2019): 158-181.