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Perceptions of factors affecting the adolescent's sexual and reproductive health education among schoolteachers of Kathmandu, Nepal.

Abstract

Background Sexual Reproductive Health is the complete state of an individual's physical, mental, and social well-being corresponding with the reproductive system and its physiology. According to the National Demographic and Health Survey 2011 of Nepal, 24% of the total population of Nepal's around 28 million people are adolescents, out of which 17% of adolescents are pregnant or already have one child with an increment in drop-out from school because of early marriage, pregnancy, or early fatherhood. The infections such as HIV are also found at a prevalence rate of 0.3% in the population of the 15 – 49 age group, with adolescents at higher risk. This shows the increased need for comprehensive sexuality education (CSE) among adolescents to change their behaviour to minimise possible dangers. Still, the study reveals that the secondary school of Nepal has implemented just around 25% of the national comprehensive sexuality education (CSE) policy of Nepal. ***Objectives*** The study aimed to explore the perceptions of the barriers to providing good adolescent sexual and reproductive health education among teachers in the Kathmandu Valley of Nepal. It also investigated the different possible measures to overcome those barriers. ***Methods*** A qualitative research study was conducted using in-depth interviews and FGD. In-depth interviews were primarily conducted with six principals and seven subject teachers. FGD was conducted with six subject teachers, out of which four participants were repeated from in-depth interviews. ***Findings*** Our results revealed the main challenges and the possible overcoming barriers to adolescent sexual and reproductive health education in the Kathmandu Valley. The main challenges are associated with three groups of barriers consisting of individual, socio-cultural and structural, along with six sub-themes, including low perceived threats, socio-cultural taboos, mal performance of family, executive barriers, and educational system deficiency barriers. The possible overcoming barriers are associated with preparedness, collaboration, societal involvement, and the governmental role. ***Conclusion*** Considering the results obtained, school-based CSE requires detailed attention from its planning to delivery. If it is to be effective, it needs to be provided by people who have some specialised training. There is a need to include critical concepts of CSE in the school curriculum from an early age of students and to engage parents and local communities on different programs related to SRHE to deliver it effectively. There is also a need for more research on the effectiveness of school-based national curricula and implementation in Nepal, along with teachers' effectiveness.

Keywords: Barriers, CSE, SRHE, SRH, Adolescents, teachers, school-based.

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Abbreviations

AIDS: Acquired Immune Deficiency Syndrome

ASRH: Adolescent Sexual and Reproductive Health

CSE: Comprehensive Sexuality Education

DoHS: Department of Health Services

ERB: The Ethical Review Board

FHD: Family Health Division

GIZ: The German Agency for international cooperation

HIV: Human Immunodeficiency Virus

JMP: The Joint Monitoring Program

MHM: Menstrual Health and Management

MM: Menstrual Management

NDHS: National Demographic and Health Survey

NGOs: Non-Governmental Organizations

NHRC: Nepal Health Research Council

NSD: Norsk senter for forskningsdata

SDGs: Sustainable Development Goals

SRH: Sexual and Reproductive Health

SRHE: Sexual and Reproductive Health Education

STIs: Sexually transmitted Infections

TSD: Tjenester for Service Data (Services for Sensitive Data)

UN Women: United Nations Entity for Gender Equality and the Empowerment of Women

UN: United Nations

UNAIDS: Joint United Nations Programme on HIV and AIDS

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNFPA: United Nations Populations Fund

UNICEF: United Nations Children's Fund

WASH: Water, Sanitation and Hygiene

WHO: World Health Organization

CHAPTER 1: INTRODUCTION AND RATIONALE

INTRODUCTION

Sexual reproductive health (SRH) is the complete state of the reproductive system's physical, mental and social being. People need proper access to such information for good sexual and reproductive health (UNFPA, 2004). Sexual and Reproductive Health Education (SRHE) is a lifelong learning process and a fundamental right of adolescents (Muhwezi et al., 2015). SRHE can reduce sexual risk behaviours of adolescents and can improve SRH of adolescents if this education is implemented with evidence-based approaches. It comprises various information, such as the consequences of sexually transmitted infections (STIs) and early pregnancy, which helps adolescents to develop life skills for decision-making and interpersonal communication skills (Bearinger, Sieving, Ferguson, & Sharma, 2007).

SRH is a contested issue in many countries. There are different modes of delivering sensitive topics of reproductive and sexual health to young adolescents (Iyer & Aggleton, 2014). Adolescents need to know the basic information about their body functions, sex, safer sex, sex negotiations and refusal skills, reproduction, and healthy and safe habits regardless of their culture and religion; lack of such information negatively impacts their lives. The riskiest sexual behaviours among adolescent girls occur through marriage in the context of developing countries which has resulted in more than 90% of births in developing countries being connected to the wedding of teenage girls (Bearinger et al., 2007).

Educating children about reproductive health is the best way to maintain their good reproductive health because the future can be right when the beginning is right (Short, 1998). Such education aims to prevent adolescents from risky sexual behaviours and protect their physical and psychological health. Research has shown that school-based sexual and reproductive health education with those similar aims is related to lower rates of unwanted pregnancy, sexually transmitted infections (STIs) and delayed sexual onsets among adolescents (Pokharel, Kulczycki, & Shakya, 2006). It is also a fact that SRHE can reach many adolescents if the school curriculum includes such content. Policymakers and curriculum developers need to know the importance of inclusion in the school curriculum so that the nations can prevent HIV, STIs, early pregnancy, and abortions in adolescents (Bearinger et al., 2007).

RATIONALE

Adolescents go through various ups and downs. However, some problems like unplanned pregnancy, unprotected sex, unsafe abortion, early marriage and childbearing, and lack of accessing contraceptives are more common among adolescents in South-East Asia (WHO, 2011). This scenario of the South East Region is poorer in Nepal. Global data shows that around one-fourth of the world's population are adolescents, and those living in low- and middle-income countries are more vulnerable (Mattebo et al., 2019). Globally, adequate information regarding reproductive health rights and services provided with no fear of social stigma, norms or being judged by others provide good adolescent health outcomes. However, in conservative societies like Nepal, the queries and practices on adolescents' sexual and reproductive health education are restricted by cultural values and norms, which leads to the limitation in accessing reproductive health services (Mattebo et al., 2019). The sexual and reproductive health of adolescents is a public health concern in Nepal, often associated with various cultural norms, social problems, poverty, and illiteracy (FHD, 2000).

Teachers are the biggest influencers for school-aged adolescents and can quickly provide visual insight into students' fields (Cohall et al., 2007). The annual report of the Department of Health and Services on the adolescent reproductive and sexual health of Nepal 2017 shows the high prevalence of early marriage and early pregnancy with a low prevalence rate of contraception among adolescents of Nepal. It has also resulted in school drop-outs for early marriage, pregnancy, or parenthood (DoHS, 2017). In Nepal, school is only the first place where Nepalese adolescents receive sexual and reproductive health education. For this purpose, the textbook Environment Health and Population included that information for the first time in the curriculum for ninth and tenth grades. However, the research done in 2006 showed that the students were unaware of sexual and reproductive health through the chapters regarding sexual and reproductive health education included in the curriculum. Many school-going adolescents found it difficult to approach the subjects of sexual and reproductive health. The biggest challenge for the Nepal government and the school administration is creating an appropriate environment for learning and teaching sensitive topics, which they need to address soon (Pokharel et al., 2006). Another study in Nepal in 2012 also shows the high need for awareness programs for teachers and parents, with the requirement of introducing SRH education in school settings (Nair et al., 2012).

CHAPTER 2: BACKGROUND

Sexual Reproductive Health (SRH) is the complete state of physical, mental and social well-being of an individual corresponding with the reproductive system and its physiology which includes family planning, maternal, neonatal and adolescent reproductive health and also focuses on its different infections and diseases (Obasi et al., 2019). World Health Organization (WHO) defines ages between 10 – 19 years as adolescents. It is also the stage of storm and stress where physical, emotional, psychological and behavioural change occurs (Kumar et al., 2017). The WHO sexual and reproductive health strategies were developed in 2001 for regional Europe and in 2004 for all other parts of the world. Both approaches emphasised adolescent sexual reproductive health (Avery & Lazdane, 2008).

Comprehensive sexuality education (CSE) is a curriculum-based process of teaching and learning about the cognitive, emotional, physical, and social aspects of sexuality, which empower children and young people with knowledge, skills, attitudes, and values. CSE is scientifically accurate, incremental, curriculum-based, comprehensive and age and developmentally appropriate. Its basis is the approach to human rights and gender equality. In addition, CSE is culturally relevant and appropriate to the context and able to develop the life skills needed to support healthy choices. CSE is included in the written curriculum and delivered in-school or out-of-school settings, guiding educators' efforts to support students' learning. It has vital teaching objectives and a clear message in a structured way. The evidence of CSE was extended since 2008, which resulted in the following contributions.

- Delay in initiation and frequency of sexual intercourse
- Increase in the use of contraception and condoms
- Reduces the habit of risk-taking

The evidence of 2016 shows the positive effect of the increase of knowledge regarding sexual reproductive health as well as improvement in the attitudes towards SRH (Women, U, & UNICEF, 2018). In January 2018, the International Technical Guidance on Sexuality Education was updated combinedly by UNESCO, UNAIDS, UNFPA, UNICEF, UN Women and WHO based on new evidence and good practices documented from across the globe. The revised guidance has expanded its key features, concepts, topics and learning objectives and developed guidance on implementing CSE programs (Herat, Plesons, Castle, Babb & Chandra-Mouli, 2018).

Figure 1 Key features of the revised guidance, 2018

Figure 2 Overview of key concepts, topics, and learning objectives in the revised guidance, 2018

Countries are encouraged to deliver CSE by using the revised guidance. UN and other partners help to strengthen national programs by supporting key educational inputs such as curriculum design and revision, teachers' training, monitoring and evaluation. The revised guidance is very relevant to the increasing curiosities of children and adolescents as it is a timely, responsive, and critically needed tool to advance towards the tipping point for CSE (Herat et al., 2018).

In 1998, Nepal adopted its first National Reproductive Health strategy, and in 2000 National Adolescent Health and Development Strategy was introduced. These both considered the adolescent group a key target group for receiving different sources of information related to their reproductive health, services and availability. As a result, the Ministry of Education and Sports decided to include chapters in higher secondary schools' mandatory reproductive health textbooks named Health Population and Environment in 1998-99. These textbooks of ninth and tenth grades had the topics of adolescent sexual and reproductive health education in chapter 8 only, which has basic reproductive health facts concerning safe motherhood, family planning, reproductive physiology, sexual infections, and reproductive rights but also in limited form and do not cover the other vital factors of CSE. Though the chapters of textbooks included those topics, the extent to which the courses are being presented and discussed in the class of government and private schools needs to be higher and more prioritised by the government of Nepal (Pokharel et al., 2006). One study reports that the secondary school of Nepal has just implemented around 25% of the national CSE policy of Nepal (UNFPA & WHO, 2022).

Nepal's government recognised seeking abortion as a fundamental human right in 2018. This law permits women to seek abortion for any reason up to 12 weeks of gestation and up to 28 weeks in cases of rape and if a medical practitioner identifies any risk to the mother's health or the infant. In addition, Nepal has also agreed to decriminalise abortion before the UN Human Rights Council by ensuring to protect the sexual and reproductive rights of girls (Mishra, 2022).

Adolescents status in Nepal

According to the National Demographic and Health Survey 2011 of Nepal, 24% of the total population of Nepal's around 28 million people are adolescents (NDHS, March 2012). Here, though the legal age of marriage is 20 and 18 years with the parents' consent, both types of marriage are prevalent and could be either voluntarily or involuntarily. It has made them more vulnerable to unwanted pregnancies and sexual infections with less power and skills to meet the requirements, which has directly or indirectly helped to increase gender inequality, child marriage, and domestic violence (Mattebo et al., 2019). The annual report of 2011 says that about 17% of adolescents are pregnant or already have one child (NDHS, March 2012).

Similarly, one study also reports that 39.5% of women aged 20-24 in Nepal get married before 18 years, with an adolescent birth rate of 65.1 per 1000 women aged 15-19 (UNFPA & WHO, 2022). There is also an increment in drop-out from school, mostly girls, because of early marriage, pregnancy, or early fatherhood (NDHS, March 2012). In addition, the infections such as HIV are also found at a prevalence rate of 0.3% in the population of the 15 – 49 age group, with adolescents at higher risk (Shrestha, 2017). Furthermore, another report from 2011 reveals that 24% of adolescents aged 13- 24 in Nepal were diagnosed with HIV. Also, more than 1.7 million adolescent girls were cases of chlamydia and gonorrhoea by 2010, which shows the need for sexual and reproductive health education among adolescents to change their behaviour to minimise possible risks (Andersen et al., 2015).

The annual report of the Department of Health and Services on adolescent reproductive and sexual health, 2017, clearly shows that the program launched by the government, such as National ASRH (Adolescents Sexual and Reproductive Health), did not function properly though completed the target of establishing adolescents social health institutions by 2015 (DoHS, 2017). In addition, another study done by WHO and UNFPA reveals that only 20.7% of females and 27.1% of males aged 20-24 in Nepal have correct knowledge of HIV prevention, and males of that age tend to have multiple sex partners (UNFPA & WHO, 2022). Another study done in 2015 showed that only 4.2% of adolescents use modern contraception though sex before marriage is common despite cultural norms. They feel embarrassed to discuss such issues with their family members and seniors. Moreover, the fear of disclosure of confidentiality stops them from sharing with health workers (Andersen et al., 2015). In such a conservative society, stigma and negative media messages create dilemmas for young adolescents, which may result in negative consequences of poor self-esteem and wrong information about their reproductive health (Kumar et al., 2017). However, one study in 2017 revealed that adolescents prefer to receive information from different sources such as school, other adults, and media which may be incorrect, depending on their level of knowledge and confidentiality (Muhwezi et al., 2015).

Sexual and reproductive health education in school settings

SRHE is targeted to deliver from the school settings to reach adolescents on a large scale. The school plays a significant role in reducing the possible risks by promoting sexual education in the school curriculum and engaging them in different awareness campaigns and extracurricular activities (El Kazdouh, El-Ammari, Bouftini, El Fakir, & El Achhab, 2019). However, many schools and teachers feel uncomfortable discussing these issues, which could be a lack of confidence or fear of parental backlash and the fear that early access to such information may lead adolescents to take risks (Muhwezi et al., 2015).

The school curriculum of Nepal included adolescent sexual and reproductive health education for the ninth and tenth grades (typically 14-15 years). However, the research showed a comparatively lesser number of girls in those grades of classes than boys, as girls were supposed to drop school after early marriage. As school is only the first-place Nepalese adolescents can get information regarding this, the school should create a good learning environment to strengthen sexual and reproductive health education. However, the field is typically overlooked (Pokharel et al., 2006).

The study of 2001 states that the people who are going to be the source of information on SRH education, either parents or teachers and health care professionals, should have either special features or undergo a particular training (Kakavoulis, 2001). The recruitment of school nurses in Nepal is rare, but private schools have started to practise it. Though both schoolteachers and school nurses play an essential role in shaping reproductive health information, the experience of technical and interpersonal skills can reduce the high-risk behaviours among adolescents in the presence of school nurses, contrary to the experience of schoolteachers or health education teachers (Borawski et al., 2015).

Menstruation

Menstruation is a natural process signifying the girl's entry into adulthood (Mukherjee et al., 2020). The Joint Monitoring Program (JMP) of the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) highlights the importance of managing menstruation both hygienically. It indicates that women must need access to menstrual management materials, clean drinking water and soap for washing, and privacy for changing menstrual material and its depositories. In addition, it indicates the need for information regarding menstrual health and hygiene for women of reproductive ages to live a healthy, productive, and dignified life in society (Sharma, McCall-Hosenfeld & Cuffee, 2022).

Every day, many women are menstruating in the world. The study in low- and middle-income countries (LMIC) shows that this natural process is experienced negatively and is a barrier to gender health and equality (Hennegan, Shannon, Rubli, Schwab, & Melendez-Torres, 2019). LMIC should recognise the main barriers to girls' education: lack of preparation, knowledge and poor practices surrounding menstruation. These are also impediments to the development of their self-confidence and personal growth. LMIC countries should focus more on improving the provision, knowledge, and understanding of the better needs of adolescent girls rather than investing in building private toilets for girls in schools and communities (Chandra-Mouli & Patel, 2017).

Menstruation is a physiological process that all women experience during reproductive age. However, it is considered taboo in many parts of the world, especially in Asia and Africa, and is mainly associated with shame, religious superstitions and restrictions (Sharma et al., 2022). Girls and women are imposed many restrictions during menstruation, and they have poor access to toilets, sanitary pads or napkins, and tampons. They do not have access to privacy for changing or disposing of menstrual hygiene materials, and it seems they are there to suffer in silence. They rely on the used old cotton cloth or rags to control menstrual bleeding. There are still practices on social taboos which do not allow them to proper washing and dry used menstrual clothes in low-income countries. Such practices have increased the cases of urinary tract infections, abnormal vaginal discharges and other various health conditions associated with poor menstrual hygiene practices, mainly in Nepal, India and Bangladesh (Mukherjee et al., 2020).

Menstruation Misconceptions in Nepal

Approximately 237,250 women menstruate daily in Nepal, and around 89% of women experience menstrual restrictions imposed by society based on socio-cultural beliefs. For example, there is a strict social seclusion practice called *'Chhaupadi'* in remote areas of Nepal (Mukherjee et al., 2020). In these practices, menstruating women need to distance themselves from their community. The girls experiencing first menstruation (menarche) must stay away from home for 14 days in the sheds of livestock or the menstrual hut, *'Chhau'* in Nepali. The women after post-delivery are also not spared from these practices. The expecting mothers are isolated on those '*Chhau'* during and after childbirth according to this social practice called '*Chhaupadi Partha'*. In this *Chhaupadi* practice, women are considered impure, untouchable, isolated from social and religious events, and forbidden to touch other people. It has resulted in poor menstrual hygiene and physical and mental health (Thakuri, Thapa, Singh & Khatri, 2021).

There are significantly fewer studies in Nepal regarding the perceptions of women on the menstrual practices and restrictions they go through. The various studies showed that there is still social discrimination and deep-rooted cultural and religious superstitions among women, even in the urban areas of Kathmandu Valley in Nepal. The women of some societies of Nepal still believe them as impure based on their socio-cultural beliefs. They are terrified of being blamed or bringing misfortune to the family if they go against the menstrual restrictions imposed by society. Therefore, there is a need for targeted education and awareness to change and balance cultural and social practices during menstruation (Thakuri et al., 2021).

Nepal government introduced an elimination program, "*Chhaupadi Partha"*, Elimination from 2005, but still, it is in practice in some communities of Far Western Nepal

(Mukherjee et al., 2020). Such eradication programs need multi-level implementation program by financing and supporting up to the level of society, but the national program of Nepal lacks multi-level interventions, i.e., intervening to the individual, family, community, sub-national and national and does not have proper financial and monitoring systems for the eradication (Thakuri et al., 2021)

Menstrual Hygiene in Nepal

In December 2018, the German Agency for international cooperation (GIZ) hosted the MenstruAction Summit with Menstrual Health and Management (MHM) alliances in Kathmandu. It was a breakpoint moment where the participants from different sectors came together with the vital agenda of menstrual health and hygiene management. The main fundamental problem in menstrual health management, according to the Nepal Adolescent and Youth Survey, 2016, in the rural areas of Nepal is the lack of access to affordable sanitary products like sanitary pads. As a result, the Nepal government announced distributing free sanitary pads for schoolgirls in 2019 (GIZ & Government of Nepal, 2019). The Nepal Government started its first national Sanitary Pad (Distribution and Management) Procedure for reducing the increasing absenteeism of adolescent girls in 2020. It targeted approximately 29,000 schools that the government aids, covering about half of the girls in the country. This procedure was available for the girls in grades 7 to grade 12, with the allocations of 16 pads per month for each girl (Shrestha et al., 2022).

Menstrual management (MM) facilities include Water, Sanitation and Hygiene (WASH), privacy and health care. The MM facilities include infrastructures of WASH, facilities of gender-segregated toilets with taps, dustbins and running water, and provision of emergency sanitary pads. (Shrestha et al., 2022). MM is a significant public health and social issue in Nepal. Nepal's religious, cultural, and traditional beliefs have contributed to inadequate menstrual hygiene, such as a lack of access to information regarding menstruation, clean water, private toilets, menstrual management products and depositories. Such beliefs have also lowered the self-esteem of those girls and women (Sharma et al., 2022). In addition, many societies in Nepal consider the management of menstrual hygiene as taboo. Some common taboos that are related to menstruation are food taboos and untouchability. These taboos have hindered women, especially adolescent girls, from getting healthy and dignified life (Yadav, Joshi, Poudel & Pandeya, 2018).

There may be a need for more in the Nepal government's policy to improve menstrual health and hygiene, such as WASH facilities in schools and communities (Sharma et al., 2022). The study done in 2022 reported that though there are MM facilities in most of the schools of

peri-urban areas of Kathmandu Valley, it lacks healthcare facilities which might have contributed to the absenteeism of girls. In addition, it reports that a student skipped 2.6 school days in 3 months due to pain and tiredness, which pointed out the need for proper management of health facilities, water supply and soap (Shrestha et al., 2022). Similarly, one study revealed that the lack of WASH facilities has also increased the absenteeism of adolescent girls in school during their menstrual cycle. Besides these, the lack of sex education and different restrictive practices imposed by society have become significant challenges for Nepali women. It is a fact that such challenges cause a negative impact on their reproductive and mental health and absenteeism among adolescent girls (Sharma et al., 2022).

Adolescent schoolgirls have good knowledge of menstrual hygiene management but must improve and focus on changing their behaviours. One study suggested that the basic knowledge of the menstrual cycle and hygiene management must be completed among well-educated women, so a comprehensive approach is urged to teach the biological factors of the menstrual cycle and associated behavioural changes (Koff, Rierden & Stubbs, 1980). Similarly, another study showed a need for behaviour change communication campaigns and different school health education programs that must frequently be reinforced for better results (Yadav et al., 2018).

CHAPTER 3: LITERATURE REVIEW

Adolescents' sexual and reproductive health (ASRH) is a neglected topic despite facing various risks in different countries. Early pregnancy and parenthood, high rates of HIV and STIs, and safe abortion are the main challenges which adolescents face. Various socio-cultural factors such as social beliefs and traditions, political and economic aspects of the nation, and healthcare workers also act as barriers or restrict the delivery of SRH information and services to adolescents (Morris & Rushwan, 2015). Attitudes of adolescents, i.e., shyness and fear of being stigmatised or punished for involving in sexual activities restrict them from receiving the facilities from the health care centres (Bearinger et al., 2007).

The analysis of the critical indicators of ASRHR (Adolescent Sexual and Reproductive Health and Rights) of 25 years from 1995 showed that adolescent girls are more likely to marry later, delay their first sexual experience and delay childbirth. However, there is no similar progression in many countries. In recent years, menstruation health has emerged, but the study still reported low knowledge about menstruation among adolescent girls. The lack of proper information about menstruation has promoted the stigma and the cultural perception of menstruation as dirty or taboo (Liang et al., 2019).

Perspectives on the Barriers to Sexual and Reproductive Health Education

Parents Perspectives

Parents are the most influential adults who can play a dramatic role in the success of any intervention in adolescents' sexual and reproductive health (Farideh, Siamak, Mohammad Reza, & Alireza, 2007). Adolescents are found sexually active without being aware of how to protect themselves from the possible risks and infections. Though many studies have taken parents as the primary source of such information and teachers for implementing effective school-based sexual and reproductive health education for adolescents, parents do not share it with their children. They believe there is no sex before marriage, and mothers are more responsible for conveying these messages to daughters. In addition, many parents were unaware of various reproductive health topics, such as modes of transmission for STIs. (Wanje et al., 2017).

To understand the parent's perspectives towards adolescents' sexual and reproductive health education, one study in 2003 in Tehran focused on only adolescents' sexual and reproductive health. Tehran has similar cultural norms to Nepal, such as no pre-sex before marriage. This study used a quantitative methodology among 539 parents of adolescent boys aged 15-18 and had a self-administered questionnaire. They performed clustered sampling methods within five districts of Tehran, i.e. centre, south, east, west and south, representing

different socio-economic statuses. This study found that parents from higher income, higher education, internet and satellite program accessibility were with liberal attitudes on contrary to poor parent-adolescent relationships, family conflict, and the low valuation of morals. In addition to these findings, another study suggested developing a close relationship with teens by developing good parent-teen communication and discussing moral values with each other (Farideh et al., 2007).

There was another similar study in Malawi, where teen pregnancy is at the highest rate globally, leading to poor adolescent sexual reproductive health outcomes. Here, the study focused on teenage girls to understand what sexual and reproductive health education is. For this, they had a qualitative research and semi-structured interview of 40 participants with three groups of girls aged 15-18 years, their mothers or female guardians and leaders in 15 villages of Malawi based on the geography and religious diversity. This study showed that initial rites encouraged girls to have sex on puberty, and girls are not allowed to use contraceptives like condoms because of the misconception of being nulliparous and other side effects. In the same way, mothers or female guardians accept that sexual reproductive health is discussed with girls only after their sexual debut because they fear that those discussions may encourage girls for sexual activity (Nash et al., 2019).

Moreover, other evidence suggests that parents expect their high school children to receive sexual and reproductive health education from their health and science classes or health professionals, such as school nurses. However, research also shows that school health education or subject teachers need preparation to teach most topics and suggests additional training that may benefit them (Borawski et al., 2015).

Adolescents' Perspectives

Adolescents, with their growing ages and changes, should know about their puberty changes, modes of transmission, prevention and maintaining a healthy life, which will help them develop positive knowledge, mutual respect, and trust in their surroundings. However, a study done in 2017 shows a gap in knowledge about sexual and reproductive health among students, and they expressed that it is essential to include these topics in the school curriculum (Kumar et al., 2017). Another study also shows that young adolescents expect to receive such SRHE first and foremost from their parents despite living in a conservative society (Kumar et al., 2017). However, another study done in India found that students prioritised having this sexual and reproductive education from parents last and school teachers first (Kumar et al., 2017).

Many school-going adolescents in Nepal were unaware of sexual reproductive health, although the chapters regarding adolescent sexual and reproductive health education were included in the curriculum. They found it challenging to approach the subjects of sexual and reproductive health education only (Pokharel et al., 2006). The adolescents also felt internal barriers such as a fear of stigma, loss of social status, shame and embarrassment, disrespectful providers, and lack of privacy as the external barriers to obtaining reproductive health services (Lindberg, Lewis-Spruill, & Crownover, 2006). The one qualitative study done in Malawi, which had an interview with adolescent girls aged 15-18, described that girls had the misconception of being nulliparous as a side effect of contraceptives and had barriers to accessing condoms and contraceptives such as poverty. They strongly wanted such important information regarding sexual and reproductive health to be delivered by experts and promote the alternatives for adolescent motherhood (Nash et al., 2019).

A similar study in Nepal in 2018 explored different aspects of sexual and reproductive health knowledge from secondary school students. For this purpose, the study selected four government schools and conducted eight focus group discussions. This study illustrated that local cultures, the internet and media influenced most students. They were immensely curious, wanted to learn more, and asked teachers about sexual and reproductive health questions. However, because of shyness and fear of embarrassment, they did not attempt to ask anything to the teacher. Similarly, they added that they could not ask parents questions because of specific communication gaps. Thus, this study suggested developing specific school-based educational approaches to enhance the sexual and reproductive health education of students (Acharya, Thomas, & Cann, 2018).

Teacher's Perspectives

No significant differences existed in the perspectives between government schoolteachers and private schoolteachers. The Government schoolteachers were found more hesitant to cover any detail on sexuality and reproductive health to the students, contrary to the private schoolteachers. Both schoolteachers feared being backlash by school and society if those topics were presented in classes (Pokharel et al., 2006). In addition, the judgmental attitude of teachers is one of the barriers to accessing information for young adolescents (Pokharel et al., 2006).

A mixed study with self-administered questionnaires and in-depth interviews conducted in 2011 to determine the attitude of teachers and students towards school-based sexual and reproductive health education showed the positive attitudes of both teachers and students towards such type of education. Teachers with experience of more than five years had a more

favourable attitude towards sexual reproductive health education. Similarly, genders of trained and experienced teachers had more positive attitudes towards school-based sexual and reproductive health education (Fentahun, Assefa, Alemseged, & Ambaw, 2012). Furthermore, to determine the role of schoolteachers in facilitating health information to the students, New York City school also had a study with a 28-question survey. Here, the teachers mentioned 1-3 times of approaches from students in each semester regarding their personal and health issues. However, they were more concerned about their ability to handle the student's mental, behavioural and reproductive health problems (Cohall et al., 2007).

Evidence from interventions for good SRH of adolescents

Evidence showed that interventions regarding ASRH, delivered at low intensity or for a shorter duration, are not sustained (Chandra-Mouli, Lane & Wong, 2015). A well-designed impact evaluation is needed to assess various interventions' quality and content (Hindin & Fatusi, 2009). The widely accepted interventions of the youth centre, peer education, and high-profile public meetings to make people and communities aware of ASRH have been proven ineffective in changing adolescents' attitudes, behaviours, and beliefs. However, it is still found popular among implementors. The effective interventions are comprehensive sexuality education (CSE) and SRH services, often poorly implemented (Chandra-Mouli et al., 2015).

Comprehensive sexuality education (CSE)

The school-based interventions led to improve attitudes and knowledge but had very little evidence of behavioural changes. The evidence also showed that the school-based interventions, such as the comprehensive sexual and health program performed in one school in Thailand, had more excellent knowledge among students than other schools. In addition, students in Mexico showed positive HIV-prevention behaviours, too (Hindin & Fatusi, 2009). The study believed such education could enhance knowledge regarding menstruation and helps to reduce stigma and remove unwanted cultural beliefs giving more freedom to girls (Liang et al., 2019). However, the study by UNESCO and UNFPA on CSE programs in 10 countries showed that those countries poorly implemented school-based CSE programs with inadequate information, and the curriculum seemed very weak to reach the needs of ASRH (Chandra-Mouli et al., 2015).

Quality and youth-friendly care

Adolescents may not approach health care services because of various barriers. To overcome them, the new approach of training the service providers, changing facilities, and improving or promoting the services between adolescents and gatekeepers in society started in

developing countries (Bearinger et al., 2007). ASRH can be improved by ensuring access to quality youth-friendly and integrated services and training health staff working with adolescents. In addition, adolescents must receive such education along with comprehensive information to develop skills in decision and interpersonal communication for adolescents (Morris & Rushwan, 2015).

Enhancing communication

Various communications and school-based interventions were used to improve or try to meet the sexual and reproductive health needs of adolescents. Parents are the preferred source of sexual and reproductive health education, but the study showed an interesting association between the delay in sexual initiation and communication with teachers (Hindin & Fatusi, 2009).

Adolescent-Parent communication. The study done in Tanzania showed that parent-child communication regarding SRH happened in most families but between the same gender bases. It was common between mother and daughter, while communication between father and son or father and daughter was rare. The communication was often in the form of warnings, threats, and discipline. Children did not share most of their curiosities with their parents because of fear of punishment. Similarly, parents did not open up to their children because of their inadequate knowledge about SRH and social beliefs and traditions that restricts interactions between the opposite sex on the topic of SRH (Wamoyi, Fenwick, Urassa, Zaba & Stones, 2010). Another study done in Uganda revealed that male adolescents communicated less with anyone regarding those topics, and peers and media were considered their source of information. Furthermore, it showed the common triggers of sexuality discussion were the set of menstruation or perceived abortion in the neighbourhood for girls while for boys, when there is suspicion of having a female friend or coming home late. So, media, peers and schools should play a creative role in improving the communication between adolescents and parents (Muhwezi et al., 2015).

Behavioural Interventions

Behavioural Interventions such as teaching sessions in schools, billboards, and radio or television chat shows, delivered with great intensity or for a longer duration, were found more effective than the programs with short intensity or duration. Programs targeted to the community to improve and change the knowledge, attitude, beliefs, and traditions require prolonged consistency over an optimal period. Thus, there is a need to stop ineffective interventions and implement them as it wastes finance and resources (Chandra-Mouli et al., 2015).

CHAPTER 4: RESEARCH METHODOLOGY

Research Question and Objectives

Research Question

What are the perceptions of the barriers to providing good adolescent sexual and reproductive health education among teachers in the Kathmandu Valley of Nepal?

Objective

The study's main objective is to explore teachers' perceptions of the barriers to providing good adolescent sexual and reproductive health knowledge.

Sub-Objectives

1. To understand how the personal barriers affect the teacher's ability or willingness to teach adolescents sexual and reproductive health.
2. To understand how the cultural norms affect the teacher's ability or willingness to teach adolescents sexual and reproductive health.
3. To critically discuss the educational sector's role in providing adolescents with sexual and reproductive health knowledge.
4. To identify how the barriers can be overcome from the perspectives of teachers.
5. To understand the perception of alternative ways to organise sexual and reproductive health education within or outside the school curriculum.

Methods and Materials

This section describes how the data collection was done for this study. The fieldwork was conducted in and around the Kathmandu Valley of Nepal from mid-August until December 2022.

Study Design

This study used qualitative research methodology intending to explore personal, subjective perceptions on the one hand and behaviours in each situation on the other hand. Qualitative research methods help to gain in-depth insight into perception and experiences (Kielmann, Cataldo, & Seeley, 2012). Qualitative methodology is an experimental method that engages in understanding and mapping out issues in expansive landscapes (Laake & Benestad, 2015). This methodology enabled me to discover and analyse how the interconnected subjects participating perceive reproductive health education and explore this issue and its associated practices through discussions in detail. It also uses a flexible research design. However, it is also the fact that the obtained findings from this methodology cannot be applied to a broader population with the same degree of certainty (Queirós, Faria, & Almeida, 2017). Hence, this study design allowed me to explore each issue and generate the best information.

Study Site

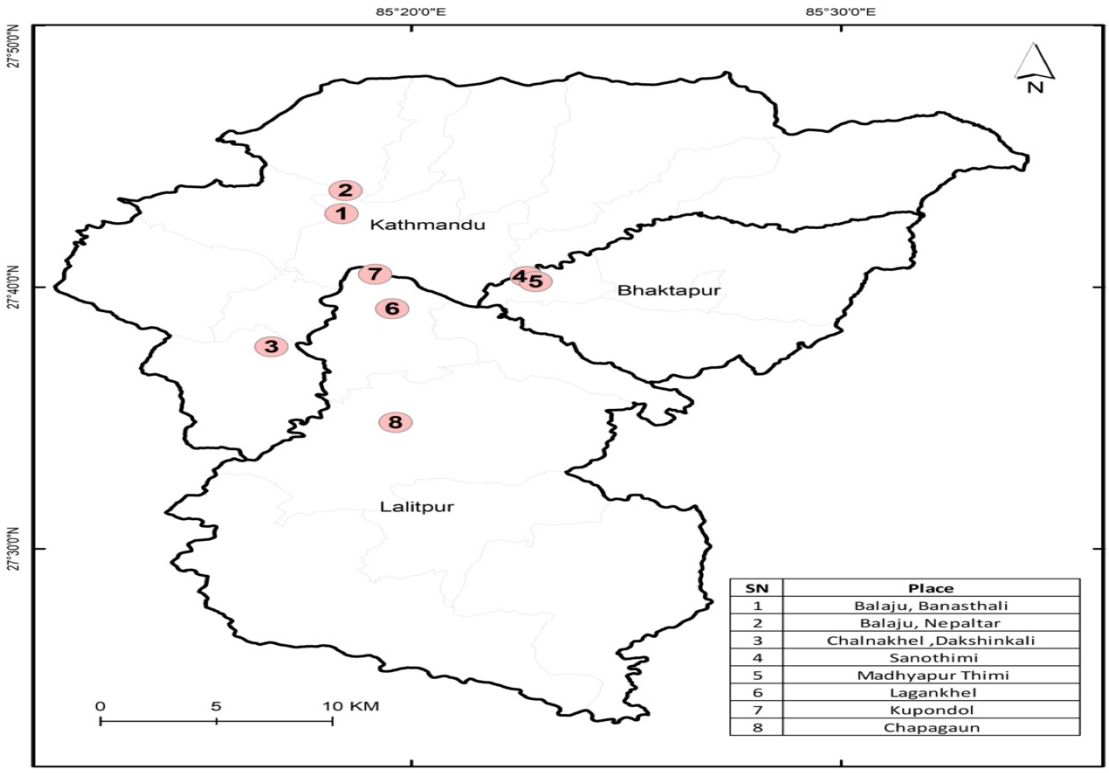

Figure 3 Study area map

The study was conducted in the Kathmandu Valley, the educational centre of Nepal. The Valley consists of Kathmandu district, Bhaktapur district and Lalitpur district. I had planned to include other sections of Nepal if samples were in a few numbers.

Study Participants and sample size

I aimed to explore perceptions of the barriers to providing good adolescent sexual and reproductive health knowledge to teachers of Kathmandu Valley. This qualitative study includes purposive sampling aiming for in-depth information. The purposive sampling method allows involving the participants according to preselected criteria relevant to the research question and objectives (Mack, 2005). Among the different purposeful sampling strategies, homogeneity sampling was chosen. Homogeneity sampling helps to describe the perception of

schoolteachers and principals in-depth and simplifies analyses by reducing variations of samples (Palinkas et al., 2015).

My aim was variation in the sample. When recruiting, I tried to maintain variations through different educational backgrounds, places of origin, and areas of current residence, and this allowed me to produce a heterogeneous sample. I had planned to use another strategy, snowball sampling or chain sampling if I needed to involve more participants. In this snowball sampling technique, one participant will point out another informant he believes will provide essential information to the study (Ohman, 2005).

In-depth interviews and Focus Group discussions (FGD) were used to collect data through this purposive sampling approach. Different semi-structured questionnaires were utilised to collect data. The study had fifteen participants: six principals and nine schoolteachers. In this study, teachers refer to the subject teacher or the schoolteacher who teaches subjects related to sexual and reproductive health education.

In-depth Interview. In-depth semi-structured interviewing involves an intense conversation with a participant to explore their perspectives, for instance, on an idea, a program or a situation (Boyce & Neale, 2006). These interviews allow the participants to share in their own words producing knowledge close to their experience (Mason, 2017). It is beneficial when the topic is sensitive, such as in the case of reproductive health for adolescents (Mack, 2005). I conducted in-depth interviews with seven schoolteachers and six principals involved in reproductive health teaching to gain insight into how they have experienced the barriers to adolescents' sexual and reproductive health education. While conducting the in-depth interview, I used the purposive sampling method.

Focus Group Discussion (FGD). FGD is conducted to gain more understanding of the context and understand any particular issues in a better way (Liamputtong, 2011). I originally planned to take separate FGDs of schoolteachers and principals. Since the same schoolteacher was teaching in more than two or three schools, I conducted an FGD of schoolteachers between six participants, of which four participants were repeated from the in-depth interview but could not manage to conduct FGD between principals as it was not feasible for them to meet at the same place and time.

Participants' Criteria for Inclusion and Exclusion in the Study

Inclusion criteria

Schoolteachers

1. Nepalese citizen
2. Teaching Environment Health and Population for ninth or tenth grades or both grades in the school of Kathmandu Valley
3. Consenting to participate in the study.

Principals

1. Nepalese Citizen
2. Principal of secondary or higher secondary schools of Kathmandu Valley
3. Consenting to participate in the study.

Exclusion Criteria

The exclusion criteria for all participants are:

1. Not fulfilling the inclusion criteria mentioned above.
2. Not willing to give consent.
3. Cannot communicate fluently in the Nepali language.

Recruitment. After receiving the ethical clearance from Norsk senter for forskningsdata (NSD) and Nepal Health Research Council (NHRC), I approached schools which had given approval letters for data collection and other schools randomly with the help of personal connections and friends with the hope to receive approval for data collection. I approached the participants directly. The first interaction to contact participants was by email to the schools. Once, I waited for a reply for a week; I called the school's phone number and booked an appointment to meet personally. I described my study's processes and purposes orally and individually and submitted my written research protocols whenever asked. In addition, I also explained data collection methods, benefits, possible risks, the confidentiality of data and voluntaries to participate and the rights of participants. I met them at their preferred time and location when they agreed to participate.

I described the participants' objectives, rights, and voluntariness before the start of all interviews. A written information sheet was provided, and the informed consent sheet was eventually given for them to sign. Both the information sheets and informed consent forms were in the Nepali language. All the in-depth interviews were taken inside the school area of the participants, and FGD was taken in the cafeteria, which had a separate seminar or meeting hall. All the interviews lasted for 30 – 40 minutes. Some in-depth interviews were very in-depth and

explorative, while others were less descriptive or interactive. However, the focus group discussion was very explorative, with intense debate.

Conducting Interviews. As I aimed to explore teachers' perceptions of the barriers to providing good adolescent sexual and reproductive health knowledge, semi-structured interviews were relevant to my study. This structure offers openness and flexibility to both researcher and participants for having dynamic conversations on understanding their perceptions in their socio-cultural context. I had prepared a separate interview guide for the FGDs of schoolteachers with the main themes for the interview and other less structured probes to provide direction to the interactions during the interview. Such structure allows openness to the participants with no limitation in the answers. The FGD guides for schoolteachers have three main themes: inclusion of SRHE, effective way and barriers. The interview guide of the principal includes two main themes: experiences and barriers and future perspectives, whereas the interview guide for schoolteachers contains three main themes: past experiences, present experiences, and barriers.

I used open-ended questions, and probing questions were occasionally used to make the questions clearer to the participant and to encourage them for more explanations and detailed views that covered all themes during the conversation. All the participants gave consent for the interview. Since both participants and I share the same mother tongue, Nepali, the interview was conducted in the Nepali language. Occasionally, English words were also used when the typical Nepali words needed to be more understandable or known to both.

They were recorded with the TSD service for Sensitive data at Nettskjema-diktafon, provided by the University of Oslo (UiO). Initially, data was recorded and saved on that mobile application, nettskjema-diktafon and another smartphone. Later, the recording was uploaded from home with full access to the internet. All the recordings saved on the mobile and laptop were permanently deleted. The recorded interviews were directly transferred to the TSD platform from the recording app to ensure confidentiality and privacy. In addition, I also took brief field notes with the keywords to remember while transcribing and analysing. Participants' unusual gestures and expressions during conversations were recorded in field notes.

Data Analysis and Management

I followed Braun and Clarke's six-step approach to reflexive thematic analysis as a set of guidelines, which is very systematic, does not require specific theoretical and technological approaches, and was valuable to those new to qualitative research, like me. Reflexive thematic analysis is defined as a purely qualitative approach which considers a reflection of the

researcher's interpretative analysis of data conducted during the dataset, the researcher's analytical skills and the theoretical assumptions of the analysis. (Braun & Clarke, 2019).

Phase one: familiarisation with the data. At this phase, I tried to familiarise myself with data by listening actively to each interview before transcribing that recording. I used this active-listening method to understand the primary areas addressed in each interview before transcribing, allowing me to recall gestures or mannerisms that might or might not have been noted in the field notes. I manually transcribed each interview immediately after active listening and read the completed manuscript multiple times. At this point, I noted the exciting passages and the casual observation of the initial trends of the data. During transcribing, my participants were anonymised; that is, the names of the participants were coded with a number and any information that might identify my informants was left out I also documented my thoughts and feelings regarding both the data and the analytical process.

Phase two: generating initial codes. Codes are the foundation blocks which later become themes (Byrne, 2022). I worked systematically through the entire dataset with equal prioritisation at this phase using the NVivo software. Simultaneously I identified interesting data items concerning the subject of the study. The iteration of coding and familiarising with data was repeated several times using both hard copy and soft copy of datasets to identify which codes to use or discard to interpret themes. Both semantic and latent coding were used. The evolution of my coding process was continuously tracked in the codebook and on my writing pad. I used to highlight which codes were changed in each successive iteration with the notes behind those changes.

Phase three: generating themes. This phase begins with shifting focus from interpreting individual data items to aggregated meaning across the dataset (Byrne, 2022). The codes were reviewed and analysed several times. As a result, different codes sharing the same meaning or concept were collapsed into one single code and similar codes were combined to form themes or sub-themes. Using my dataset, I initially constructed sixteen categories or initial candidate themes with a few sub-categories. Still, later I identified four relevant major areas and categorised them for the explanation. Irrelevant or not meaningful codes or categories to the research questions or overall analysis were removed. The themes relating to the perception of teachers towards barriers and measures to overcome those barriers were identified and interpreted further to generate findings and conclusions of the study.

Phase four: reviewing potential themes. This phase involves two levels of review to demonstrate that codes are appropriate to a theme and that theme is appropriate to the interpretation of the dataset (Byrne, 2022). As a result of this dual-level review, some sub-

themes and themes were restructured by adding or removing codes or themes. As in other phases, there was continuous tracking and documenting of all these changes. The finalised themes with sub-categories that resulted from reviewing the candidate themes can be seen below.

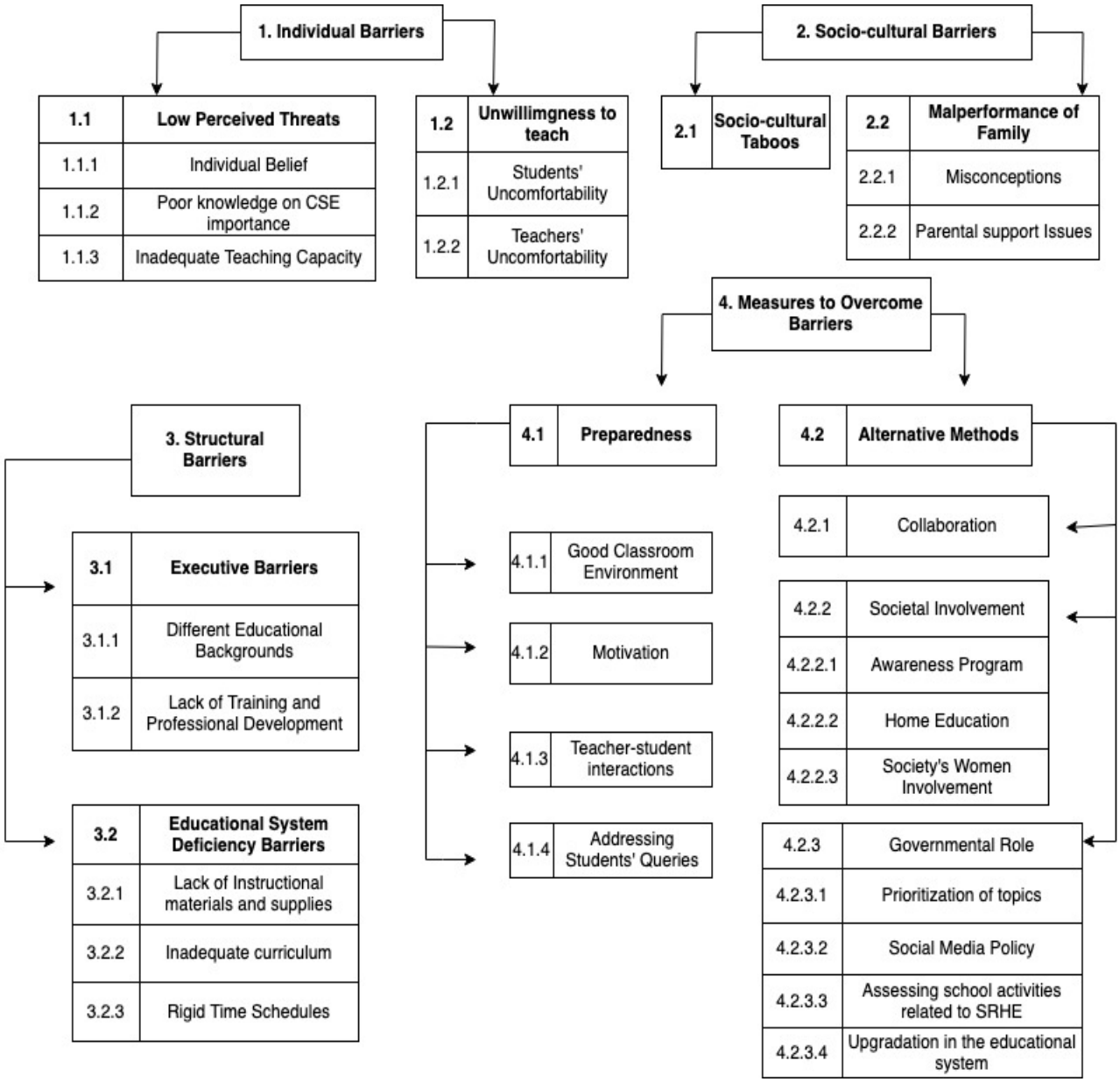

Fig 4 Overview of findings

Phase five: defining and naming the theme. The names of themes are also subject to a final review at this point if it is necessary. Naming themes is an essential task as themes are the leading indicators to readers about what has been captured from the data. So, it needs to be catchy to attract the reader's attention (Byrne, 2022). At this phase, I renamed the sub-theme 'counselling' into motivation. Also, I created the sub-themes 'alternative methods' by merging the sub-themes: collaboration, societal involvement and government role together.

Phase six: producing the report. It can be seen as the completion of the analysis. The analysis results are included in the section of 'findings', and the synthesising and contextualising results of the analysis are involved in the 'discussion' section.

Ethical Consideration

I have followed the following ethical consideration while conducting my study.

Approval. I followed the standard guidelines of WHO for ethical consideration for conducting this study. Firstly, I obtained ethical clearance from the University of Oslo, the Institute of Health and Society and the Norwegian Center for Research Data. After that, I obtained approval letters from different schools in Kathmandu Valley for participating in my study. The Ethical Review Board (ERB) of NHRC, Nepal, provided ethical clearance only after changing the topic of the study to "Perceptions of factors affecting adolescents' sexual and reproductive health education among schoolteachers of Kathmandu, Nepal." (see Appendix C). Initially, the topic of the study approved by NSD was "Barriers towards adolescents' sexual and reproductive health education in Nepal." (see Appendix B). It was a long process to get ethical approval from NHRC. I submitted all my research documents, such as questionnaires, information sheets, and consent forms, in Nepali (see Appendices D and E). The whole process took the longest time in my study.

Informed consent. As all my participants were educated, I took individual informed consent from participants of in-depth interviews and FGD before starting data collection that clearly and comprehensively stated what the research was about and how the information would be used. For in-depth interviews, most of the consent forms and information sheets were provided to participants by email and given directly to them. Additionally, my friend Radhika helped me with these processes for FGDs. In addition, all participants were asked to verbally consent to participate in my study before the interviews and FGDs.

Right to withdraw. I informed the potential participants clearly about their right to leave or not give an answer if he is unwilling to answer any questions during the interview. Participants were not forced or coerced to answer any questions. They were asked to interrupt

or leave the conversations if they did not like to continue, which was informed in the information sheet and verbally before conducting interviews and FGDs. I did not find any interruption during the data collection period; instead, they offered extra information full of enthusiasm.

Confidentiality and anonymity. Confidentiality and anonymity of the information provided by participants are maintained. It is protected by the law "right to privacy", which prevents the researcher from disclosing any direct information about the research participants. I managed the participants' anonymity by referring only to their sex, educational background, place of origin and present residency and years of working experience in the teaching field. In addition, all the data are safely stored in the University of Oslo's sensitive data services (TSD), which I can assess only. They will be removed after the research is completed.

Furthermore, there was always a focus on the style of questioning with the avoidance of private or any questions that distress or annoy conversations with participants and for any unexpected ethical challenges as reproductive health education is a sensitive topic. I always thought and acted in an ethically principled way to deal with during the study period.

Reflexivity. Reflexivity is one of the specific challenges of the qualitative study. The researcher's attitude is affected by their background and position on what they choose to investigate and how and which methods to explore throughout their research process (Malterud, 2001). The researcher's knowledge is always highly involved in the qualitative study. So, I have discussed my role in this study. I am a physiotherapist, worked as a clinical physiotherapist for more than three years and as a rehabilitation officer in a rural district of Nepal for a year. I share similar ideas as many participants do because of our same language, culture, and tradition, and we have common understandings on those topics too. I consider myself an insider in the thesis. In addition to this, my background of working in the health field and having sound knowledge regarding sexual and reproductive health was also noted, and I believe my participants felt comfortable sharing their views and concerns with me as an insider.

Considering my study as a sensitive topic, it was necessary to create a safe and comfortable environment for participants to share their ideas and concerns. Typically, to gain the trust of participants and make them feel comfortable, I met my participants before the interview for the evening snacks, which is very popular in Nepal and spend enough time drinking tea with evening snacks and talking about the various current issues of Nepal regarding health, education, and politics. I maintained a balance in familiarising myself with all the participants during the interview and became a good listener. I also did not attempt to impose any participants' opinions on my educational background and understanding. However, this

influenced how I perceived and understood interviews. I also should have noticed the issues creating difficulties and considering problems in the research settings.

Before starting my fieldwork, I assumed that my position as a Nepalese female would affect the participants' openness. I expected less transparency from the male participants than from females, as the topics regarding sexual and reproductive health knowledge are not discussed openly in Nepal. Nevertheless, I found more extensive views on those topics and received appreciation from them for arranging such a platform to express themselves. As it was essential to distance myself from anything that could affect the quality of the research, I introduced myself as a master's student doing this study. I controlled my expression about the topic and gave enough time for participants to speak out about anything regarding the topics. I did not provide any form of hints or directions for participants while interviewing.

Throughout the process of interviews, I was a good listener and allowed enough space and time for participants to express their opinions in their way or direction. I tried to ask research questions by using "your opinion" and "what you think" when individuals' perceptions were concerned and used occasional probes to clarify the statement. Simultaneously, I interpreted their expressions throughout the process and took notes too. I always wrote reflexive memo notes before, during and after the research study and interview and reflective summaries about how the interviews went, my expectations and how I felt throughout each interview and discussion. I avoided overlapping my perspectives throughout the study project, mainly during interpretations, analysis, and thesis writing to ensure that my pre-established theoretical framework and preconceptions do not affect the research process.

Communication of findings

My thesis report will be submitted to the University of Oslo – Master of Philosophy in International Community Health and Society. This thesis will be forwarded to NHRC to support their decision-making and planning process. The final copy will also be provided to all the schools that participated in this study and to some participants who had requested to send it.

CHAPTER 5: FINDINGS

Demographic Characteristics

There were 15 participants in the study, of which there were six principals and nine schoolteachers. An in-depth interview of 7 schoolteachers and six principals was taken and conducted an FGD among six schoolteachers, of which 4 participants were repeated from the in-depth interview.

Participants	No. of Participants	In-depth Interview (IDI)	Focus group discussion (FGD)
Principal	6	6	
Schoolteachers	9	7	6 (4 schoolteachers were repeated)
Total	15		

Table 1 Information of Participants

The finding consists of four main sections on four distinct themes. The first theme, "Individual barriers," is subdivided into two categories. The second theme, "Socio-cultural barriers," is subdivided into two categories. The third theme, "Structural barriers," is divided into two categories. Similarly, the fourth theme, "Measures to overcome barriers," is subdivided into two categories. In addition, all sections' categories are further separated into various sub-categories that will be covered in detail in this chapter.

Section One: Individual Barriers

Individual barriers were considered as one of the educational barriers to teaching sexual and reproductive health education or CSE by most of the participants. Low perceived threats and unwillingness to teach were the subthemes of this barrier.

1.1 Low perceived threats

Participants were unaware of the significance of CSE. Low perceived threats are sub-categorized into poor knowledge of SRHE importance and experience of teaching.

1.1.1 Poor knowledge of CSE importance. Participants had different perceptions regarding the inclusion of CSE in the school curriculum, which showed that the level of knowledge on CSE importance among participants is comparatively low. Some participants expressed that CSE should be excluded from the curriculum below grade 7. One of the participants described this as *"It is not appropriate to include below class 7, and this education needs to be included from class 7 because, in our community school, there are no same-age students in every class. We think there are only young kids in class 7, but this is a community school, so older-aged students also study here in the same class as young kids." (Participant 5, Principal, IDI)*

However, some participants thought such education needed to be introduced at grade 5 or lower level by the government. One of the participants explained this as *"If it starts from class 5, then students will habituate with these topics. I guess students will not be shy, ashamed to ask their queries.» (Participant 2, Principal, IDI)*

1.1.2 Individual Belief. The individual beliefs of the participants on the various topics of CSE are also considered a barrier to teaching SRHE. Participants had their ideas and thoughts on some cases, *described as "... Frankly telling, natural family methods are the best. I know it is not 100% efficient. So, whenever I teach in class, I tell them to prefer the natural planning method to the artificial one focusing on positive aspects." (Participant 1, Schoolteacher, FGD).*

"Sometimes, if these things are not handled properly by teachers, then such education may lead to vulgarity also. These things have not happened in my case. 1, 2 out of 100 is normal but must be regulated." (Participant 7, Schoolteacher, IDI)

1.1.3 Inadequate Teaching Capacity. As it includes the susceptible topic, the teacher must be able to control the class. The teaching capacity of teachers may be affected by their experiences of teaching and their gender. The participants who started teaching those subjects in school at a young age found it difficult to deliver them effectively, as follows. *"I started teaching at a young age, so I also had feelings of oddness. It would not be there if I had started teaching at this age." (Participant 2, Schoolteacher, FGD)*

Furthermore, from the perspective of participants, the teacher's gender is an essential factor in barriers, as it is a very awkward and challenging situation for male teachers to teach various topics related to sexual and reproductive health education to a class full of female students and vice versa. A participant said, *" I see one defect: it is easier for me to teach such a topic to boys, but the same does not happen with girls. Maybe female teachers also have the same experiences as mine. So, health personnel or nurses should take such classes for girls or all in an open environment. Then I hope students become more curious and can open up in such lectures easily." (Participant 7, Schoolteacher, IDI)*

1.2 Unwillingness to Teach

The other individual barrier most participants expressed was an unwillingness to teach. This category is further sub-categorized into teachers' un-comfortability in teaching and students' un-comfortability in learning.

1.2.1 Teachers' un-comfortability. Different situations can cause uncomfortable in teaching. Sudden student laughter while teaching specific topics and the sudden rise of random questions can make teachers uncomfortable. Similarly, personal queries can also create uncomfortableness for teachers. A participant described them as follows.

"...all students laughed, which made me uncomfortable, and I could not take that topic, and also when the questions raised out of the topic, then I feel uncomfortable to reply." (Participant 5, Schoolteacher, FGD)

However, few participants started perceiving uncomfortableness as usual and did not consider it a barrier. The opinion of one participant on this is as follows: *"Previously, I used to feel uncomfortable while taking classes on those topics, but later on, it did not feel uneasiness to me." (Participant 1, Principal, IDI)*

1.2.2 Students' un-comfortability. The shyness and hesitations noticed among students while teaching topics related to CSE were also considered barriers to teaching sexual and reproductive health education. One of the participants said, "*I could sense the facial expression of my students while teaching such topics. Though they do not say anything, their facial expression says that teacher is teaching vulgarity, etc." (Participant 7, Schoolteacher, IDI)*

However, students have made many positive changes by including CSE in the curriculum. A participant mentioned that there was a noticeable progression among students,

especially girls, who had become more confident and franker in asking their queries. Furthermore, students were self-aware and underwent self-realisation by guiding others from their studies. The participant described them as, *"Previously, girls used to feel shy with the fear of getting teased by the boys, they did not come to collect pads, but now they come by themselves, asking when the school will distribute free pads. It shows how this education has been effective among adolescents." (Participant 10, Schoolteacher, IDI)*

Section Two: Socio-cultural Barriers

Participants mentioned taboos surrounding sexuality and sexual education, such as stigma, misconceptions, embarrassment, and negative attitudes towards sexual issues, as the socio-cultural barriers. I will discuss the sub-categories of this section which are socio-cultural taboos and mal performance of the family due to lack of knowledge.

2.1 Socio-cultural taboos

Regarding socio-cultural barriers, one of the participants explained, *"There is not any case related to barriers, but also it is the reality that sex and reproductive health education is not openly discussed in our society now. Though we teach, students cannot adapt it because of societal thoughts and judgment." (Participant 12, Schoolteacher, IDI)*

Another participant described the societal upbringing of students as the barrier in the following way, *"The main problem is the societal upbringing of students. They feel timid, making it difficult for them to understand what sexual health is." (Participant 5, Principal, IDI)*

While other participants expressed that they had not experienced it as a barrier during teaching SRHE, *"During this long teaching period, I have not found culture as the barrier in teaching SRHE." (Participant 10, Schoolteacher, IDI)*

2.2 Malperformance of Family

2.2.1 Misconception. Participants mentioned that students were often misguided by the family culture and beliefs, and it was surprising that educated families also supported beliefs against SRHE. In addition, girls were mainly absent from the class for 3-4 days a month, because of which it took much work for participants to plan lectures accordingly. Participants explained,

"... I have found some cases where students were misguided by their orthodox family, i.e., almost 10% of the students. I feel like students are victimised because of family culture." (Participant 7, Schoolteacher, IDI)

"*Girls used to be absent in school during their menstruation periods because of thought of untouchability." (Participant 13, Schoolteacher, IDI)*

2.2.2 Parental Support Issues. Participants mentioned that uncooperative parents didn't support any school programs related to SRHE, and their harsh parenting did not allow children to share their queries with them. They explained,

".... we suggest students ask their queries to parents also if they feel uncomfortable to ask us, then they mostly said that they received scolding from their parents if they ask such queries in front of them." (Participant 12, Schoolteacher, IDI)

"This is a community school, so parents' approach to school is comparatively minimal here. For example, we need to send many letters if we want to call any parents in school." (Participant 4, Principal, IDI)

Section Three: Structural Barriers

A structural barrier is further sub-categorized into executive and educational system deficiency barriers. These categories are also further separated, which will be discussed thoroughly here. According to the participants, structural barriers are significant challenges in delivering SRHE. They also mentioned that the empowerment of teachers, family, and support from governmental authorities and different organisations could only overcome it.

3.1 Executive Barriers

3.1.1 Different educational backgrounds. The participants emphasised that schoolteachers from other educational backgrounds besides science and population needed help delivering the topics related to SRHE. They even mentioned that they tried to seek help from a science teacher or the internet to teach those topics. Regarding this, one of the participants said,

"*I take help from the biology teacher for explaining certain topics so that students understand better and prevent themselves in their upcoming problems." (Participant 6, Schoolteacher, IDI)*

However, some participants realised that recruiting a lady teacher or school nurse to teach those topics could benefit students. They explained,

"I feel like girls are not being able to address their queries with me. I think girls could do it if the teacher were a lady." (Participant 11, Schoolteacher, IDI)

"…. recruit health professionals such as nurses for teaching that subject so that students can learn more with their knowledge and experiences." (Participant 2, Principal, IDI)

Besides these things, the study found that participants had tried to overcome this barrier in the following way,

"Normally, we have recruited more lady teachers for the students so that students feel more comfortable to open their queries and problems. Especially we are training lady teachers for such education, and we have given them guidelines to be more open or presentable to girl students as their mother so that they can share their problems with lady teachers." (Participant 3, Principal, IDI)

3.1.2 Lack of Training and professional development. Most participants had not received formal training or professional development for teaching topics related to SRHE. One of the participants explained,

"I have not received formal training for teaching sexual and reproductive health education to the students. Also, I have not participated in seminars or meetings regarding such topics. I managed myself through self-study and tried to make my students understand the curriculum topics." (Participant 6, Principal, IDI)

3.2 Educational System Deficiency Barriers

It is further divided into sub-categories: lack of instructional material and supplies, underload curriculum, and rigid time schedules.

3.2.1 Lack of instructional material and Supplies. Lack of development of instructional materials and supplies, such as prescribed videos, charts, figures, etc., from the governmental authorities is considered one of the barriers by the participants. According to the participants, finding appropriate educational materials, such as videos or images on the internet, to teach SRHE to the students was difficult. Participants also mentioned that it would have been

best for learning for both teachers and students if the prescribed videos or any educational materials had been designed along with the development of the curriculum. One of the participants has described,

"... while developing curriculum only if they develop audio or videos as per requirement then it would be easy for us to teach effectively." (Participant 12, Schoolteacher, IDI)

Besides these, participants also mentioned the shortage of textbooks every year with the new reasons for the delayed publication of textbooks. One of the participants explained,

"Teachers can teach with the curriculum, but the students cannot do learning activities without a textbook. So, the authority should make textbooks available as early as possible, which is not happening now." (Participant 1, Principal, IDI)

3.2.2 Inadequate Curriculum. According to the participants, the curriculum is theoretically based on few practical teachings and limited content. Participants also mentioned that detailed elaboration on the topics of SRHE needed to be improved in the curriculum. Participants have explained as,

"Generally, it is all theoretical approach, but if we could involve students in practicality with the availability of different educational sources and materials, it would be very beneficial." (Participant 12, Schoolteacher, IDI)

"I feel if the topics regarding practical demonstration of condoms were included, then it would have been better because everyone knows condoms should be used for preventing STDs, but how to use is not taught." (Participant 2, Schoolteacher, FGD)

Besides these, some participants emphasized separate textbooks for SRHE, which are adaptable to all the areas of Nepal, not only focusing on Kathmandu. One of the participants had described as,

"Presently, the government has included CSE in the textbook curriculum, but there are various other materials in the same book. So, I think the government should develop a separate textbook for SRHE. I mean to say, such a book may have more content and can teach more on that topic." (Participant 3, Principal, IDI)

3.2.3 Rigid Time Schedules. From the participants' perspective, a rigid schedule is one of the barriers to the effective delivery of CSE to the students. According to them, they had limited time to finish the whole textbook, in time, because of which they could not spend more time on the chapters of CSE only. One of the participants said,

"The main problem is time management. Many times, we are not able to do so many preferred activities because of lack of time. I felt bad we could not do many things for students because of our busy schedules." (Participant 4, Principal, IDI)

Section Four: Measures to Overcome Barriers

This section includes the various measures to overcome the barriers to delivering CSE that the participants mentioned. Overcoming barriers is again categorised into preparedness and alternative methods and further separated into various sub-categories, which will be discussed separately.

4.1 Preparedness

There needs to be early preparedness for upcoming barriers in delivering CSE and be prepared with effective measures to manage if any occur. From the participants' perspectives, it could be done by maintaining suitable friendly class environments, warm-up classes, early and post counselling sessions, and more interaction with students.

4.1.1 Good classroom environment. According to the participants, a good classroom environment could be maintained by special settings of class, i.e., separate classes for boys and girls. In addition, they mentioned that using early instruction or warnings for students not to ask any negative inquiries in class also helped maintain a good environment. Participants explained,

"... it would have been better if we could provide such education in special settings of the classroom. We can just translate the textbooks and share our personal experiences." (Participant 6, Principal, IDI)

".... I always ask my students to ask me positive curiosities or queries as much as possible and warn them not to go towards negative queries in the classroom." (Participant 1, Schoolteacher, FGD).

Besides these, one of the participants also mentioned the use of physical punishment for making harmony in classroom settings in the following way,

".... for both boys and girls, we teach them about good and bad touch and how to handle situations and make them aware of what happens if they choose the wrong steps. In addition to this, I give physical punishment to bad boys also." (Participant 4, Principal, IDI)

4.1.2 Motivation. According to the participants, motivating students through warm-up classes with early counselling and separate counselling classes after any unpleasant incident unsuitable for adolescents was crucial for effectively delivering CSE. Participants mentioned that the warm-up classes or early counselling on the importance of sexual and reproductive health education relating to daily life make students attentive in classes and do not create unnecessary laughs when teachers use diagrams or describe any topics related to sexual and reproductive health. Participants had described as,

".. warm-up classes should be there before starting such chapter just like warm up for starting games so that they can also be mentally prepared for the next classes and feel comfortable." (Participant 1, Schoolteacher, FGD)

".. I could not take that topic, so I decided to warm up and discuss their problems with them for two days. And I convinced them not to laugh whenever they see me drawing pictures as it is essential as other organs in our body and will be very fruitful in the future." (Participant 4, Schoolteacher, FGD)

Furthermore, according to the participants, the separate counselling sessions for the students after noticing any psychological changes helped deliver such education effectively. One of the participants also stated that counselling was very effective even after the occurrence of any events among students in the following way,

"We have separate counselling classes. Whenever we notice certain psychological changes or complaints from other students, we immediately start counselling them. In addition, whenever we know about their marriage, we normally counsel them for not bringing a child in the stomach (getting pregnant)." (Participant 4, Principal, IDI)

4.1.3 Teacher–student Interactions. Participants believed that continuous interaction with students helped them create comfort among students and teachers. In addition to this, active student participants were also emphasized by participants in the following ways,

"Interaction and discussion with students and parents are the only effective way for such education. Students need to know the facts of different events related to SRH around society." (Participant 5, Principal, IDI)

".. the active participation of students can make such education very effective among adolescent students." (Participant 13, Schoolteacher, IDI)

Besides these, the study noticed that participants did not commonly practice the student-centred approach to teaching CSE. However, the participants mentioned the different teaching methods under the teacher-centred approach, aiming to involve students actively in CSE. The most discussed activities by participants are shown in the given table.

Teaching Approach	Teaching Method	Activities
Teacher-centred	Lecture	Demonstration, slide show, notetaking
	Guided Instructions	Showing and explaining examples, defining vocabulary
	Just-in-time teaching	Warm-ups to motivate students to do the readings
	Experimental learning	Lab experiments
	Project-based learning	Group work, multimedia presentations
Student-centred	Fieldwork	Field visits, writing summary and analysis of field visits

Table 2 Different teaching approaches mentioned by participants.

4.1.4 Addressing Students' Queries. From the participants' perspectives, they attempted different approaches, such as individual and group approaches, to address the students' queries. Participants mentioned that they were mostly asked queries through different mediums like anonymous writing. Still, they tried to solve queries in the group only so that other students benefited from the same query. Participants explained it as,

"....so, I ask them to write questions without mentioning their names, then I explain those queries in the group." (Participant 4, Schoolteacher, FGD)

"There are lots of difficulties, but we cannot keep on solving individually, so I try to resolve in the group only inside classes so that others can also learn from raised queries." (Participant 10, Schoolteacher, IDI)

In addition, participants also mentioned encouraging students to individual approach if they could not share queries in the group. One of the participants explained it as,

"I encourage them to ask personally to me if they cannot ask in mass, and they also do so." (Participant 5, Schoolteacher, FGD)

Besides these, some participants in FGD were also against the individual approach in the following ways,

"Individual approach is very risky. Now the time has changed even you can't touch your students. There is a problem for female teachers too." (Participant 2, Schoolteacher, FGD)

4.2 Alternative Methods

It includes the teachers' perspectives on different alternative methods that can be used to effectively deliver sexual and reproductive health education within or outside the curriculum.

4.2.1 Collaboration. From the participants' perspectives, the collaboration of the school with different organizations, projects, and local health bodies resulted in significantly easier delivering SRHE. It also helped obtain instructional charts and training for students and teachers. Participants explained,

"We have been collaborating with the health post of the ward and send our ladies teacher for the health training so that such education will benefit our students." (Participant 3, Principal, IDI)

"Sometimes NGOs come to take classes and do counselling for students, so it has become very beneficial to us." (Participant 4, Principal, IDI)

One of the participants in FGD also mentioned the different student training conducted inside the school through various projects and programs.

".. now in our school, different people come from different projects. They give training and even online classes to students." (Participant 4, Schoolteacher, FGD)

4.2.2 Societal Involvement. According to the participants, if society works well, everything goes well, so society needs to be aware of overcoming many barriers because most of the barriers are the result of deeply rooted socio-cultural beliefs.

4.2.1.1 Awareness Programs. Participants also mentioned that the educational institutions had regularly conducted various programs like awareness rallies, seminars, societal meetings, and leaflet distributions at the societal level. With different awareness programs with guardians' involvement, society's women and leaders can play an essential role in overcoming various barriers.

4.2.2.2 Home Education**.** Participants mentioned guardians' involvement in parental meetings as the best platform to discuss various SRH problems of students. From the participants' perspectives, society must be changed and start from home only. They believed that guardians' involvement could create more effectiveness. One of the participants talked about the early need for home education, i.e., father to son and mother to daughter, regarding SRHE.

"Both parents have already experienced it practically, so the mother should not hesitate to provide such education to her daughter, and the father shouldn't hesitate to provide such education to his son. This education should start early from home." (Participant 2, Principal, IDI)

4.2.2.3 Society's Women's Involvement. Some educational institutions or schools emphasized the involvement of women in society in various school programs like sanitary pad training or tea programs for sharing women's problems, as they were considered strong pillars in changing families and society.

One of the participants said,

".. schools need to involve a different group of women of society in the awareness program and health camps so that they can change the attitudes of their family members, which will also help to strengthen the relationship between school and society. We may be able to change the traditional thoughts and misconceptions about menstruation and on different sexual and reproductive health problems of society." (Participant 13, Schoolteacher, IDI)

4.2.3 Governmental Role. According to the participants, the government need to prioritize the topics and programs, introduce a policy to control the content of social media, upgrade the educational system and assess the school activities related to sexual and reproductive health education to overcome the various barriers to delivering sexual and reproductive health education effectively.

4.2.3.1 Prioritization of Topics and Programs. From the participants' perspectives, the governmental authority needs to prioritize the topics related to CSE so that there could be the start of early guidance from an early age of the student. In addition to this, participants also emphasized conducting or forecasting various age-based awareness or informative programs related to CSE through different media, dramas, or platforms. Participants described them as,

"These health topics need to be prioritized by the government so that health awareness can be started from the very beginning age of the child. It will be helpful for the future." (Participant 13, Schoolteacher, IDI)

".. government should regularly launch health programs on TV or radio by dividing time according to age group. So that all people can get health information." (Participant 3, Principal, IDI)

4.2.3.2 Social media policy. Participants mentioned that the government need to introduce a social media policy. According to the participants, the government lacks a control mechanism on the content of social media, because of which students had both positive and negative impacts. One of the participants suggested proper control of the contents of social media, etc., in the following way,

"I would like to suggest having proper control on social media, YouTube videos so that they can positively learn things." (Participant 1, Principal, IDI)

4.2.3.3 Assessing School Activities Related to CSE. According to the participants, the government must investigate the school's activities related to CSE. One of the participants said,

"Presently, the investigations of schools come under Municipality, so they must act wisely and observe their activities. They should fulfil the position of specific subject teachers and provide necessary study materials to the schools." (Participant 1, Principal, IDI)

4.2.3.4 Upgradation in Educational System. One of the participants also mentioned the need for upgradation in the educational system of Nepal in the following way,

"So, we have more to do, but higher authorities should have proper management. We need to start a new educational act mentioned in our constitution as we are still working based on the Panchayat system." (Participant 1, Principal, IDI)

CHAPTER 6: DISCUSSIONS

Our results revealed the main challenges and the possible overcoming barriers to adolescent sexual and reproductive health education in the Kathmandu Valley. The main challenges are associated with three groups of barriers consisting of individual, socio-cultural and structural. The possible overcoming barriers are associated with preparedness, collaboration, societal involvement, and the governmental role.

Individual Barriers

According to the participants' experience, individual barriers were one of the major themes. Low perceived threats and unwillingness to teach were among the sub-themes of this barrier.

Our study revealed a deficient level of knowledge of CSE importance among participants and suggested the need to prioritise the topics of CSE and start it from an early age. Most participants wanted to exclude the curriculums related to sexual and reproductive health education below class 7 because of individual preferences and belief that such education leads to vulgarity. However, many CSE experts recommended starting sexual and reproductive health education as early as the age of five years. The WHO/Europe and the Federal Centre for Health Education standards for Sexuality Education in Europe designated different vital concepts of CSE according to the different ages of children. It also suggested extra training and support if the students are years behind in school, as age-specified content may not work for them (Haberland & Rogow, 2015). Similarly, our study also suggested prioritising those CSE topics and starting them from an early age.

Some participants held that one of the essential barriers to sexual and reproductive health education was the unwillingness to teach due to students' and teachers' un-comfortability while teaching those topics in the classroom. Additionally, they agreed on the comfort of teaching boys and girls separately by teacher's gender as different activities of students, such as sudden laughs, shyness, or frivolous nature of boys, create uncomfortable classroom environments. A study also revealed that boys in the classroom usually hamper free accessible communication by tending to make jokes about serious issues. However, the study highlighted that co-education teaching for sexual and reproductive health education has the advantage of confronting different gender norms in an open classroom environment. Furthermore, the study also showed that many

teachers are self-ignorant about sexual issues or shy to teach them. Another study in Tanzania also had similar findings of discomfort that the teachers felt during teaching most of the essential topics of sexual and reproductive health education and suggested the need to facilitate teachers with knowledge and skills (Mkumbo, 2012). These findings conform to the finding of this study. We could overcome those barriers by building alliances with competent health educators or teacher training courses (Sundby, 2006).

Our study also revealed a noticeable progression among students, especially girls, who had become more confident and franker in asking their queries. In addition, they had undergone self-realisation by guiding other illiterates or other women from their studied information. The findings of one study also have similar findings that school-based sexual and reproductive health education had benefitted school adolescents, although they had challenges at different levels (Achora, Thupayagala – Tshweneagae, Akpor & Mashalla, 2018). In addition, another study also mentioned the positive changes among students, such as improving children and adolescents' knowledge regarding sexual and reproductive health, developing positive attitudes, self-confidence, self-esteem and self-efficacy with good quality CSE (Wangamati, 2020).

Socio-cultural Barriers

The second extracted theme was socio-cultural barriers. Socio-cultural taboos and the mal performances of the family were subthemes of this theme. This study revealed that the main socio-cultural barriers are taboos surrounding sexuality and sexual education, such as stigma, misconceptions, embarrassment, and negative attitudes towards sexual issues. Several studies in different parts of the world have mentioned cultural challenges as a barrier to SRHE (MirzaiiNajmabadi, Karimi & Ebadi, 2019). There is evidence from Asia suggesting that the core values of society and the restrictions imposed by traditional culture restrict families from discussing sexual and reproductive health education with the youth, which results in the miss of opportunity to gain knowledge from their family (Sridawruang, Pfeil, & Crozier, 2010).

Discussing sexual and reproductive issues is even sometimes forbidden in the most liberal communities of Europe and Canada (MirzaiiNajmabadi et al., 2019). A study from sub-Saharan Africa showed that teachers' cultural and religious beliefs significantly influence the teaching methods or approaches that teachers choose to use (Wangamati, 2020). One study showed that cultural factors are the most critical sexual and reproductive health education barriers for

students (Kamalikhah & Karimi, 2012). Similarly, our study also mentioned that the social upbringing of students did not allow them to discuss such topics openly in the classroom or other areas. A study performed in South Africa indicated that socioeconomic status, cultural norms and religious beliefs influence students' or learners' attitudes towards receiving and acting on the knowledge obtained from school-based sexuality education (Adekola & Mavhandu-Mudzusi, 2022).

The study conducted in Tehran among male and female adolescents revealed that discussion over sexual and reproductive health issues is accompanied by embarrassment (Farahani et al., 2012). The same finding was obtained by a study conducted in Nepal on Nepali adolescents (Regmi et al., 2010). Such results indicate a need to focus more on content regarding the key factor 2.3 (culture, society and sexuality) of CSE in the curriculum. It makes students understand how social, cultural and religious factors influence considering acceptable or unacceptable behaviours in society (Women et al., 2018).

Some participants held that the misconceptions of parents or family caused one of the essential barriers to sexual and reproductive health education. Surprisingly, even educated families misguided their children by the family culture and beliefs. In a study, educated parents revealed that socio-cultural and religious inhibitions hindered them from providing meaningful sexual and reproductive health information to their pre-adolescents and adolescents children with socio-cultural and religious inhibition. Furthermore, they relied more on schoolteachers for meaningful SRHE (Mbugua, 2017). However, in another study, parents considered school an unsuitable place for offering SRHE, believing that such education needs to be delivered in the right environment by aunts and uncles instead of teachers (Wangamati, 2020).

Parental support issues act as barriers. Our study also mentioned that parents' harsh parenting and limited cooperation in school activities related to sexual and reproductive health education hinder students from sharing their queries. There is evidence of a high tendency of adolescents to learn about sexual and reproductive health education from their parents and also identified a need for sex and relationship education parent programs which intend to ensure that adolescents can reinforce the information taught in school in the family settings with the help of parents (Turnbull, Van Wersch, & Van Schaik, 2008). Additionally, another study also revealed that good communication between parents and children could result in a higher increment in the use of contraceptives and a lower number of teen pregnancies and negative attitudes towards sexual issues (Sridawruang et al., 2010). Furthermore, one study's findings

suggested facilitating collaboration between parents and educators of sexual and reproductive health education by implementing programs in the school academic calendar to empower parents as active and constructive partners. It can help address misconceptions, misinformation and concerns in students' homes regarding sexual and reproductive health education (Adekola & Mavhandu-Mudzusi, 2022).

Structural Barriers

The third extracted theme was structural barriers. This theme's sub-themes include executive barriers and educational system deficiency. Those sub-themes also have further subcategories. One study mentioned that they had structural barriers from parents, administration and restrictive policies while teaching about teen parenting, abortion, sexual violence, and sexual orientations (Eisenberg et al., 2013).

According to the sustainable development goals (SDG), Report 2022, 83 per cent of primary and secondary school teachers working in classroom rooms worldwide were trained (Sachs, 2022). However, the finding of our study revealed that participants received no formal or professional development training during those long periods of teaching. Our study revealed that most of the subjects' teachers teaching sexual and reproductive health education were from different educational backgrounds besides science and population. A study mentioned that sexual and reproductive health education is not only about biology or diseases but the integration of many fields of education, such as biology, physical education, humanity, social sciences, ethics, and health classes. These innovations work best if teachers are well-trained and prepared to tackle students' curiosity, shyness, and awkwardness (Sundby, 2006). Another study supported that subject teachers must receive training to build learners' knowledge, attitudes, and skills to promote their sexual health behaviours (Gibson, 2021). In addition, another study has similar findings with a focus on the need for continuous training of teachers about the fundamental concepts of school-based curriculum for delivering quality and effective sexual and reproductive health education (Adekola & Mavhandu-Mudzusi, 2022).

Our study mentioned the realisation of recruiting a lady teacher or health professionals like school nurses so that those topics could benefit students. The study done in Ghana reported that it is best to provide CSE and services to adolescents in school by health professionals as it was challenging for teachers to provide such education to adolescents (Tabong et al., 2018).

Some participants held that one of the barriers they faced to delivering effective CSE was the need for more development of instructional materials and supplies, such as prescribed videos, charts, and figures, along with the curriculum development from the governmental authorities. A study done in schools in four countries to analyse the challenges to implementing national CSE curricula found the need for comprehensive teaching resources as a compounding hurdle. The study also mentioned the need for an increment in distributing comprehensive CSE materials and teachers' training to meet adolescents' needs in all countries (Keogh, Leong, Motta, Sidze, Monzón, & Amo-Adjei, 2021). Simultaneously to improve the current status of adolescents' sexual and reproductive health, another study also suggested developing practical Information, Communication and Education (IEC) materials and curriculum (Regmi et al., 2010).

The revised guidance on comprehensive sexuality education has expanded the topics of early pregnancy, gender-based violence and unsafe abortion and its prevention. It has also guided building support and implementing programs, enhancing its concepts and learning objectives (Women et al., 2018). Our study indicated that the curriculum of school-based sexual and reproductive health education is theoretically based and includes minimal practical teaching content. It also emphasised the need for a separate textbook on sexual and reproductive health with detailed elaboration on the topics of SRHE. Similarly, a study in the United States showed that most states had no updates for ten years in teaching content of sexual and reproductive health education and suggested the need to improve comprehensive and appropriate content (Szucs, 2023).

The findings of one study indicated that lack of time is one of the essential structural barriers teachers experience while teaching the curriculum of sexual and reproductive health education (Eisenberg et al., 2013). This finding confirms the finding of our study. To reduce this barrier of rigid timing, a study suggested developing interdisciplinary curricula regarding sexual and reproductive health education that includes such topics in the lesson plans of multiple subjects such as science, social studies, history, and literature, which will cover more content of sexual and reproductive health despite time limitations (Eisenberg et al., 2013).

Measures to Overcome Barriers

This theme's sub-themes include preparedness, collaboration, societal involvement, and governmental role. This theme comprises teachers' perspectives on overcoming barriers to the effective delivery of SRHE. SDG 4 target 4. a aims to build and upgrade educational facilities which are gender sensitive and provide a safe and effective learning environment for all (UN, n.d.). Our findings also suggested for safe and effective learning environment by maintaining a good classroom environment, proper counselling, motivating students, and solving students' queries through appropriate approaches and continuous interactions. This also helps teachers fully prepare for delivering quality and effective sexual and reproductive health education. A study in Malaysia indicated mixed classes or mixed-sex classes as an obstacle to providing effective sexual and reproductive health education and suggested to form of single-sex classes in schools for conducting a good learning environment for both teachers and students (Kamrani & Yahya, 2016). This finding is like the finding of our study.

Additionally, a study done among middle school females concluded with the preference for more sex education by girls in single-sex classes (Hughes, 2006). Another study also showed that most girls and about one-third of boys from 13 co-educational schools preferred delivery for sexual and reproductive health education in single-sex groups or classes (Strange et al., 2003). Besides preferences, a study done to assess knowledge and curiosity about topics related to sexual and reproductive health showed that the single-sex classrooms had more direct questions about sex from the students (Charmaraman, Lee, & Erkut, 2012).

Our study revealed that motivating students with early warm-up classes or counselling about the importance of sexual and reproductive health education with various examples of day-to-day problems helped to deliver such education effectively. Physical punishments and early warnings to the students for not making any negative scenes in the classroom were also techniques used by teachers to take classes smoothly. Motivation plays a significant role in delivering information in the classroom. The study's findings indicated that students could prevent themselves from implementing the information on sexual and reproductive health they had achieved at the school if they lacked emotional and personal motivation (Adekola & Mavhandu-Mudzusi, 2022). Addressing students' queries is essential. Most participants suggested that anonymous writing questions and open discussion of those queries in the groups are the best approaches so all students could benefit from the same question. Such an approach of writing anonymously and submitting to teachers helped teachers plan to teach and enabled

students to ask questions more and influence the content of the curriculum. In addition, it also helped to improve teacher-student and peer-to-peer relations. It helped to provide flexibility to teachers to incorporate the personal queries of students into the curriculum while teaching (Hagay & Baram-Tsabari, 2015).

Our findings indicated that teachers receiving some training based on a collaboration of the school with different government and non-government organisations had felt very beneficial and more accessible in delivering SRHE. Besides training teachers, collaboration with stakeholders, such as religious or cultural leaders, could prevent adolescents from contradictory information, affecting the curriculum's key concepts of comprehensive sexual and reproductive health education (Adekola & Mavhandu-Mudzusi, 2022). Similarly, another study also focused on mobilising all those stakeholders by raising awareness of the importance of CSE, which helps to reduce hindrances to universal access to sexual and reproductive health education or information (Wangamati, 2020). Ensuring universal access to sexual and reproductive health - care services and integrating reproductive health into national strategies is the aim of SDG 3 target 3.7 (UN, n.d.).

The revised guidance on CSE has mentioned the evidence which shows the effectiveness of school-based SRHE on the integration of parents' and society or communities' involvement (Women et al., 2018). Societal participation in the effective delivery of sexual and reproductive health education plays a significant role in educating adolescents. Our findings emphasised that parental meetings and the involvement of society's women in various school programs are the best way to reach the community.

Early home education, i.e., father to son and mother to daughter, was emphasized in this study. One study showed that parents felt uncertainty and embarrassment for being sexual and reproductive health educators to their children. Most mothers tended to be good educators, whereas very few fathers shared their roles of educating children about sexual and reproductive health during their child's development (Walker, 2001). It is vital to ensure parents and key persons of society about the necessity of sexual and reproductive health education and gain their support for sexual and reproductive health education programs in schools (MirzaiiNajmabadi, Karimi & Ebadi, 2019). Our findings suggested various programs like awareness campaigns, seminars, and societal meetings for societal awareness. The multiple resources required for society's awareness about the impact of sexual and reproductive health education on adolescents' well-being and addressing misconceptions and mal performance

practised in the community need to be made available and extended to all the stakeholders of society in collaboration with local governing bodies, local schools, NGOs organisations and the private sectors (Adekola & Mavhandu-Mudzusi, 2022).

SDG 4.7.1 provides information about how the national education policies, curriculum, teachers' education, and student assessment evaluate mainstream education of sustainable development (UN, n.d.). To achieve these goals, the government plays a vital role which will automatically promote the quality of sexual and reproductive health education or CSE. Some participants held that the role of government is crucial in overcoming the barriers to the effective delivery of sexual and reproductive health education in school settings. Besides prioritising such topics and starting guidance early, our findings suggested conducting various age-based informative programs through media, dramas, or different platforms at different levels of the country.

The revised guidance on CSE has added safe and responsible use of the internet and social media as new content areas (Women et al., 2018). Some participants held that social media content positively and negatively impacts students. Social media is an interactive and attractive platform for resources and information about sexual and reproductive health with complete privacy and confidentiality (Adekola & Mavhandu-Mudzusi, 2022). A study in Hongkong revealed that new social media plays a significant role in learning in or outside school (Lu, Hao & Jing, 2016). However, another study indicated that inappropriate information posted on social media leads students to the wrong path (Ahn, 2011). Nepal government has developed guidelines, a directive using the authority given by Article 79 of the Electronic Transaction Act, 2063 BS on social media management as it was impossible to bring an Act. Based on the Internet and information technology, these guidelines should regulate systems such as Facebook, Twitter, Viber, WhatsApp, YouTube, and Instagram (Nepal Government, 2021).

One study focused on the examples of India and Nigeria indicated that advocacy is often a neglected component of school-based sexual and reproductive health education, especially in countries where sex and sexuality are politically and culturally sensitive. Adapting to new contexts and changes continuously is vital, which requires proper planning and budgeting. So, the findings suggested that the government must invest in advocacy for the success of national-level school-based sexual and reproductive health programs (Samuels et al., 2013).

Recommendations

- Nepal's government need to include critical concepts of CSE in the school curriculum from an early age of students by integrating age-appropriate information that accounts for the developing capacities of students.
- Nepal's government and educational institutions must provide support and training opportunities for students and subject teachers to deliver CSE of good quality.
- The educational institution needs to engage parents and local communities on different programs related to SRHE because such school-based programs become more effective if their initiatives complement it.
- The findings consist only of schoolteachers' perceptions, so there is a need to investigate adolescents' perceptions regarding barriers to sexual and reproductive health education in and outside school to gain the proper benefit of CSE.
- Need for further research on how the limited information regarding school-based sexual and reproductive health education has helped Nepalese adolescents to explore and encourage positivity towards their sexual and reproductive health and rights.
- Need for more research on the effectiveness of school-based national curriculum and implementation in Nepal along with teachers' effectiveness.
- UN co-publishers and their partners need to promote more on the revised Guidance on sexuality education within existing Nepal's educational sectors to scale up the national programs.
- Need for continued attention to key education inputs such as curriculum review and revision, teacher training and monitoring and evaluation of program delivery to ensure that all learners of Nepal benefit from the CSE of good quality.

CHAPTER 7: METHODOLOGICAL CONSIDERATIONS

Strengths of the Study

- The researcher gathered data through two methods, in-depth interviews and FGD, which helped to facilitate a deeper understanding of the research problems.
- The researcher used two sources: the principal and the subject teacher teaching sexual and reproductive health education. In-depth interviews with Principals of the school who developed a plan for school activities and schoolteachers teaching sexual and reproductive health education who carry out programs on the ground were also in FGD. It was thus beneficial to get comprehensive data from a range of individuals.
- There has not been any qualitative research conducted in Nepal that examines the perspectives of schoolteachers on barriers to adolescent sexual and reproductive health education. As a result, this study might enrich the existing knowledge on the subject and suggest other areas for further investigation.
- The analysis will be helpful for those interested in more careful engagement with CSE.
- The researcher participated in all phases of the study process, including the formation of the project, fieldwork, data analysis, interpretation, and thesis submission. Thus, this thesis maintained the coherence of the research.
- The researcher conducted the study in her home country, where the participants and researcher share a common language, making it more straightforward to understand the participants' body language and gestures while gathering data.
- The researcher tried to build positive relationships with participants and repeatedly assured them of confidentiality, making them easier to open up freely without any hesitations or obstacles in this study.
- The original plan was to collect data online to comply with travel restrictions due to COVID-19, but data were collected by travelling to Nepal. It was thus beneficial to complement the findings and better understand the context.

Limitations of the Study

- The researcher chose the participants purposefully, so that the selection process may have been biased.
- A limitation of this study was the small sample size which is common in every qualitative research.
- Implementing FGD of Principals could strengthen the data collected through their in-depth interview. Though all principals agreed to FGD, the researcher could not assemble them at the same place and time because of their busy schedules.

- Getting cooperation from many schools was difficult because of their time constraints. The researcher tried all possible modes, with enough explanations, to select the interested individuals to solve these problems.
- The information gathered through the in-depth interview and FGD concentrated on Nepal's Kathmandu Valley. Therefore, the results of this investigation may not be more generalisable across Nepal.

CHAPTER 8: CONCLUSION

The study concludes that the quality of sex and reproductive health education in Nepal is unsatisfactory due to inadequate preparation of teachers for such instructions, lack of adequate teaching materials and lack of parent and social support. In this respect, school-based sexual and reproductive health education is a specialised aspect of health promotion requiring detailed attention from its planning to delivery. The barriers such as individual, socio-cultural, and structural barriers to the proper delivery of CSE at school levels must be addressed to promote such education. Successful sexual and reproductive health promotion in classrooms requires practical teaching training and administrative budget planning to support them. The national curriculum needs to introduce CSE from an early age and cover all the contents of the revised guidelines on CSE to ensure universal access to sexual and reproductive health, education and rights and gender equality. Furthermore, educational activities must target teachers, enabling them to play a beneficial role in the sexual and reproductive health of the younger generation.

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APPENDICES

Appendix A: Statement from the Program Ethical Committee

UiO : Faculty of Medicine
University of Oslo

Niru Lama

Date: 14 July 2020

Statement from the Program Ethical Committee

The Program Ethical Committee have processed your application, number 8148973, about your project "Perception of Teacher's towards the barriers of adolescent's sexual and reproductive health knowledge".

The committee believe your project does not fall under the Norwegian Health Research Law (helseforskningsloven and forskningsetikkloven) and you do not need to apply to the Regional Committees for Medical and Health Research Ethic (REC). However, person sensitive information might be collected and therefore you need to apply to Norwegian Centre for Research Data (NSD) for approval.

If your project is to be conducted outside of Norway, you also need to submit the project to local authorities for approval.

Supervisors for Niru Lama's master project is:

- Heidi Fjeld, Associate professor at Institute of Health and Society at UIO

Sincerely yours

Elia John Mmbaga
Associate Professor, MD, PhD
Program leader
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Appendix B – Ethical Clearance from NSD

NSD NORSK SENTER FOR FORSKNINGSDATA

NSD's assessment

Project title

Barriers towards adolescent's sexual and reproductive health education in Nepal.

Reference number

670337

Registered

25.06.2020 av Niru Lama - nirul@uio.no

Data controller (institution responsible for the project)

Universitetet i Oslo / Det medisinske fakultet / Institutt for helse og samfunn

Project leader (academic employee/supervisor or PhD candidate)

Heidi Fjeld, h.e.fjeld@medisin.uio.no, tlf: 22850603

Type of project

Student project, Master's thesis

Contact information, student

Niru Lama, niru.lama@studmed.uio.no, tlf: 96755998

Project period

01.08.2020 - 31.12.2021

Status

31.08.2020 - Assessed

Assessment (1)

31.08.2020 - Assessed

Our assessment is that the processing of personal data in this project will comply with data protection legislation, so long as it is carried out in accordance with what is documented in the Notification Form and attachments, dated 31.08.2020, as well as in correspondence with NSD. Everything is in place for the processing to begin.

NOTIFY CHANGES
If you intend to make changes to the processing of personal data in this project it may be necessary to notify NSD. This is done by updating the Notification Form. On our website we explain which changes must be notified. Wait until you receive an answer from us before you carry out the changes.

Appendix – C Ethical Clearance from NHRC

Government of Nepal

Nepal Health Research Council (NHRC)

Estd. 1991

Ref. No.: 3402

Date: 13 June 2021

Ms. Niru Lama
Principal Investigator
University of Oslo
Norway

Ref: Approval of thesis proposal

Dear Ms. Lama,

This is to certify that the following protocol and related documents have been reviewed and granted approval by the Expedited Review Sub-Committee for implementation.

ERB Protocol Registration No.	801/2020		**Sponsor Protocol No**	NA
Principal Investigator/s	Ms. Niru Lama		**Sponsor Institution**	NA
Title	Perception of factors affecting the adolescent's sexual and reproductive health education among school teachers of Kathmandu, Nepal			
Protocol Version No	NA		**Version Date**	NA
Other Documents	1. Data collection tools 2. Acceptance letter from the study site		**Risk Category**	Minimal risk
Study Team Member	1. Assoc. Prof. Heidi Elisabeth Fjeld			
Expedited Review	Proposal	√	**Duration of Approval** 13 June 2021 to 13 June 2022	**Frequency of continuing review**
	Amendment			
	Re-submitted			
	Meeting Date: 10 June 2021			
Total budget of research	**Self-Funded**			
Ethical review processing fee	**NRs 10,000.00**			

Investigator Responsibilities :

- Any amendments shall be approved from the ERB before implementing them
- Submit progress report every 3 months

Tel: +977 1 4254220, Fax: +977 1 4262469, Ramshah Path, PO Box: 7626, Kathmandu, Nepal
Website: http://www.nhrc.gov.np, E-mail: nhrc@nhrc.gov.np

Appendix D – Information Sheet and Informed Consent (English and Nepali)

Are you interested in taking part in the research project,
"Barriers towards adolescent's sexual and reproductive health education in Nepal"?

This is an inquiry about participation in a research project whose main purpose is to explore the barriers to high-quality sexual and reproductive health education in Nepal. In this letter, we will give you information about the purpose of the project and what your participation will involve.

Purpose of the project

My name is Niru Lama, and I am a student in the master's programme in *International Community Health* at the University of Oslo. As part of this master's programme, I am conducting a research project to map reproductive health education in schools in Kathmandu Valley, discuss the educational sector's role, and identify possible ways to organize reproductive health education. The project focuses on subject teachers' and school principals´ perception of, and experience with, barriers to adolescents' sexual and reproductive health knowledge in the Kathmandu Valley.

This research may help to identify possible measures to overcome barriers to high-quality sexual and reproductive health education programs for adolescents in Nepal.

Who is responsible for the research project?

The University of Oslo is the institution responsible for the project.

Why are you being asked to participate?

We are recruiting five principals of secondary or higher secondary schools in Kathmandu Valley

What does participation involve for you?

You will be interviewed in-depth if you choose to participate in the project. It will take approximately 30 minutes. Due to travel restrictions, the interview will be conducted with the help of a digital platform (zoom or equivalent). You will be asked to describe how sexual and reproductive health information is delivered in your school and questions related to your option about the role of the educational sector in teaching sexual and reproductive health to

adolescent students. The interview will be recorded and transcribed and will also be anonymized.

Participation is voluntary

Participation in the project is voluntary. If you choose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. You will have no negative consequences if you choose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data

We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and follow data protection legislation (the General Data Protection Regulation and Personal Data Act).

The University of Oslo is responsible for this project. I will only access your personal information, including your birth, residence area and working area, which will be replaced with the codes. All information will be treated confidentially. The technical implementation of the study is conducted by the university server's data processor, "ZOOM". The recorded interview will be directly transferred to the University of Oslo´s secure computer solution – Services of Sensitive Data (TSD) – and the identification key will also be stored safely on a research server. Only I can access the recording and non-anonymized data that matches your names to the coded numbers. Your personal information and respective codes will be stored separately from the other collected data on a research server. Anonymized transcriptions will be shared with supervisors only. Your personal details can be published in publications with no inclusion of direct recognition of yours.

What will happen to your personal data at the end of the research project?

The project is scheduled to end by 31st December 2021. After this all the personal data, sound and digital recordings will be deleted.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you

- request that your personal data be deleted
- request that incorrect personal data about you be corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with UiO, NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- Heidi Fjeld, Associate professor, heidi.fjeld@medisin.uio.no, +4722850603,
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Yours sincerely,

Heidi Fjeld
Associate Professor
(supervisor)

Student (Niru Lama)

Consent form

I have received and understood information about the project "**Barriers towards adolescent's sexual and reproductive health education in Nepal."** and have been given the opportunity to ask questions. I give consent:

☐ to participate in in-depth interview

I consent for my personal data to be processed until the project's end date, approx. 31st December 2021.

(Signed by participant, date)

नमस्कार!

के तपाई यस अनुसन्धान परियोजना “नेपालमा किशोर किशोरीहरुको यौन तथा प्रजनन् स्वास्थ्य शिक्षाका अवरोधहरु “ मा सहभागी हुन इच्छुक हुनुहुन्छ?

यो एक अनुसन्धान परियोजनामा सहभागीता सम्बन्धि प्रश्नोत्तर हो, जसको उदेश्य नेपालमा किशोर किशोरीहरुको गुणस्तरीय यौन तथा प्रजनन् स्वास्थ्य शिक्षाका अवरोधहरु पत्ता लगाउने हो। यस पत्रमा हामी तपाईलाई यस अनुसन्धान परियोजनाका उदेश्यहरु र तपाईको सहभागीता सम्बन्धी बिषयको बारेमा जानकारी दिनेछौं।

परीयोजनाका उदेश्यहरु

मेरो नाम निरु लामा हो। म नर्वे स्थित ओस्लो विश्वबिद्यालयको स्नातोकोत्तर तहमा "अन्तराष्ट्रिय सामुदायिक स्वास्थ्य" बिषयको विद्यार्थी हुँ।
यस स्नातोकोत्तर कार्यक्रम अन्तर्गत म एउटा अनुसन्धान परियोजना संचालन गर्दैछु, जसको उदेश्य काठमाडौं उपत्यकाका बिद्यालयहरुमा प्रजनन् स्वास्थ्य शिक्षाको अवस्थाको बारेमा जानकारी लिनु, शिक्षा क्षेत्रको भूमिका बारे छलफल गर्नु तथा प्रजनन् शिक्षा प्रदान गर्ने बैकल्पिक उपायहरु पत्ता लगाउनु रहेको छ। यो परियोजना काठमाडौं उपत्यका भित्रका बिद्यालयका शिक्षक र प्रधानध्यापकहरुको यौन तथा प्रजनन् स्वास्थ्य शिक्षाका समस्याहरु सम्बन्धी धारणा तथा अनुभवहरु तथा ज्ञानका बारेमा मा केन्द्रित रहने छ।
यो अनुसन्धान नेपालका किशोर किशोरीहरुको यौन तथा प्रजनन् स्वास्थ्य शिक्षा कार्यक्रम संग सम्बन्धित संभावित समस्याहरुको समाधान गर्न सहयोगी हुनेछ।

यो अनुसन्धान परियोजनाका बारेमा को जिम्मेवार छ?

यस अनुसन्धान परियोजनाको बारेमा नर्वे स्थित ओस्लो विश्वबिद्यालय सम्पूर्ण रुपमा जिम्मेवार छ।

तपाईलाई किन यस अनुसन्धान परियोजनामा सहभागी हुन भनिएको हो?

हामीले काठमाडौं उपत्यका भित्रका माध्यमीक तथा उच्च माध्यमीक बिद्यालयहरु मध्य बाट १७ जना शिक्षकहरुलाई यस पारियोजनाको लागी छनौट गर्दैछौं। त्यसैले तपाइलाई पनि यस अनुसन्धान परियोजनामा सहभागी हुनका लागी भनिएको हो।

तपाई यस परियोजनामा सहभागी हुनु भन्नको अर्थ के हो?

यदि तपाई यस परियोजनामा सहभागी हुन मन्जुर हुनुभयो भने तपाईलाई म संग एउटा गहन अन्तरवार्तामा सहभागी हुन भनीनेछ। जसका लागी करीब आधा घण्टाको समय लाग्नेछ। यात्रामा लागेको प्रतिबन्धको कारणले गर्दा यस अन्तरवार्ता जुम अथवा यस्तै कुनै अप्रत्क्ष रुपमा सहभागी हुन मिल्ने प्रविधीको प्रयोग गरेर गरीनेछ। जसमा तपाईलाई तपाइको बिद्यालयमा यौन तथा प्रजनन् स्वास्थ्य सम्बन्धी शिक्षा कसरी दिइन्छ का साथै यौन तथा प्रजनन् स्वास्थ्य शिक्षाको सिकाईका लागी शिक्षा क्षेत्रको भुमिकाको सम्बन्धमा तपाईको धारणाको बारेमा प्रश्नहरु सोधीनेछ। यस अन्तरवार्तालाई रेकर्ड तथा मुद्रण गरीनेछ र गोप्य राखीनेछ।

स्वैच्छिक सहभागीता
यस अनुसन्धान परियोजनामा तपाईको सहभागीता स्वैच्छिक हुनेछ। यदि तपाईलाई कुनै पनि बेला यस अनुसन्धान परीयोजनामा सहभागी नहुने इच्छा लागेमा कुनै पनि कारण नदेखाईकन आफ्नो सहभागीता रद्द गर्न सक्नुहुनेछ। तपाईका सम्पुर्ण विवरणहरु गोप्य राखीनेछ। तपाई यस अनुसन्धान पारियोजनामा सहभागी हुन नचाहनुभएको खण्डमा अथवा बिचैमा आफ्नो सहभागीता रद्द गर्नुभएको खण्डमा पनि तपाईलाई कुनै किसीमको नकारात्मक असर पर्नेछैन।

तपाइँको व्यक्तिगत गोपनीयता: हामी तपाईका व्यक्तिगत विवरणहरुलाई कसरी भण्डारण तथा प्रयोग गर्छौं?
तपाईको व्यक्तिगत जानकारीहरु यस जानकारी पत्रको अघिल्लो भागमा भनिए अनुरुपका उद्देश्यहरुका लागी मात्र प्रयोग गरीनेछ। हामी तपाईका व्यक्तिगत जानकारीहरु गोपनियताका साथै व्यक्तिगत विवरण सुरक्षा कानुनको अधिनमा रहेर प्रयोग गर्नेछौं। ओस्लो बिश्वबिद्यालय यस अनुसन्धान परियोजनाको लागी जिम्मेवार हुनेछ। तपाईको जन्म मिती, बसाई र कार्यक्षेत्र लगायतका व्यक्तिगत जानकारीहरुमा मात्र मेरो पहुँच हुनेछ, जसलाई विशिष्ट संकेतहरु द्वारा प्रतिस्पाधन गरिनेछ। सम्पूर्ण जानकारीहरुलाई गोपनियताका साथ प्रयोग गरिनेछ।
यस अध्ययनको प्राविधिक कार्यन्वयन बिश्वबिद्यालयको जुम डाटा प्रोसेसर सर्भर द्वारा गरीनेछ। रेकर्ड गरीएको अन्तर्वार्तालाई सिधै ओस्लो बिश्वबिद्यालयको सुरक्षीत कम्प्युटर प्रणालीमा स्थानान्तरण गरीनेछ र पहिचान संकेतलाई अनुसन्धान सर्भरमा सुरक्षीत रुपमा राखीनेछ। रेकर्ड गरीएको र गोप्य नबनाईएको जानकारीहरुमा मेरो मात्रै पहुँच हुनेछ जसमा तपाइको नाम संकेत नम्बर संग मिल्नेछ। तपाइको व्यक्तिगत जानकारीहरु र संकेत नम्बर अन्य विवरण भन्दा अलग्गै अनुसन्धान सर्भरमा राखीनेछ। गोप्य बनाईएको विवरणको प्रतिलिपीमा अनुसन्धान पर्यवेक्षकहरु लाई मात्र पहुँच दिइनेछ।

तपाइको परीचय गोप्य राखेर तपाईका व्यक्तिगत जानकारीहरु प्रकाशित गर्न पनि सकीनेछ।

परियोजनाको अन्तमा तपाईका व्यक्तिगत जानकारीहरु के गरीनेछ?
यस अनुसन्धान परियोजनाको समयावधी ३१ डिसेम्बर २०२१ सम्म रहनेछ। त्यस पश्चात तपाईका सम्पूर्ण व्यक्तिगत जानकारीहरु, आवाज तथा रेकर्ड गरीएका सामाग्रीहरु नष्ट गरीनेछ।

हामीलाई तपाइको व्यक्तिगत जानकारीहरु प्रयोग गर्ने अधिकार कसरी प्राप्त हुनेछ?
तपाइको अनुमती लिएर हामी तपाइको ब्यक्तिगत जानकारीहरु प्रयोग गर्नेछौं।

ओस्लो विश्वविद्यालय, NSD संगको सम्झौतामा आधारीत, यस अनुसन्धान परियोजनामा ब्यक्तीगत जानकारीको प्रयोग डाटा सुरक्षा कानुन अनुरुप छ भनी The Norwegian Center for Research Data AS द्वारा परीक्षण गरिएको छ।

यस बिषयमा अधिक जानकारी कहाँ पाउन सकिन्छ?

यदि तपाईलाई यस अनुसन्धान परियोजनाको बारेमा कुनै प्रश्न छ अथवा आफ्नो अधिकारको प्रयोग गर्न चाहनुहुन्छ भने सम्पर्क:

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भवदीय,
Heidi Fjeld, सहप्राध्यापक – पर्यवेक्षक
विद्यार्थी: निरु लामा

सहमती फारम

मैले "नेपालमा किशोर किशोरीहरुको यौन तथा प्रजनन् स्वास्थ्य शिक्षाका समस्याहरु" परीयोजना बारेमा जानकारी प्राप्त गरें र बुझेर मलाई प्रश्नहरु सोध्ने बिषयमा सहमती जनाएँ।

☐ सघन अन्तर्वार्तामा सहभागी हुन।

☐ सघन सामुहिक अन्तर्वार्ता वा अन्तर्क्रियामा सहभागी हुन।

मेरा व्यक्तिगत विवरणहरु २०२१ डिसेम्बर ३१ सम्म प्रयोग गर्नको लागी सहमती जनाउँछु।

सहभागीको हस्ताक्षर र मिति

Appendix E – Interview Guides (English and Nepali)

Interview Guide of Subject Teachers

Background information

- How long have you been in the teaching field?
- How long have you been teaching grade 9 and grade 10?
- How many working places have you changed until now?
- Have you ever encountered the dropout of students because of marriage, pregnancy, or any other causes in the last few years?

  Past Experiences
- How was your experience of receiving sexual reproductive knowledge during your adolescent age? *How did teachers approach students? were all your queries answered? How did you approach teachers?*
- What do you feel about those teaching experiences? *Do those teaching experiences influence you? How?*

  Present Experience
- Have you ever resisted teaching this reproductive health information by cultural norms and religious beliefs? How?
- How are classes organized in school? *Is there any specific school protocol for the classes on sexual and reproductive health knowledge? what arrangements are priory prepared before classes, and how are adolescent students' different reactions handled during these classes? How do you act in those situations?*
- What approach do you apply while teaching issues on sexual reproductive health in school? *How did you develop the approach + Do you think it works well? How and why not? How do you feel when using this approach?*

  Barriers
- How do you define barriers to facilitating good reproductive health education or information?
- What do you think for the overcome of the barriers to adolescents' reproductive health knowledge? *How do you define your role in addressing the stigma and taboo under menstruation?*

- How do you define the role of educational sectors in the reproductive health knowledge of adolescents? *How can reproductive health knowledge be organized within or outside the school curriculum?*

Interview Guide of Principals

Background information

- How long have you been working as the principal of the school?
- How many working places have you changed until now?
- Have you ever encountered the drop out of students because of marriage, pregnancy, or any other causes in the last few years?

Experiences

- How is reproductive health information delivered in your school settings? *is there any interaction with parents and students about the importance of such education? How or why not?*
- What are your experiences regarding the effect of including reproductive health information in the school curriculum? *how did the teachers and students react to the need for special training for teaching such subjects? what do you think that reproductive health information should be included in the school curriculum from grade 8 or lower grades? If yes, how and if no, why?*

Barriers and future perspectives

- What do you think about overcoming the barriers to adolescents' reproductive health knowledge? *Have you initiated awareness programs on the importance of sexual and reproductive health knowledge at the school or in society? if yes, how and if no, why?*
- What do you think about the role of educational sectors in the reproductive health knowledge of adolescents? *what do you think about organizing the course content of reproductive health education broadly within the school educational system or not?*

FGD Guide of Subject Teachers

Inclusion of reproductive and sexual health education (SRHE) in the school curriculum

- How do you feel about including reproductive and sexual health education in the school curriculum? *Are all the necessary topics covered in the curriculum? Do you think any content is not to be included or to be added to the curriculum for adolescents? Why and why not?*

  An effective way to deliver SRHE

- What do you think about how sexual and reproductive knowledge can be delivered to adolescents effectively from school? *Is it applicable, durable and how? Have you tried it anyways and found it effective? How to assess their effectiveness?*

  Barriers

- What are the main barriers towards adolescent reproductive and sexual health education in Nepal?
- Which one among several barriers has restricted you from delivering effective education, why and how?
- What do you think for the overcome of the barriers towards adolescents' reproductive and sexual health education? *Why and how?*

अन्तर्वार्ता सम्बन्धि विवरण

पृष्ठभूमि

- तपाईं अध्यापन पेशामा कति लामो समय देखि आवद्ध हुनुहुन्छ?

-तपाईं कक्षा ९ र कक्षा १० को शिक्षकका रुपमा कहिले देखि कार्यरत हुनुहुन्छ?

-तपाईंले अहिले सम्म कतिवटा विद्यालयहरुमा पढाउनु भएको छ?

-गएका वर्षहरुमा विवाह, गर्भवती, वा अन्य कुनै कारणले विद्यालय छोडेका विधार्थीहरु बारे तपाईं जानकार हुनहुन्छ?

यस अघिको अनुभव

-तपाईंले आफ्नो किशोरावस्थामा यौन तथा प्रजनन स्वास्थ्य सम्बन्धि शिक्षा प्राप्त गरेको सम्झना छ? *त्यतिखेर शिक्षकहरुले विद्यार्थीसंग कसरि सो विषयमा कक्षामा प्रस्तुत हुन्थे? तपाईंका ती बेलाका सबै जिज्ञासाहरु समाधान भएका थिए? तपाईंले शिक्षकसंग आफ्नो जिज्ञासा कसरि राख्नु हुन्थ्यो?*

-त्यसबेलाको शिक्षण विधि बारे अहिले तपाईं कस्तो महसुस गर्नु हुन्छ? *त्यति बेलाको शिक्षण विधि अहिले तपाईंका निम्ति कति प्रेरक भएको छ?*

वर्तमान अनुभव

-तपाईंसंग जोडिएको संस्कृति र परम्पराका कारण यौन तथा प्रजनन स्वास्थ्य सम्बन्धि शिक्षण गर्न नकारेको कुनै अनुभव छ? छ भने तपाईंको अनुभव बताईदिनु होस्।

-तपाईंको विध्यालयमा कक्षाहरु कसरी व्यवस्थापन गरिन्छन? *यौन तथा प्रजनन स्वास्थ्य शिक्षणका निमित्त कुनै छुट्टै मापदण्ड बनाइएको छ? सो विषयको कक्षा लिनु पुर्व कुनै तयारी गरिन्छ? कक्षामा किशोर-किशोरीहरुको जिज्ञासा कसरि समाधान गर्नु हुन्छ?*

-यौन तथा प्रजनन स्वास्थ्य सम्बन्धि विषय पढाउँदा तपाईं कुन शिक्षण विधि प्रयोग गर्नु हुन्छ? *तपाईंले सो विधि समन्धी शिक्षा कसरि हाँसिल गर्नु भयो? तपाईंले हाल प्रयोग गरिरहेको शिक्षण विधिले प्रभावकारी भए जस्तो लाग्छ?*

शिक्षणका कठिनाईहरु

-यौन तथा प्रजनन स्वास्थ्य सम्बन्धि शिक्षणबाट किशोर-किशोरीहरुको चेतना अभिवृद्धिमा उत्कृष्ट नतिजा हाँसिल गर्न के-कस्ता कठिनाईहरु महसुस गर्नु भएको छ?

-तपाईंले ती कठिनाइहरु कसरी समाधान गर्नु भएको छ? *रजस्वला सम्बन्धमा रहेका गलत बुझाइ र सोचहरुमा परिवर्तन ल्याउन कस्तो उपाय अवलम्बन गर्नु भएको छ?*

-किशोर-किशोरीहरुका निम्ति यौन तथा प्रजनन स्वास्थ्य सम्बन्धि शिक्षा प्रदान गर्न शैक्षिक संस्थाहरुमा हुने शिक्षण कत्तिको प्रभावकारी छ? *यौन तथा प्रजनन स्वास्थ्य समबन्धि चेतना अभिवृद्धि गर्न विद्यालय भित्र र वाहिरको अभ्यासलाइ अझ कसरी परिष्कृत र प्रभावकारी बनाउन सकिएला ?*

अन्तर्वार्ता सम्बन्धि विवरण

पृष्ठभूमि

- तपाईं यस विद्यालयमा कहिले देखि प्रधानाध्यापक हुनुहुन्छ?

-तपाईंले अहिले सम्म कतिवटा विद्यालयहरुमा काम गर्नु भएको छ?

-गएका वर्षहरुमा विवाह, गर्भवती, वा अन्य कुनै कारणले विद्यालय छोडेका विधार्थीहरु बारे तपाईं जानकार हुनहुन्छ?

यस अघिको अनुभव

-तपाईं कार्यरत विद्यालयमा प्रजनन स्वास्थ्य सम्बन्धि शिक्षा प्रदान गर्ने कुनै निश्चित विधि विकास गरिएको छ? *सो शिक्षाको महत्त्व बारे अविभावक र विद्यार्थीहरुसंग कुनै छलफल गर्नु भएको छ ?*

-यौन तथा प्रजनन स्वास्थ्य शिक्षा पाठ्यक्रममा समावेश गर्दाको प्रभाव बारे तपाईंको अनुभव कस्तो छ? *सो विषयको शिक्षणका लागि शिक्षक तथा विद्यार्थीहरुलाई विशेष तालिम प्रदान गर्न कुनै प्रयास गर्नु भएको छ ? कक्षा ८ तथा तल्ला कक्षाहरुको पाठ्यक्रममा यौन तथा प्रजनन स्वास्थ्य शिक्षा समावेश गर्न उपयुक्त ठान्नुहुन्छ ? हो भने किन, र होइन भने किन ?*

शिक्षणका कठिनाईहरु

-यौन तथा प्रजनन स्वास्थ्य सम्बन्धि शिक्षणबाट किशोर-किशोरीहरुको चेतना अभिवृद्धिमा उत्कृष्ट नतिजा हाँसिल गर्न के-कस्ता कठिनाईहरु महसुस गर्नु भएको छ? *यौन तथा प्रजनन स्वास्थ्य शिक्षाको महत्त्व बारे विद्यालय तथा सामुदायिक स्तरमा सचेतना सम्बन्धि कुनै प्रयास गर्नु भएको छ ?*

-किशोर-किशोरीहरुका निम्ति यौन तथा प्रजनन स्वास्थ्य सम्बन्धि शिक्षा प्रदान गर्न शैक्षिक संस्थाहरुमा हुने शिक्षणको भूमिका कस्तो छ? *विद्यालयको शिक्षण गतिविधि अन्तर्गत यौन तथा प्रजनन स्वास्थ्य शिक्षा सम्बन्धि पाठ्यवस्तु कसरी व्यवस्थापन गर्नु हुन्छ ?*

अन्तर्वार्ता सम्बन्धि विवरण

- **विद्यालय शिक्षा पाठ्यक्रममा यौन तथा प्रजनन स्वास्थ्य शिक्षाको समायोजन**

-पाठ्यक्रममा यौन तथा प्रजनन स्वास्थ्य शिक्षा समावेश गर्नु पर्ने विषयमा तपाईंको धारणा कस्तो छ? *के सबै विषयहरु पाठ्यक्रममा समावेश छ? पाठ्यक्रममा समावेश गर्न नमिल्ने कुनै त्यस्ता यौन तथा प्रजनन सम्बन्धि विषयहरु पनि छन् ? ती विषय किन समावेश गर्न मिल्दैन?*

- **यौन तथा प्रजनन स्वास्थ्य शिक्षा प्रदान गर्ने उत्तम उपाय**

-तपाईंको विचारमा प्रभावकारी ढंगले यौन तथा प्रजनन स्वास्थ्य शिक्षा प्रदान गर्ने उपायहरु के के हुन सक्छन? *तपाईंले प्रयोग गर्ने गरेको शिक्षण विधि कत्तिको प्रभावकारी पाउनु भएको छ ?*

- **शिक्षणका कठिनाईहरु**

-यौन तथा प्रजनन स्वास्थ्य सम्बन्धि शिक्षणबाट किशोर-किशोरीहरुको चेतना अभिवृद्धिमा उत्कृष्ट नतिजा हाँसिल गर्न के-कस्ता कठिनाईहरु महसुस गर्नु भएको छ?

-तपाईंले महशुस गर्नु भएका अप्ठेराहरु मध्य कुनले शिक्षा प्रदान गर्न कठिन बनाएको छ? किन र कसरी?

-तपाईंले ती कठिनाइहरु समाधान गर्न केही सोच्नु भएको छ? *किन र कसरी ?*