

**CAREGIVER'S KNOWLEDGE, PERCEPTION AND MITIGATION
STRATEGIES TOWARDS TEENAGE PREGNANCY PREVALENCE
IN SIAYA COUNTY, KENYA**

BY

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DECLARATION

I hereby declare that this thesis is my original work and has not been presented for examination or award of degree in any other university.

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DEDICATION

This work is dedicated to my lovely mother, Hedwig Allseits and to my son Myles Arthur Ochieng for their prayers, encouragement and moral support.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	: Acquired Immunodeficiency Syndrome
ANC	: Antenatal Care
ASRH	: Adolescent Sexual and Reproductive Health Policy
HIV	: Human Immunodeficiency Virus
JOOTRH	: Jaramogi Oginga Odinga Teaching & Referral Hospital
JOUST	: Jaramogi Oginga Odinga University of Science and Technology
KDHS	: Kenya Demographics and Health Survey
KNBS	: Kenya National Bureau of Statistics
KPSA	: Kenya Population Situation Analysis
MOEST	: Ministry of Education, Science and Technology
NACOSTI	: National Commission for Science, Technology & Innovation.
NCPD	: National Council for Population and Development
SID	: Society for International Development
SPSS	: Statistical Package for Social Science.
SRH	: Sexual and Reproductive Health
STDs	: Sexually Transmitted Diseases
UNFPA	: United Nations Population Fund
WHO	: World Health Organization

OPERATIONAL DEFINITION OF TERMS

Attitude	: “A settled way of thinking or feeling about something. An attitude can also be defined as an organized predisposition to respond favourably or unfavourably toward a specified class of objects” (<i>Oxford dictionary, 2019</i>).
Belief	: “Conviction of the truth of some statement or the reality of some being or phenomenon especially when based on examination of evidence” (<i>Oxford dictionary, 2019</i>).
Knowledge	: “The facts, feelings or experiences known by a person or group of people; awareness, consciousness, or familiarity gained by experience or learning; specific information about a subject” (<i>Collins English dictionary, 2015</i>).
Perception	: The way that someone thinks and feels about phenomena (<i>Oxford dictionary, 2019</i>). “In this case teenage pregnancy. However, in this study perception will be defined in terms of knowledge, attitude and belief as key building blocks.”
Sexuality	: It is a fundamental component of being human throughout life and includes sexuality, gender, orientations, and responsibilities as well as sexual preference, relationships, and procreation.
Teen	: The years of a persons' life between the ages 12 and 19 years (<i>CDC, 2019</i>).
Teenage pregnancy	: Is a pregnancy that happens to a lady who is under 20 years old.
Teenager	: A person aged 10 to 19 years (<i>CDC, 2020</i>).
Young teens	: A person between the ages of 12 to 14 years(<i>CDC, 2019</i>).
caregiver	: A “This is the child’s parent, guardian, relative or other non-paid parental figure that provides the direct care of the child/teenager” (<i>Primary Caregiver Definition: 866 Samples / Law Insider, n.d.</i>)

ABSTRACT

Teenage pregnancy is the percentage of pregnant women aged 19 years or younger in a given period of time. It affects an estimated 21 million pregnancies each year in LMICs, of which approximately 50% were unintended and which resulted in an estimated 12 million births. In Africa, the rate of teenage pregnancy is 118 per 1000 females with 700,000 mortalities each year. In Kenya, the prevalence of teenage pregnancy is 15% while 21% in Siaya County. The high percentage in teenage pregnancy prevalence is attributed by factors such as peer pressure, poverty, lack of stable family structure, cultural practices, and lack of education on sexuality among others. In mitigation of teenage pregnancy, caregivers play a critical role which is closely linked to their perceptions and knowledge of teenage pregnancy. Gaining an understanding of caregiver perception and knowledge regarding teenage pregnancy and their role in mitigating the issue could help inform the development of effective interventions and policies. Studies specifically focusing on caregiver's knowledge, perceptions and mitigation strategies in Siaya County have been lacking. Therefore the goal of this study was to determine caregiver's knowledge, perceptions and mitigation strategies towards teenage pregnancy prevalence in Siaya County. The specific objectives were to determine the prevalence of teenage pregnancy, determine the knowledge of caregiver towards teenage pregnancy, to determine the perception of caregiver's towards teenage pregnancy and to establish the strategies put in place by caregivers in the mitigation of teenage pregnancy and to determine the association between caregiver socio-demographic attributes and teenage pregnancy prevalence in Siaya County. A cross-sectional study design was employed in this study. Pre-tested questionnaires and Key Informant Interview guide were used to collect data. A multi-stage cluster sampling technique was used to select a total of 319 households, while purposive sampling was used to select 6 key informants who participated in the study. Descriptive statistics and Chi-square test of independence were used to analyse quantitative data with the aid of SPSS version 23. Qualitative data were thematically analysed by using Nvivo software. The study findings revealed that the majority of caregivers displaying knowledge on teenage pregnancy based on a five-point Likert scale while had experience with a pregnant teenager. Caregivers generally held negative perceptions of teenage pregnancy but expressed positive perception towards perceived mitigation strategies, as indicated by weighted averages. Although caregivers agreed with practicing some of mitigation strategies, they disagreed with others. Additionally, the study findings demonstrated that no statistically significant relationships were found between gender ($P=0.218$), age ($P=0.665$), marital status ($P=0.752$), occupation status ($P=0.866$), education level ($P=0.113$), and teenage pregnancy prevalence. Religion ($P\leq 0.050$), on the other hand, exhibited a significant influence on teenage pregnancy prevalence in Siaya County. The results of this study provide valuable insights into caregiver perceptions of teenage pregnancy and the mitigation methods they employ. The findings will also inform the in informing policies and interventions that address teenage pregnancy, which could also help to identify best practices, challenges, and gaps in mitigating the problem.

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Teenage pregnancy is the percentage of pregnant women aged 19 years or younger in a given period of time (WHO, 2022). According to World Health Organization (WHO) of 2016, analysis estimates that 16 million females between the ages of 15 and 19 get pregnant each year. Additionally, developing countries account for 95% of all adolescent pregnancies (Ayele et al., 2018). Moreover, the average adolescent pregnancy rate in industrialized nations was 29 births per 1000 girls; however, it was as high as 133 births per 1000 in undeveloped countries. Furthermore, the rate in Africa is 118 per 1000 females. Similarly, about 70,000 female teens die each year in Africa (Sully et al., 2019). Several demographic, behavioural, family and societal factors have been linked to teen pregnancy (Ochen et al., 2019). These include peer pressure among teenagers, poverty, lack of stable family structure, cultural practices like early teenage marriages, lack of education on sexuality, having an elder sister with a history of teenage pregnancy, being unaware of fertile period during the menstrual cycle (Mezmur et al., 2021), early sexual activity (Alukagberie et al., 2023), early initiation of drinking or smoking and lack of contraceptive use (Bennetsen et al., 2023).

Caregivers play a pivotal role in mitigating teenage pregnancy, and this role is closely linked to their perceptions and knowledge (Emelumadu et al., 2014). Caregivers who possess accurate and comprehensive knowledge about the implications of early pregnancy are better equipped to engage in open and informed conversations with teenagers. This can lead to adolescents becoming more aware of the potential consequences of their actions and choices since teenagers are likely to value their family's perception on sexual behaviour and childbearing (Skosana et al., 2020). According to a study by Bah, (2016), teenagers who gave birth believed their family supported them, while those who abstained believed their family was against it. Furthermore, the perceptions that caregivers hold about teenage pregnancy can profoundly affect their proactive approach to addressing the issue. When caregivers hold negative views about teenage pregnancy and express disappointment towards their pregnant daughters, they might not prioritize discussions about safe sex practices and pregnancy prevention within the household. This, unfortunately, creates a conducive environment for the occurrence of

teenage pregnancy (Tryphina Skosana et al., 2020). Teenage pregnancy is often associated with increased risk of maternal and child death, low birth weight, and poor health outcomes for both the mother and the child (Yah et al., 2020).

In Kenya, teenage pregnancy is a significant problem, with approximately one in five teenage girls having experienced pregnancy by the age of 19, and is widely perceived as a negative thing by the society (KNBS, 2023a, Ayieko et al., 2023) . In Siaya, teenage pregnancy is often seen as a sign of poor family planning and lack of education, and it is considered a major barrier to social and economic development (Omororo et al., 2017). Siaya is one of the counties with the highest rates of teenage pregnancy in Kenya, with approximately 21% of teenage girls having experienced pregnancy by the age of 19 as compared to neighbouring counties such as Kisumu (11.1%),Kakamega (15.1%) and Busia (18.3%) (KNBS, 2023a). Moreover, according to the Kenya Demographic and Health Survey, (2014), a person in Kenya makes their sexual debut around 15, and the same is true for teen pregnancies, while in Siaya County, by the age of 17, half of the County's women (20-49 years old) and men (20-54 years old) had their first sexual experience. One in five (17%) females between the ages of 15 and 19 have started having children. 3.6 % of women expect their first child, and 13.6% have already given birth, compared to 3.4% and 14.7% nationally. The adolescent birth rate (age-specific fertility rate) for females in Siaya County is 97 births per 1000 girls, which is higher than the national average of 96 (AFIDEP, 2015). This is a cause for concern as teenage pregnancies often result in school dropouts and only 2% of teenagers return to school and early marriages, which exacerbate the cycle of poverty in the county (KNBS, 2023b).

The Kenyan government has implemented strategies to mitigate teenage pregnancy (Adolescent Sexual and Reproductive Health Policy, 2015). One of the measures is the provision sex education in schools, better awareness of the contraceptives and enhanced prosecution of the perpetrators (Sully et al., 2019). However, the number of girls involved is still huge and leads to affected girls missing opportunities in life. Another strategy is to provide access to affordable and quality reproductive health services, which includes contraception and access to safe abortion services through the establishment of youth-friendly clinics that provide confidential and non-judgmental services to teenagers

(Kenya Youth Policy, 2018). Moreover, community-based interventions have been implemented to prevent teenage pregnancy (Kumar et al., 2018). Religious leaders too have been involved in addressing teenage pregnancy issue by promoting abstinence, which is one of the preventive measures (Taylor et al., 2021). These interventions have been focused on promoting positive social norms, reducing gender-based violence, and enhancing communication between parents and teenagers but have not worked effectively in prevention of teenage pregnancy in Kenya (NCPD, 2021). Siaya County established interventions and strategies such as the formation of a Multi-sectorial teenage pregnancy task force, organizing annual adolescent open days to discuss teenage pregnancy issues, developing an action plan for Adolescent Reproductive Health and HIV, intensifying school health activities, and increasing adolescent and Youth-friendly services which have had limited impact in teenage pregnancy reduction in the region (Siaya County Health Sector Strategic Plan 2013-2018 and Annual Work Plan -2018 & 2019).

Addressing adolescent pregnancy and the well-being of the mothers and children is a top priority in global public health (Walawe et al., 2016), and the need to investigate caregivers' perception and mitigation strategies towards teenage pregnancies is vital in understanding of these challenges. Other literatures have suggested that interventions fail to produce results because they lack knowledge of and sensitivity concerning the existing community norms and beliefs (Miriti & Mutua, 2019). This had led to limited scientifically sound data on the caregiver's knowledge, perception and mitigating strategies on teenage pregnancies compared to the magnitude of the sexual and reproductive health (SRH) problems experienced in Siaya County. Consequently, no study has been conducted in Siaya County to examine the knowledge, perception and mitigation strategies put in place by caregivers in preventing teenage pregnancy. This study explored caregivers knowledge, perception and mitigation strategies around the issues related to prevalence teenage pregnancy within the Kenyan context.

1.2 Statement of the Problem

Pregnancy-related complications and delivery are the greatest cause of mortality for girls between the ages of 15 and 19. Unmarried pregnant teenagers experience school dropout, stigma, rejection, or violence from partners, parents, and classmates. Girls' possibilities for future education and work may be jeopardized as a result of adolescent pregnancy and childbirth (World Health Organization, 2019). Despite the extensive research on teenage pregnancy, there is a noticeable gap in the literature regarding the knowledge and perceptions of caregivers in relation to teenage pregnancy. Additionally, existing studies primarily focus on the experiences of teenagers themselves, leaving a significant gap in our understanding of how caregivers, such as parents, guardians, or family members, perceive and understand teenage pregnancy.

Siaya County has implemented interventions and strategies; however, their impact in reducing teenage pregnancy rates in the region has been limited in mitigation of teenage pregnancy in the region (Siaya County Health Sector Strategic Plan 2013-2018,2013). According to Godia et al., (2014) , understanding caregiver perception is crucial for developing effective intervention programs and support mechanisms, as caregivers play a pivotal role in shaping the sexuality behaviours of teenagers. While previous research has explored various factors contributing to teenage pregnancy, a comprehensive investigation into caregiver knowledge, perception and their mitigation strategies towards teenage pregnancy remains conspicuously absent, despite the significant magnitude of the sexual and reproductive health (SRH) challenges experienced in Siaya County. Addressing this gap is essential for informing policies, educational programs, and support initiatives aimed at preventing teenage pregnancy. Future research in this area will provide valuable insights into the dynamics between caregivers and teenagers in the context of reproductive health, which remains unexplored. Based on these gaps, this study will explore knowledge, perception and mitigation strategies among caregivers around the issues related to the prevalence of teenage pregnancy.

1.3 Broad Objective

To determine caregiver's knowledge, perception and mitigation strategies on teenage pregnancy prevalence in Siaya County.

1.3.1 Specific Objectives

1. To determine the knowledge of caregivers towards teenage pregnancy in Siaya county.
2. To determine the perception of caregivers towards teenage pregnancy in Siaya county.
3. To establish the strategies put in place by caregivers in the mitigation of teenage pregnancy in Siaya County.
4. To determine the association between the socio-demographic attributes of caregivers and the prevalence of teenage pregnancy in Siaya county

1.4 Research Question

1. What knowledge do caregivers have about teenage pregnancy in Siaya County?
2. What is the perception of caregivers towards teenage pregnancy in Siaya County?
3. What strategies do caregivers put in place in the mitigation of teenage pregnancy in Siaya County?
4. What is the association between socio-demographic attributes of caregivers and prevalence of teenage pregnancy in Siaya County?

1.5 Justification of the Study

Teenage pregnancy is a significant social issue in Siaya County, given the burden its high burden with approximately 21% of teenage girls having experienced pregnancy by the age of 19 (KNBS, 2023). This was a cause for concern as teenage pregnancies often result in school dropouts, early marriages, and poverty, which exacerbated the cycle of poverty in the county. Additionally, caregivers play a crucial role in influencing the behaviour and decisions of teenagers by either acting as enablers or barriers towards mitigating teenage pregnancy. Understanding their perceptions towards teenage pregnancy and mitigation measures in preventing the problem can help in designing effective interventions and policies.

Moreover, there was lack of studies that have specifically focused on the caregiver's knowledge, perceptions and mitigation strategies in Siaya County. Studies on teenage pregnancy in Kenya have mainly focused on the youth's knowledge and behaviour towards pregnancy and the effectiveness of interventions, with little attention to the caregiver's knowledge, perceptions and the association of socio-demographic attributes and teenage pregnancy, prompted the need for this study.

1.6 Significance of the Study

This study holds significant importance in understanding the knowledge, perception of the caregivers and mitigation strategies regarding teenage pregnancy in Siaya County. By engaging in discussions within the community, valuable insights could be gained to effectively manage and reduce adolescent pregnancy locally. Understanding caregiver's knowledge and perceptions on teenage pregnancy could also help in identifying the gaps and challenges in mitigating teenage pregnancy in Siaya County. It could also inform the development of personalized and culturally sensitive interventions that involve caregivers as key stakeholders in mitigating teenage pregnancy.

In conclusion, conducting a study on caregiver's knowledge, perceptions and mitigation strategies towards teenage pregnancy in Siaya County was crucial in informing policies and interventions that address teenage pregnancy, which could also help to identify best practices, challenges, and gaps in mitigating the problem. The research will also add to the body of knowledge already available on teen pregnancies. The results of this study will also inspire more research on teen pregnancy in Siaya County.

1.7 Scope of the Study

The study was conducted in Siaya County, Kenya. The study targeted primary caregivers in 57,823 households who had an experience of having had a pregnant teenager. The study aimed at the knowledge, perception of caregivers on teenage pregnancy and mitigation strategies used in controlling teenage pregnancy in Siaya County. The study was conducted for a period on one year.

1.8 Limitations of the Study

The interpretation of the findings from this study should take into account several limitations. Firstly, social desirability bias may have influenced the responses of caregivers, particularly those who had pregnant teenagers in their households and felt that their perspectives were subject to judgment. Consequently, the representation of caregivers' true knowledge or perceptions may have been distorted, as socially desirable responses were favoured. To resolve this limitation, the researcher encouraged the respondents to be free and genuine in their views as confidentiality was assured and that genuine results would help in generating accurate interventions to counter the menace.

Lastly, this study was restricted to a single ward in Siaya County, which restricts the generalizability of the findings to other wards within the same county. The researcher ensured proper sampling techniques leading to a representativeness study sample hence increasing generalizability of the findings in addressing the limitation. To address these limitations, all these measures were taken during the study to ensure that the findings align as closely as possible with the actual views and experiences of caregivers in Siaya County. However, it was important to acknowledge these limitations when interpreting the study's results.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review from other related studies. The literature review section provided the framework for understanding and synthesizing the key concepts, methods, and approaches used in this study. The findings of the review were used to identify existing research gaps and emerging trends in caregiver's knowledge, perception, mitigation strategies and prevalence of teenage pregnancy. The review was based on study objectives.

2.2 Knowledge on Teenage Pregnancy

Parental knowledge about contraception and sexual health is associated with a lower likelihood of teenage pregnancy (McClendon, et al., 2017). Bah, (2016) found that adolescents who reported that their parents had talked to them about sex were more likely to use contraception and less likely to become pregnant than those who did not receive such education. Parental communication about sex and pregnancy is important. Adolescents who reported that their parents had talked to them about sex were more likely to delay sexual activity and use contraception when they did become sexually active (Morawska et al., 2015).

In recent research in Vietnam, Nguyen et al., (2016) demonstrate that youths who cannot sufficiently meet their fundamental requirements are more likely to engage in sexual activity in return for financial rewards than those who can. Similarly, (Papri et al., 2016) discovered that coming from a wealthier household considerably lowers the likelihood of a girl between the ages of 15 and 19 being pregnant or beginning childbearing. Another research found that teenagers with younger carers are more likely to start dating and create relationships sooner in life (Alzúa & Velázquez, 2017).

Teenage pregnancy can have negative impacts on the health and well-being of both the mother and child, including increased risk of maternal and infant mortality, low birth weight, and poor educational and economic outcomes for the mother (Papri et al., 2016). Overall, the high prevalence of teenage pregnancy in Siaya and other parts of the world highlights the need for increased efforts to address the underlying factors that contribute

to this issue, including poverty, lack of education, and inadequate access to sexual and reproductive health services (Nabugoomu *et al.*, 2020).

Parental monitoring and supervision is also important (Uwizeye *et al.*, 2020). Adolescents whose parents were more involved in their lives, such as monitoring their whereabouts and knowing who their friends were, were less likely to become pregnant. Cultural factors can also play a role. Some studies have found that parents from certain ethnic and cultural backgrounds may be less likely to discuss sex and contraception with their children, which can increase the risk of teenage pregnancy (Yakubu & Salisu, 2018b).

Parents and other adult caregivers must educate teenagers about sex accurately and promote healthy sexual behaviours, such as making mature sexual decisions. Caretakers' open communication with kids about sexual issues is a limiting factor affecting teens' sexual behaviours. Very little is known about sexual communication, despite several earlier studies examining how important it is for caregivers and youth in other contexts. Most research has been done in western nations and has shown that more parent-teen sex talk is linked to delayed sexual start, higher condom use, and more effective contraceptive use (Fongkaew & Fongkaew, 2016).

Eisenberg *et al.*, (2022) performed a study to look at how parents talk to their adolescents about sex. According to the research, most parents had spoken to their children about the harmful effects of sex, such as unintended pregnancies and STDs. Still, they were less likely to discuss ways to avoid these effects, such as having access to condoms and birth control. Researchers also discovered that rather than adopting a more preventative strategy, caregivers were 2.5 times more likely to discuss sex with their teenagers if they thought they were already romantically connected than if they felt they were not. Despite, Richey, (2021) research that early sex education is favourably associated with teenagers' increased communication about sex and is not correlated with early sexual activity start, parents still seem reluctant to discuss sex with their children.

It would appear that parents choices to talk to their children about sex are more often a response to their children's romantic developments than a proactive, preventive choice to

teach their children about sex before they become romantically engaged (Eisenberg et al., 2022)

In his research of Nigerian caregivers, Bello et al., (2017) discovered that they liked to be the ones to start and dominate conversations and thought that if their kids did, it signified they were sexually active or intended to be. According to this research, instead of having a conversation with their kid about sexuality, caregivers allegedly utilized vague language and a propensity to issue warnings and threats. In a recent ethnographic study in rural Tanzania, Wamoyi et al., (2015) found that sexuality communication was often unidirectional, started by caregivers, and took the form of warnings, threats, or sometimes gossip.

Spending time with their children is one-method parents may stay active in the lives of their teenage children. According to previous research, moms are still closely engaged in their children's lives, and their influence on them may even be more significant than that of friends (Hiatt et al., 2015). According to Berger & McLanahan, (2015) research, mothers are in charge of overseeing their children's daily care and spend more time with their new-borns and early children than dads do. Fathers often spend more time with their children and engage in more fun interactions with them, while mothers continue to be more active in terms of management (feeding, bathing, and dressing) (Singh et al., 2021).

Although it has been shown that parent communication on sexual concerns significantly impacts teens' dating behaviour, most parents choose not to talk to their kids about reproductive issues since it is frowned upon (Matlala, 2015). The idea that talking about sexuality with teens causes early sexual experimentation prevents parents from effectively educating teens about sexuality. Research on adolescent pregnancy by Mathewos and Mekuria, (2018) also showed that 38% of parents believed that discussing sexuality encouraged sex. On the other side, 61 percent of Kenyan parents of children aged 10 to 12 thought that kids were too young to learn about sex. In his research based on data gathered between Kenya in 1996 and 2003 by (Obro & Ogheneakoke, 2018) stated that socio-cultural impediments to sexuality communication include traditional

residual barriers, inhibitions brought on by European Christianity, dependence on sex education materials, and reliance on school instructors. Although such sexual behaviour is frequent, second research conducted in Kenya found that religious and cultural taboos inhibit open discussion about premarital sex at home and in schools (Mumah et al., 2020).

According to Wangdi and Tshomo, (2017), other obstacles to parent communication include gender disparities, financial constraints, and low levels of education among caregivers. According to research by Thurman et al., (2020) on the influence of parents on teenagers' sexual beginning practices, moms discussed sex more often than dads. This demonstrates that talking to your kid about sexuality concerns might be difficult because of gender differences. Poverty is one of the most persistent risk factors for early pregnancy, according to a large body of research from throughout the world. In certain circumstances, South African poverty encourages commercial sex, making it harder for girls to bargain for safe sex and increasing the likelihood of getting pregnant or contracting a venereal disease (Thurman et al., 2020).

Insufficient access to basics puts females at risk of becoming pregnant as teenagers because weak-willed girls end up trading sex for money, findings according to Swift and Gena, (2013) research. However, given the delicate nature of sexuality, some caregivers see conversations about sexuality between parents and children as humiliating, immoral, or improper. Euphemisms rather than explicit language were often used to describe sex, according to a Tanzanian survey of young people aged 14 to 24. However, it was shown that parental education level regulated the capacity to talk about sexuality freely, just as it was discovered that the frequency of conversation is correlated with parental education level (Birungi et al., 2014).

Parental attitudes towards teenage pregnancy can also be important. Adolescents whose parents had negative attitudes towards teenage pregnancy were less likely to become pregnant themselves (Morawska et al., 2015) . Overall, the research suggests that parental knowledge, communication, and involvement can all play important roles in preventing

teenage pregnancy (Bah, 2016). It's important for parents to talk openly and honestly with their children about sex and contraception, and to stay involved in their lives as they navigate adolescence (Mcclendon, et al., 2017).

2.3 Perception on Teenage Pregnancy

Caregivers find it upsetting to learn that their teenage daughter is pregnant. Some writers discovered that mothers' reactions to learning their teen daughters were pregnant were tragic. It was hard to embrace, welcome, or trust the news. Many others expressed how they had disliked hearing the news. Others said it took them a while to come to terms with reality. Other mothers reported the incident as frightening and startling, which led to dissatisfaction (Azevedo et al., 2015). While some dads admitted it was a mistake, others remarked how difficult it was for them to accept the pregnancy and the birth of a new child (Mgbokwere et al., 2015).

Some parents would grieve and fret for the future of these girls, other parents would experience remorse over their failure to uphold their duty and wish they had done more to shield their kids from this situation (Elnagar et al., 2018). On the one hand, some parents fretted about how their teenager's pregnancy would be seen by her relatives, friends, and neighbours. This view was in line with that of Ashraf et al., (2020), who discovered that such caregivers were the subject of rumours and that the afflicted teens were seen as having a negative effect. Others, however, were delighted to hear that they would soon become grandmothers if the adolescent were older and in a committed relationship. They could also anticipate a lot of joy from their new grandchild (Laumann et al., 2015).

Mothers of pregnant teenage girls who had previously given birth while a teenager were more sympathetic to the difficulties their daughters were facing. These mothers also acknowledged that they accept the circumstance and help their daughters as necessary (Mgbokwere et al., 2015). The mother's role is emphasized as a source of support and preservation of the family structure. It has been shown that pregnancy in adolescence brings about significant changes in the behaviour of families. Throughout the prenatal period, experts have acknowledged the value of emotional support, compassion, and

knowledge. The impacted teenager views these characteristics as crucial for adjusting to pregnancy and the mother role (Dittus et al., 2015).

A research found that although some mothers first expressed their unhappiness, criticism, and despair, others accepted the situation, continued to play their duties, and accompanied and guided their teenage daughters through this new stage. They helped the teenager take care of their kid financially by helping out around the home (Subhanie & Azlina, 2020). The fact that many people accepted the circumstance and got over the initial dispute was also noticed. Despite how overwhelming the situation may be, (Laumann et al., 2015), advised caregivers to remain composed, attempt to understand how the girl is experiencing and try to handle the situation in a way that would be favourable for the adolescent mother. Contrarily, it is known that some dads would not tolerate the embarrassment of their teenage daughter being pregnant. They ceased communicating with their girls, stopping to call and see. In a different situation, once the kid was born, a family engagement took place favourably despite initial animosity (Mgbokwere et al., 2015).

2.4 Mitigation Strategies for Teenage Pregnancy

Teenage pregnancy is a challenging issue. Adolescent pregnancy cannot be decreased or prevented across all teen populations using a single, straightforward strategy. Governments and non-governmental groups have created strategies to prevent early pregnancies after realizing the detrimental impact of adolescent pregnancy on the achievement of sustainable development (Al, 2017). Due to the complexity of teenage pregnancies, many measures are necessary (Franklin & Corcoran, 2000). The Ministry of Public Health and Sanitation and Ministry of Education have introduced the National Adolescent and Reproductive Health (ASRH) Policy, and National Plan of Action, (2021) as strategies in reducing teenage pregnancy. This aims to bridge the knowledge gap about reproductive health.

The governments have programs that try to keep females in school and those that try to prevent early marriages by recognizing the support for early marriages that society provides. The stakeholders have started measures designed to alter the cultures that support early

marriage. Additionally, the neighbourhood has backed initiatives to decrease adolescent pregnancies before marriage (Sunny et al., 2019). Additionally, governments have funded or offered free contraceptives and promoted their use. Despite this, teenage pregnancies continue to occur in the majority of Kenyan counties.

Evidence suggests that families significantly influence the likelihood of teenage pregnancy. Family engagement should be used in addition to any program's best practices suggestions (Omoró et al., 2018). Parental oversight, caregivers who strongly believe in the value of abstinence, caregivers with higher education and income, supportive family relationships for teens, and teens who engage in a lot of shared activities with caregivers have all been found to lower the risk of adolescent pregnancy (Ahinkorah et al., 2019). Little teen supervision, strict or overly controlling caregivers, low socioeconomic status, being a single parent, older, sexually active siblings, or pregnant or parenting teenage sisters have also been noted to potentially increase the risk of teenage pregnancy (Jonas et al., 2016); lack of religious affiliation (Maness & Buhi, 2016) ; and having experienced violence or abuse (Jonas et al., 2016).

Studies showed that youth are less likely to participate in risky sexual behaviours when shared views or clear messages are sent to avoid teen pregnancy and sexually transmitted diseases (STDs) (Eisenberg et al., 2006). The present research concentrated on how the caregiver's views on preventing teen pregnancy. This research's primary area of interest offers communities with knowledge of sexuality and negotiating abilities a chance to contribute their thoughts about effectively lowering hazardous sexual behaviours.

According to the survey, stakeholders affect a teen's sex choice more than friends, the media, or siblings. Comprehensive sex education covers condoms and contraception, and the best way to prevent STDs and unexpected pregnancy, which is abstinence. Withholding or misrepresenting accurate information from teens can be unfair and harmful on a personal and societal level, according to a study by Schaafsma et al., (2015). This finding is consistent with the development of sex education literature for teens at the beginning of the 20th century.

Teenagers may build healthy life skills and relationships by receiving appropriate sexual knowledge.

Children learn their knowledge, abilities, and behaviour from their homes, schools, and the wider community. The powers they develop may alter their future (Kassa *et al.*, 2018). Whether in a classroom, in society, or the framework of a family, sexual education should go beyond just spreading awareness. Comprehensive sexual engagement guarantees that young people develop the skills to make responsible decisions about sex and relationships and be able to defend those decisions, to recognize potentially hazardous or violent circumstances and know how to avoid them and cope with them if they do emerge, to pinpoint precise information from reliable sources, to know how and where to ask for support and encouragement, and to start negotiating secure sexual acts (Bégin *et al.*, 2022).

Family is regarded as the earliest, most crucial, and most successful factor in a teens sexual socialization since it is the first social group to which the child belongs from an early age (Ganji *et al.*, 2017). Therefore, one of the most effective methods for promoting children's sexual health is via caregivers' sexual education, which is one of the critical elements of sexual socialization (Endendijk *et al.*, 2022). Teenagers were traditionally not provided any knowledge on sexual concerns since it was forbidden to talk about these topics with them. Traditionally, it was the responsibility of a child's caretakers to provide such instructions, often delayed until the child's marriage. In modern time, children exhibit sexual behaviour at a young age, necessitating early sexual education (Sunny *et al.*, 2019).

In Kenya, poor sex education is provided in the home and the classroom (Mutua *et al.*, 2017). Few teenagers get thorough sex education, and instructors often lack the skills necessary to provide pupils with accurate information. While the Ministry of Education understands the need to give information on sexuality, adolescent pregnancy and its effects are exacerbated by the absence of comprehensive sex education in schools. Despite the students' firm view that the school must do so, the Ministry of Education has yet to implement a thorough sexuality education curriculum in Kenyan schools (Ochieng, 2016).

According to, life skills education as it is now practiced in schools falls short of adequately Mutea et al., (2020) addressing the reproductive difficulties that teenagers face. According to Awusabo-Asare et al., (2017), the Life Skills method's primary objective is to improve young people's capacity to accept responsibility for making decisions, reject negative pressure, and meet daily life's demands while refraining from harmful behaviours. According to this viewpoint, life skills education provides valuable social skills. Still, it falls short in addressing reproductive difficulties facing a volatile, media-driven young culture that prioritizes sexuality (Mutua et al., 2017).

Another research that polled parents of teenagers questioned participants about their attitudes toward the efficacy of birth control methods and their teen's aptitude to use them. Only 52 percent of caregivers thought the pill successfully prevented pregnancy, compared to less than half (40%) who thought the condom was. Only 40% of caretakers felt that teenagers could use pills appropriately, compared to 26% who believed that teenagers could use condoms well. This result showed that caregivers often underestimated how well condoms and birth control tablets work to prevent conception (Ganji et al., 2017). These results, however, differ from those of Hartman et al., (2013), who reported that condoms were the most acceptable to parents at 51%, followed by oral contraceptive pills at 59%. According to this research, parents who believed their teenagers were likely to engage in sexual activity were more inclined to accept condoms.

The constant and proper use of condoms has been found to lower the incidence of infections and unintended adolescent pregnancies (WHO, 2014). However, to avoid infections and pregnancies, youth must be taught how to regularly and effectively use condoms. According to the results mentioned above, parents and other caregivers must be well informed about contraceptives and how to use them to educate their adolescent children about sexuality concerns effectively.

According to Morawska et al., (2015), there are no set rules for what to teach children and at what age. However, research has shown that children aged six must discuss bodily disparities between girls and boys. Conversations about hormonal changes, relationship

issues, and sexual identity should be covered before age 12. Parents report feeling uncomfortable or anxious about discussing sex with their children, especially during the latter stages of adolescence (ages 14 to 18), when many young people participate in sexual behaviour. Suppose parents provide their teenagers with any preventative information at all. In that case, they often wait until they are sexually active and in danger of pregnancy before educating them about sexuality matters and failing to provide reliable information (Azevedo et al., 2015).

2.5 Conceptual Framework

To shape the course and future of a teenage life, caregivers play a crucial part in that teen life. In addition, to assist the acceptance of the excellent values that caregivers impart to their teens, a healthy and strong connection based on trust and honesty must exist between them. During these communication exchanges, caregivers might teach young girls the truth about sexuality and pregnancy. Akella, D.; Jordan, (2015) showed that teenagers need such knowledge from their caregivers, teachers, health service providers, and older persons in their communities to help mitigate teenage pregnancy and reduce their prevalence.

Therefore, the conceptual framework below outlines the independent, intervening and dependent variables. The independent variables influence caregiver's characteristics, knowledge, perception and mitigation strategies towards teenage pregnancy. The independent variables are socio-demographic factors such as age, gender, education level, religion, occupation status, marital status, knowledge, and perception and mitigation strategies towards teenage pregnancy. Knowledge consisted of two factors such as their opinions and individual's self-concept about teenage pregnancy (Rogers, 2017). Knowledge was conceptualize by assessing caregivers understanding of the causes and consequences of teenage pregnancy. While the dependent variable in this study was the proportion of teenage pregnancy in the community (prevalence of teenage pregnancy) as shown the figure 2.1 below. The conceptual framework was relevant in this study because it helped answering the research question, identified the variables that was studies and the relation between the variables.

Independent Variables

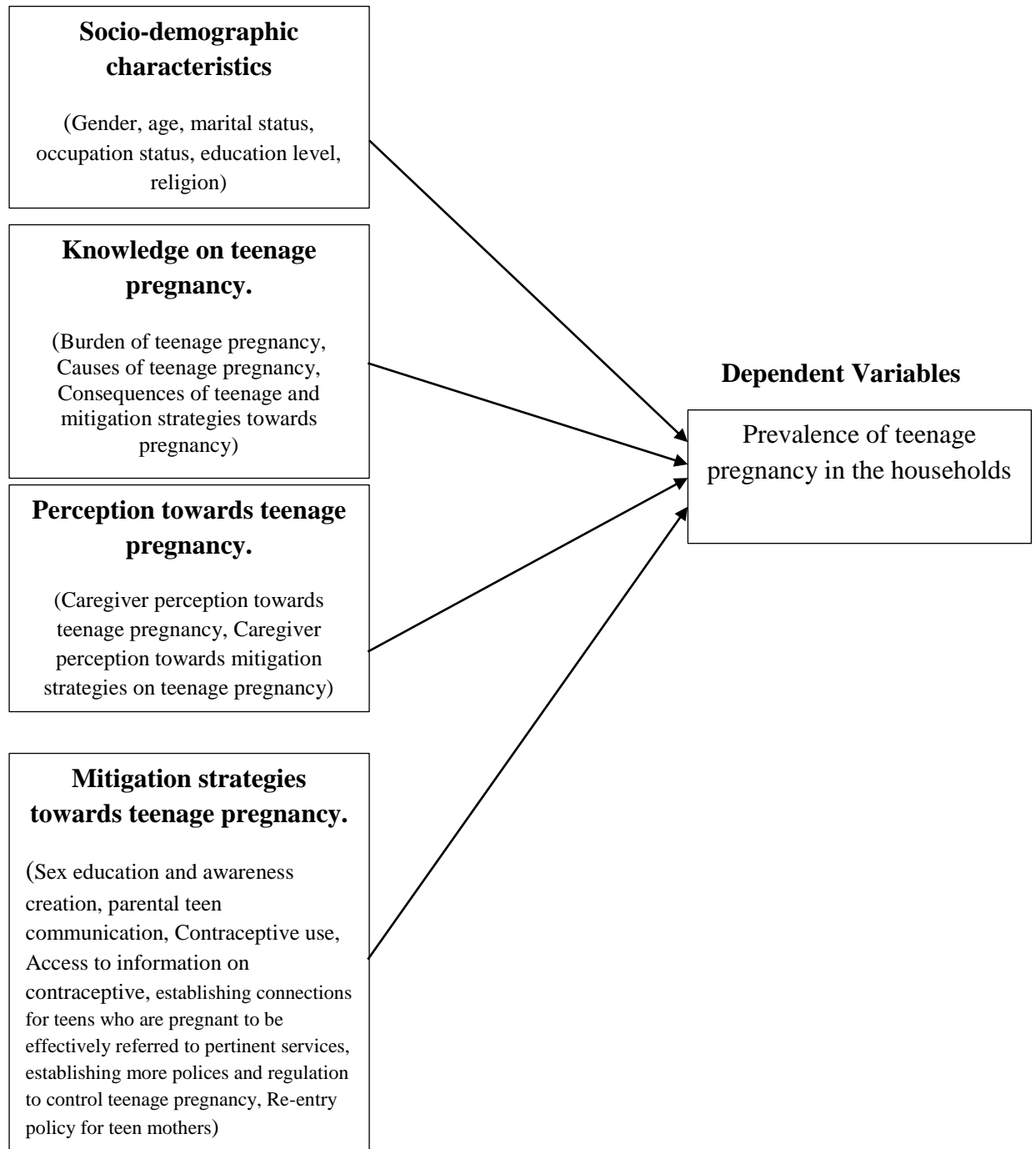


Figure 2.1: *Conceptual Framework for the Study*

Source: Researcher self-conceptualization, 2022.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

In this chapter 3, the study area, study design, sampling technique, and procedure, as well as the data collection methods and tools that were used to investigate caregivers' knowledge, perceptions and mitigation strategies towards teenage pregnancy are explained. The data analysis, ethical consideration, and data storage were also included.

3.2 Study Area

Alego Sub County in Siaya County served as the study area. Siaya County is situated in the Nyanza Region of the Lake Victoria Basin. It is bordered to the north by Busia County, east by Kakamega County, Vihiga County, south by Kisumu County, and west by Lake Victoria. It has a population of 842,304 and a land area of 2,530.5Km². There are 30 electoral wards and six sub-counties in Siaya County. Alego Usonga, Bondo, Gem, Ugenya, Ugunja, and Rarieda are the sub-counties. Out of the six sub-counties in Siaya County, Alego Usonga Sub-County has a significant area of 605.8 square kilometres. Bondo Sub-County, Gem Sub-County, Ugenya Sub-County, and Busia County are its neighbours to the south, east, north, and west. With an elevation of 1220 meters above sea level, Alego Usonga sub-county is located between latitudes 00⁰ 18'North and 0⁰26'North and between longitudes 33⁰5 8'East and 34⁰ 33'East (KNBS and SID, 2013).

The locals of Alego Usonga carry out various social and economic activities, such as mixed subsistence farming, mining, transportation, and communication. Christians make up the bulk of the population. The Sub County is endowed with health facilities and one referral hospital which provides health services to its members (Siaya County-Annual Development Plan 2017-2018, 2017)

3.3 Study Design

This study used a concurrent mixed method among caregivers from the sample households in Alego Usonga, Siaya County from January 2021 to January 2022. This approach combined rigorous quantitative analyses (descriptive cross-sectional survey) and qualitative methods (Key Informant Interviews) which were combine combined

concurrently. Qualitative research was used to explore comprehensively the knowledge and perception of caregivers towards teenage pregnancy.

3.4 Target Population

A population is a collection of pieces or cases, individuals, things, events, or objects that meet particular standards and are used to extrapolate study findings. The target population of this research consisted of all caregivers from all the 57,823 households which was the estimated number of households in Alego Usonga Sub County (KNBS, 2019). In each household, a caregiver of a teenage girl was targeted.

3.4.1 Inclusion Criteria

The study participants included all caregivers for quantitative and qualitative study who were willing, provided consent to participate in the study and had experience of teenage pregnancy.

3.4.2 Exclusion Criteria

The study excluded all participants who did not provide consent to engage in the research in both qualitative and quantitative study, those who were not present during data collection period, and anybody else who was unwilling to participate in the study.

3.5 Sample Size Determination

The sample size was determined by using the formula by Fishers et al, (2014) to generate the sample size. The sample size was calculated as follows:

$$n = \frac{Z^2 PQ}{d^2}$$

Where;

n = desired sample size

Z = the normal deviation at the required confidence level.

P = the proportion in the target population estimate to have characteristic being measured.

Q = 1-p (the proportion of the population without the characteristics).

d = the level of statistical significance test (0.05)

The prevalence of teenage pregnancy in Siaya County is 21% according to Kenya National Bureau of Statistics report of January 2023. Therefore, using this formula, the sample size was generated as below:

$$n = \frac{1.96^2 \times 0.21(1-0.21)}{0.05^2} = 254.9$$

The sample size was therefore 255 respondents.

By calculating the design effect with sample size

$$N = DEFF + 255$$

$$1 + ICC(m-1) + 255$$

$$1 + 0.05 * (629 - 1) + 255$$

$$N = 287.4$$

The adjusted sample size was therefore 287 respondents

Since

Intra-cluster correlation is assumed 0.05

m is the average number of households in the cluster (13818/22) is 629 (KNBS and SID, 2013)

To cater for the non-response of the questionnaires, an adjustment to the sample size was made based on the anticipated non-response using the formula below:

$$N^* = \frac{N}{(1-W)}$$

Where;

N* = is the adjusted sample size = 287

N = is the calculated sample size

W = is the percentage anticipated non-response rate is 10%.

Therefore, based on the above formula the new sample size was;

$$N^* = \frac{287}{1-0.1} = 318.88$$

The final sample size was 319 for quantitative data.

3.6 Sampling Procedure

The study employed multi-stage cluster sampling to choose the study's primary respondents. This sampling design was chosen because it offers a method for sampling a population in situations where there is not a complete population list or when it isn't feasible to create one (Ebrahim, 2018).

In the first step, Alego Usonga was divided into six clusters: North Alego, South East Alego, West Alego, Central Alego, Siaya Township and Usonga ward. South East Alego was randomly selected from the clusters in the second step for administration of quantitative data collection. South East Alego has 22 sub locations namely: Agoro Oyombe, Agoro Lieye, Barding, Bar Agulu , Rambo, Agage, Usingo, Randago, Usere, Ojwando, Nyajuok, Kogelo, Mur Ng'iya, Nyajuok, Mur Malanga, Bar Olengo, Magungu, Nyang'inja , Rakuom, Ochiewa, Mugane and Masumbi sub location. The villages in each of these sub-locations were then considered to arrive at 13,818 households (KNBS and SID, 2013) as shown in Table 3.1 below.

Table 3.1: Distribution in terms of Households

No.	Clusters /Locations	Population
1	Siaya Township	11797
2	North Alego	9754
3	South East Alego	13818
4	Usonga	4202
5	West Alego	9125
6	Central Ward	9127
	Total	57823

Source (KNBS and SID, 2013)

In the third step, the number of households in each village were obtained from local administrative leader in South East Alego for study implementation. The households were listed in an excel and given and identification numbers. In the sixth step, 319 households were systematically randomly selected from the list of participation in the study. Systematic random sampling technique was important in allowing the researcher to

have confidence in a sample that was representative. A systematic sampling interval of respondents was derived from;

$$\text{Sampling interval} = \frac{\text{Total sample frame}}{\text{Sample size.}}$$

$$\text{Sample interval} = \frac{13818}{319} = 43.31 = 43$$

In cluster (South East Alego), the sampling interval was 43; meaning 1 household in every 43 households from the total number of households was selected. Since 1 household in every 43 households was needed, a random number table was used to select the first household from the study population. The 23rd household was used as starting point and then selected every 43rd household from this point. As such, 23rd + 43rd households were selected on the list, then (23rd + 43rd) + 43rd household, and so forth until 319 sample size was obtained from the entire cluster. From each household, a caregiver was targeted. See the multi-stage sampling process in figure 3.1.

For qualitative data collection, the sample was derived from the same population to complement the quantitative results and give an deeper understanding between the variables (Ishtiaq, 2019). The researcher purposively identified and selected key informants for qualitative data collection. Equal number of local administrators from different sub location within study area and religious leaders from different religion were purposely selected based on their understanding and lived experience of teenage pregnancy and the mitigation strategies being investigated. Three chiefs and three religious leaders who were also caregivers in the study area, were, therefore, selected and consented to participate in the study. The total number of participants recruited to participate in qualitative data collection was extremely deemed fit since the researcher became empirically confident that saturation was achieved thereby multiple perception of individuals were already been captured (Omona, 2013).

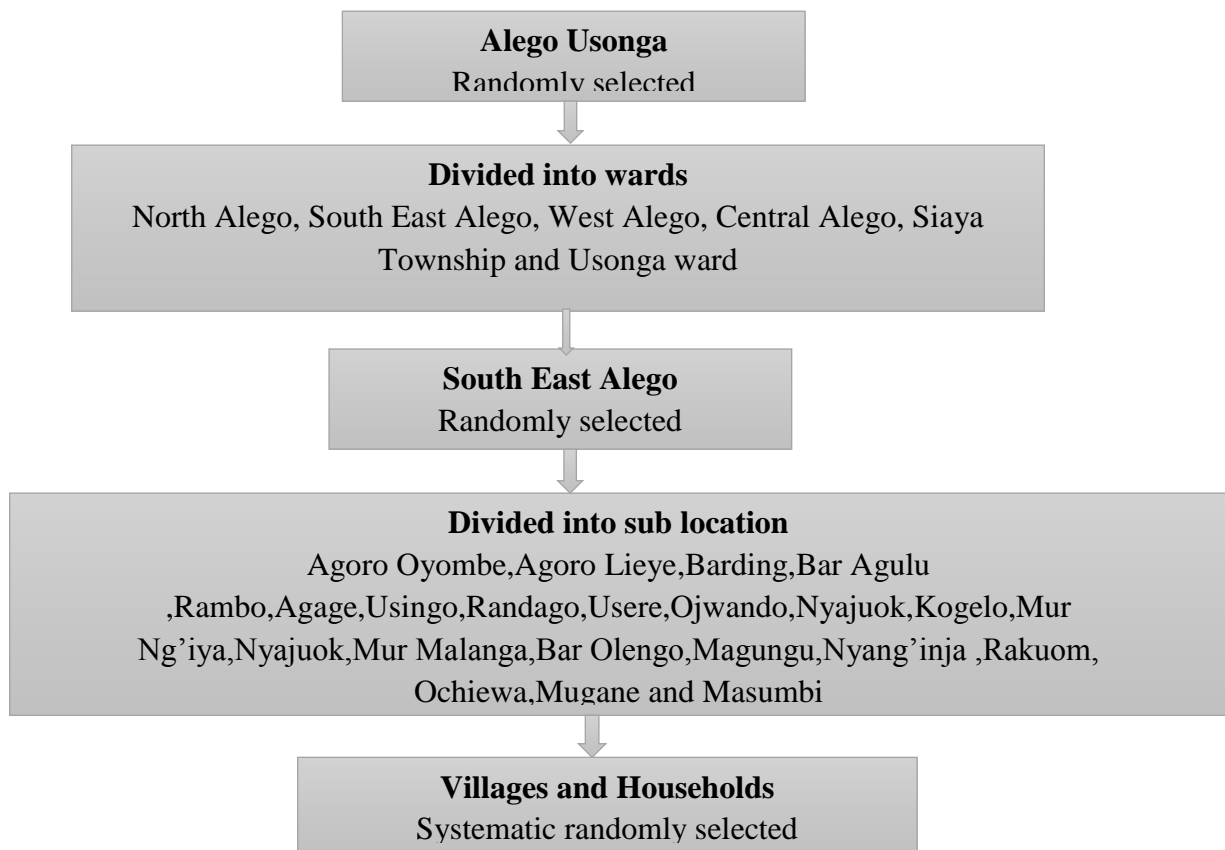


Figure 3.1: *Multi-stage sampling process.*

To achieve this study sample, the researcher identified the geographical center of the village with the assistance of village chairman and counted all households from the center to the edge of a village. One household from the total counted was selected to act as the first household to visit. This method was done for all villages in order to attain the sample size of 319 households.

3.7 Data Collection Tools

Questionnaires was used to collect the quantitative data in this study as shown in appendix II and interview guides for qualitative data as shown in appendix III, as the main data collection tools for collecting data from primary respondents. Questionnaires were administered to the caregivers of teenagers at the households to collect quantitative data. The questionnaire was divided into four parts. Part 1 dealt with socio demographic characteristics of the study participants such as age, gender, occupation, marital status, education level and religion. Part 2 dealt with questions on caregiver perception and

knowledge about teenage pregnancy. Part 3 sought information on mitigation strategies towards teenage pregnancy. Finally, part 4 sought general information from the society about teenage pregnancy and mitigation strategies.

Qualitative data were collected using study guides to guide key informant interviews. The study guide had one section (Appendix III) that was used to collect information related to perception of caregivers towards teenage pregnancy and mitigation strategies. All data were tape recording during the interview.

3.8 Pretesting

Pre-testing was done to minimise the risks of encountering unmanageable problems during data collection and analysis in the main study (Janghorban et al., 2014). It provides information concerning comprehensibility of the questions, difficulties that respondents would have in answering the questions and the duration of completing the questionnaires or interview guides (Ploughman et al., 2010). Furthermore, the pre-testing of the instruments is meant to determine the suitability of the language used, the focus of the questions and presence of any other defects to allow for corrections before they are used in the main study (Orwasa & Orodho, 2018).

The study instruments were pretested with 28 caregivers from a neighbourhood cluster which was not the actual study area, 26 participants participated in the retest for quantitative data and 2 participants were for qualitative pre-test both at Siaya Township. The instruments were checked to determine if the data obtained compliments the quantitative findings and result in a coherence understanding of the caregiver's perception towards teenage pregnancy and mitigation strategies (Venkatesh et al., 2013). Likewise, pre-testing enabled the researcher to check the correctness of language used and clarity of the instruments that allowed the respondents and the researcher to have a common picture of meaning of the interview questions (Ghorbanzadeh et al., 2023).

3.9 Validity of the Study Tools

According Mohamad et al., (2015), validity is the extent to which the participants and the researcher's interpretations and conceptions have similar meanings. These are standard

practices for determining a measure's content validity. It was necessary to rigorously examine the questionnaire in order to ensure that all research questions were covered by its contents. The researcher discussed the instruments with peer colleagues to improve the content and submitted the instrument to two experts in the health science department at Jaramogi Oginga Odinga University of Science and Technology (JOOUST) in order to increase validity. The researcher further improved the validity of the instrument by making necessary corrections based on feedback from peers and experts.

3.10 Reliability of the Study Tools

According to Mohamad et al., (2015), internal consistency reliability determines the correlation between all items that constitute a construct to prove that the items measure the same concepts. The researcher determined internal consistency reliability by using Cronbach Coefficient Alpha (α) because the items in the instruments measured more than two responses as opposed to Kruder-Richardson (KR- 20) formula that is used in dichotomous scales (Trakman et al., 2017). The items for questionnaires were tested for internal consistency using Cronbach Coefficient Alpha method. Data with relatively high internal consistency had Alpha Coefficient of ≥ 0.7 was generalized to reflect opinions of all respondents in the target population. The following formulae was used to determine internal consistency reliability:

$$\alpha = \frac{N}{N-1} \left(\frac{\sigma_X^2 - \sum_{i=1}^N \sigma_{Y_i}^2}{\sigma_X^2} \right)$$

Where:

N= is the number of survey items in the scale.

σ_X^2 = is the variance of the observed total scores.

$\sigma_{Y_i}^2$ = is the variance of item i for person y.

The questionnaire was pretested with 26 caregivers from a neighbourhood cluster, with an average of 0.955, which was within the acceptable reliability range hence rendering the tool reliable. This was to confirm the ease of understanding of the questions and correct the wording of the sentence.

Reliability of the study guides for key informant interviews was determined by using the constant comparative method Orwasa & Orodho, (2018) whereby the qualitative data

obtained during pre-test was reviewed line by line to identify apparent concepts or expressions (themes) which were coded and categorised while taking note of the respondents lived experiences. The underling themes were checked if they complement and validate data obtained during pre-test of the questionnaires (Trakman *et al.*, 2017).

3.8 Data Collection Procedure

Quantitative data was collected using a pretested interviewer questionnaires in Appendix II. Data was collected by Research assistants for a period of three months between April 2021 and August 2021. The respondents who did not consent to participate were thank for their time. The researcher led the research assistants to collect the data from the respondents who consented to participate in the study. The research assistants filled the questionnaire while asking the respondent the questions.

Qualitative data was collected using study guide in appendix III. Key informants were recruited and consented to participate in the study. The researcher conducted the interview while research assistant facilitated the scheduling of the interviews. The interview was tape recorded and later transcribed for analysis for in-depth understanding on the perception towards teenage pregnancy and mitigation strategies.

3.9 Data Analysis Method

The analytical procedure for quantitative data involved editing, coding, cleaning and entering in the SPSS version 23-computer program while qualitative data involved transcribing, coding, contextualizing and offering interpretations. Data analysis included repeated review of all questionnaire data, interview transcripts and relevant documents to gain points of convergence in the research results (Stadtländer, 2014). Data from various sources were triangulated to allow for refinement of interpretations and solidification of the findings.

The primary data analysis method that was employed in this study was chi-square test analysis, meant to yield inferential statistics. Quantitative data was derived from the questionnaire items which some involved measurement from Likert scale, ranging from 1, 2, 3, 4 and 5. Where 1 represents Strongly Disagree, 2 Disagree, 3 Undecided, 4 Agree and 5 strongly agree respectively. The responses from the respondents were organised in

a codebook and entered into the computer with the aid of Statistical Package for Social Sciences (SPSS) version 23 for windows computer program initially to test for distribution assumptions using the Kolmogorov-Smirnov (K-S) test (Ishtiaq, 2019). The use of the K-S test allowed for determining whether the sample came from a hypothetical normal distribution to qualify the data collected to be suitable for further parametric statistical analysis (Bolen et al., 2014)

Lastly, Pearson chi-square test statistics was conducted to examine whether and to what extent of caregivers' socio demographic variables and prevalence of teenage pregnancy in Siaya County. Descriptive statistics were presented in tables of measures of central tendency such as frequencies, percentages, means and standard deviation while inferential statistics were in form of co-efficient and beta weights.

Statements under the knowledge and perception of the caregivers were measured on a five- point Likert Scale ranging from strongly disagree (1) to strongly agree (5). Weighted average of 3.50-5.00 indicated agreement to a statement while a range of 1.00-2.49 indicated disagreement to a statement. Specifically, weighted average of 1.00-1.49 represented strongly disagree; 1.50-2.49 represented disagree; 2.50-3.49 represented undecided, 3.50-4.49 represented agree and 4.50-5.00 represented strongly agree. Accordingly, following the recommendations of Heo et al., (2022) the interpretations of the responses by the respondents were made. The researcher analysed the responses using weighted average (WA) and standard deviation. On the basis of this, the decision rule for each item under caregiver perception is shown in Appendix IV, annex 1.

Qualitative data analysis was based on transcripts of the key informant interviews analysed thematically according to the research objectives and reported in themes, narratives and direct quotations of the interviewees (Kiger & Varpio, 2020) indicate that thematic analysis is a method for systematically, identifying, organizing and reporting patterns of meaning (themes) across a dataset. Through focusing on meaning across a dataset, thematic analysis allows the researcher to understand and make sense of shared meanings and experiences. Therefore, thematic analysis does not aim at identifying unique and idiosyncratic meanings and experiences found only within a single data item (Kiger & Varpio, 2020) but it is a flexible approach of identifying what is common to the

way a phenomenon is perceived, understood or experienced by the participants in relation to the topic being studied, and of making sense of those commonalities by addressing the whole dataset or its small section or sections (Vaismoradi & Snelgrove, 2019).

Consequently, the data was analysed using reflective thematic analysis, as described by Kiger & Varpio, (2020) and Connelly & Peltzer, (2016). While adopting a critical realist framework, analyses involved identifying both semantic and latent meanings in the dataset, following both deductive and inductive approach to generate codes from the qualitative sources of data thereby enabled the researcher to identify the patterns of meaning in the study. The themes were actively constructed from the data by clustering a set of codes which tend to converge to a particular view-point to address the phenomena being studied in-depth leading to a coherent interpretation, discussion and conclusion in line with research objectives (Stadtländer, 2014).

The analysis process is shown in table 3.2, involved first transcribing and organizing all the data, then giving the codes to the first set of field notes drawn from the interviews, having noted personal reflections and other comments in the margin. The second stage involved sorting and sifting through the materials to identify similar phrases, relationships between the variables, patterns, themes and common sequences. The third stage was the identification of patterns, processes, commonalities and differences and taking them out to the field in next wave of data collection. The fourth stage was the elaboration of a small set of generalizations that cover the consistencies discerned in the database. Finally, an examination of the generalizations made in light of a formalized body of knowledge in the form of constructs or theories was done (Kiger & Varpio, 2020).

Table 3.2: *Phases of Thematic Analysis*

Phase	Description
1. Familiarizing one-self with the data.	Transcribing data, reading and re-reading the data, noting down the initial ideas.
2. Generating initial codes.	Coding interesting features of the data in a systematic manner across the entire dataset, collating data relevant to each code.
3. Searching for themes.	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes.	Level 1: Checking if themes work in relation to coded extracts and the entire data set. Level 2: Generating a thematic ‘map’ of analysis.
5. Defining and naming the themes.	Ongoing analysis to refine the specifics of each theme and overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report.	The final opportunity for analysis. Selection of vivid extract examples, final analysis of selected extracts, relating back the analysis to the research questions and literature, producing a scholarly report of the analysis.

Source: Extracted from Kiger and Varpio, (2020).

3.10 Triangulation of the Quantitative and Qualitative research findings

Quantitative and qualitative findings generated were triangulated to provide clear explanations of the relationships between the study variables. Figure 3.2 shows the triangulation model that this study adopted.

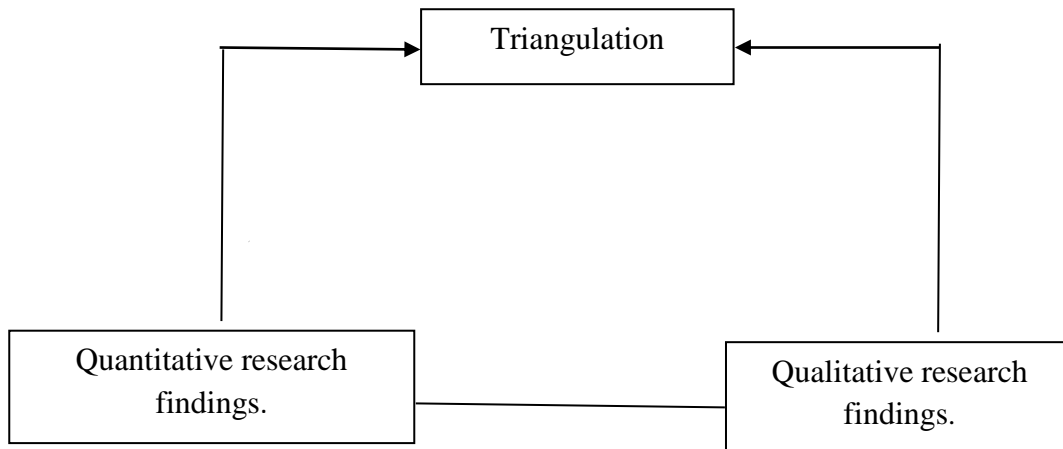


Figure 3.2: *Research study findings triangulation model*

Source: (Ashraf et al., 2020)

Figure 3.2 illustrates the triangulation process adopted by this study. It showed how quantitative and qualitative findings were integrated after analysis. Integration described the extent to which the quantitative and qualitative findings create coherence in the study (Ishtiaq, 2019).

3.11 Internal Validity of Mixed Methods Data

In order to enhance internal validity of mixed methods data, the researcher ensured that the both sample of the qualitative and quantitative phase of the study were drawn from the same sample that was used during study to provide rich information about the quantitative findings to allow for a better understanding of the caregiver's perception towards teenage pregnancy and mitigation strategies. Similarly, the researcher used adequate and representative sample during of the study for both quantitative and qualitative study (Ishtiaq, 2019).

3.12 Ethical Consideration

To conduct academic research, the researcher received approval from the post-graduate studies office of Jaramogi Oginga Odinga University of Science and Technology

(JOOUST), ethical clearance from JOOUST, and; Jaramogi Oginga Teaching and Referral Hospital (JOOTRH) Ethical Review Committee. This information was used when the researcher applied for a research permit from National Commission for Science, Technology, and Innovation (NACOSTI), which ultimately enabled the researcher to get other permission letters from the Ministry of Education, Science and Technology (MOEST) Director and the County Commissioner.

These letters enabled the researcher to access the subjects in Alego Usonga Sub County. Informed consent, which is the process by which people decide whether to engage in an investigation or not after being informed of the facts regarding the research, was used to get permission from the study participants. Every detail necessary to understand the research, its goal and how it will directly or indirectly benefit the participants were explained. Before participants signing to participate, each participant had the opportunity to ask any questions about the research.

Similarly, participants were informed of voluntary participation in the investigation and were assured of confidentiality and anonymity of records that were received. In this line, all the identifying information from the participants were anonymized and data kept in kept in undisclosed safe that was only accessible to the researcher for purposes of reporting the research findings to JOOUST, JOOTRH, and NACOSTI. This also protected the participant from harm or risk that might have resulted from data sharing. However, no participant withdraw from the study. Upon completion of the research study, the researcher promised to destroy the data obtained.

On justice, during sampling, the researcher used cluster sampling technique to ensure that heterogeneity of the study population was increased, by creating cluster that contained subsets of the population whose members had similar characteristics (homogeneous) to allow for representative sample size by coming up with study sample whose composition was proportionately determined when each possible participant is given an equal chance to participate. The informed consent is at appendix I. The researcher ensured that ethical considerations were applied and adhered to for the protection of the participants.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter four presents the results from the study. The quantitative findings are presented as descriptive statistics, using frequency distributions, percentages, and chi-square test analysis to describe the data. Thematic analysis is used to present qualitative data.

4.2 Socio-Demographic Characteristics of the Study Participants

The study sought to determine the socio demographic characteristics of the study participants in terms of age, gender, level of education, marital status, main occupation and religion.

Table 4.1: *Socio-demographic characteristics of respondents N=319*

Participants Characteristics		Frequency (n)	Percentage (%)
Gender of respondents	Male	122	33.20
	Female	197	66.80
Marital Status	Single Parent	25	7.80
	Married	212	66.50
	Separated	31	9.70
	Widow	33	10.30
	Widower	18	5.60
Age of respondents	30 -39 years	45	14.10
	40 - 49 years	96	30.10
	50 -59 years	122	38.20
	60 Years and above	56	17.60
Highest Level of Education	Primary	86	27.00
	Secondary	114	35.70
	Tertiary/college	85	26.60
	University	34	10.70
Main Occupation	Self-employed	108	33.90
	Employed	109	34.10
	Not employed	102	32.00
Religion of respondents	Christian	273	85.60
	Muslim	21	6.60
	Traditional	25	7.80

Source: Field data, 2021

The gender distribution of the caregivers indicated that 33.20% were male, while the majority, accounting for 66.80%, were female. In terms of marital status, the highest percentage was married participants at 66.50%, followed by widows at 10.30%. The remaining respondents were classified as separated (9.70%), single parents (7.80%), and widowers (5.60%). Regarding age, the largest proportion of respondents fell within the 50-59 years' category, comprising 38.20% of the sample. The 40-49 years' group at 30.10% followed this. Participants aged 30-39 years constituted 14.10%, while those aged 60 years and above accounted for 17.60%. In terms of education level, secondary education was the most prevalent category at 35.70%, followed by primary education at 27.00%. Tertiary/college education accounted for 26.60%, while university education represented 10.70% of the respondents. The main occupations of the participants were distributed evenly, with self-employed individuals comprising 33.90%, employed individuals at 34.10%, and unemployed participants at 32.00%. Lastly, the majority of the respondents identified as Christians, making up 85.60% of the sample, followed by individuals practicing traditional religions at 7.80% and Muslims at 6.60%. These findings provide a comprehensive overview of the demographic characteristics of the study participants.

4.3 Knowledge on Teenage Pregnancy

The study sought to explore the knowledge of the participants on teenage pregnancy and mitigation strategies towards teenage pregnancy.

Table 4. 2: *Knowledge on Teenage Pregnancy*

		Freq (n)	Percent (%)
Have ever heard about teenage pregnancy	Yes	280	87.77
	No	39	12.23
Have had an experience with a pregnant teenager in your household?	Yes	249	78.06
	No	70	21.94

Source: Field data, 2021.

The table 4.2 .indicates that 87.77% of the study participants are aware of teenage pregnancy while 78.06% of them have had an experience with a pregnant teenager in their household. The participants were further asked to give their opinions on the

statements relating to knowledge towards teenage pregnancy including questions on the causes and consequence of teenage pregnancy. The responses were measured using five point Likert scale and presented in a table.

Table 4.3: Descriptive statistics on causes of teenage pregnancy

Causes of teenage pregnancy		Prevalence of teenage pregnancy		Mean		Std. Deviation
		Yes n (%)	No n (%)	Statistic	Std. Error	
Peer pressure among teenagers	Strongly disagree	4(1.25%)	8(2.5%)	4.18	0.05	0.91
	Disagree	1(0.31%)	4(1.25%)			
	Neutral	7(2.19%)	14(4.39%)			
	Agree	48(15.05%)	109(34.17%)			
	Strongly agree	37(11.60%)	87(27.27%)			
Poverty among caregivers	Strongly disagree	4(1.25%)	6(1.88%)	4.22	0.048	0.863
	Disagree	1(0.31%)	4(1.25%)			
	Neutral	6(1.88%)	10(3.13%)			
	Agree	54(16.93%)	108(33.86%)			
	Strongly agree	32(10.03%)	94(29.47%)			
Lack of stable family structure(Broken families)	Strongly disagree	3(0.94%)	7(2.19%)	4.26	0.049	0.872
	Disagree	1(0.31%)	3(0.94%)			
	Neutral	5(1.57%)	13(4.08%)			
	Agree	53(16.61%)	94(29.47%)			
	Strongly agree	35(10.97%)	105(32.92%)			
Early teenage marriage(cultural practices)	Strongly disagree	4(1.25%)	8(2.51%)	4.28	0.05	0.894
	Disagree	1(0.31%)	2(0.63%)			
	Neutral	2(0.63%)	12(3.76%)			
	Agree	45(14.11%)	100(31.35%)			
	Strongly agree	45(14.11%)	100(31.35%)			
Lack of sexual awareness(Sex Education)	Strongly disagree	3(0.94%)	7(2.19%)	4.31	0.049	0.872
	Disagree	1(0.31%)	3(0.94%)			
	Neutral	5(1.57%)	10(3.13%)			
	Agree	47(14.73%)	92(28.84%)			
	Strongly agree	41(12.85%)	110(34.48%)			
Drug abuses by young people (Alcohol abuse)	Strongly disagree	3(0.94%)	10(3.13%)	4.16	0.051	0.917
	Disagree	1(0.31%)	4(1.25%)			
	Neutral	5(1.57%)	14(4.39%)			
	Agree	52(16.30%)	110(34.48%)			
	Strongly agree	36(11.29%)	84(26.33%)			
Sexual violence or abuse i.e. rape	Strongly disagree	3(0.94%)	10(3.13%)	4.24	0.053	0.94
	Disagree	1(0.31%)	6(1.88%)			
	Neutral	3(0.94%)	9(2.82%)			
	Agree	50(15.67%)	94(29.47%)			
	Strongly agree	40(12.54%)	103(32.29%)			
Weighted Average				4.22		

Table Legend: 1-totally disagree, 2-disagree, 3-neutral, 4-agree; 5-totally agree Calibration by weighted average.

The findings presented in Table 4.3 reveal the participants' agreement regarding the causes of teenage pregnancy in the study area. The results indicate that peer pressure among teenagers (mean=4.18, SD=0.909), poverty among caregivers (mean=4.22, SD=0.863), lack of stable family structure among teenagers (mean=4.26, SD=0.872), early teenage marriage or cultural practices (mean=4.28, SD=0.894), lack of sexual education and awareness (mean=4.31, SD=0.872), drug abuse by teenagers (mean=4.16, SD=0.917), sexual violence or abuse (mean=4.24, SD=0.940), and school dropout (mean=4.10, SD=0.935) were perceived as significant factors contributing to teenage pregnancy. The weighted average of 4.22 indicates that caregivers in the study area possessed a good understanding of the causes of teenage pregnancy.

Further exploration of knowledge of teenage pregnancy the study captured various responses. For instance, Interviewee mentioned that;

“These are pregnancies below the age of 19yrs.” (R4).

The study further established the causes of teenage pregnancy in the community from the qualitative study, **R2** stated that;

“... they will go to this dance disco at funerals, videos and movies where they meet the boys so I do blame parents so much because they do not take care. The next thing is that these young ladies do need some things which they can use on their life and they cannot get them easily. Things like pads, clothes and other things such as perfumes and whatever that they may use in their life and they cannot get them easily if they cannot get them from their parents, they get them elsewhere.” (R2)

Table 4.4: Descriptive statistics on caregiver Knowledge of consequences of teenage pregnancy

Consequences of teenage pregnancy		Prevalence of teenage pregnancy		Mean		Std. Deviation
		Yes(n)	No (n)	Statistic	Std. Error	Statistic
Maternal mortality	Strongly disagree	2(0.63%)	9(2.82%)	4.16	0.049	0.881
	Disagree	1(0.31%)	4(1.25%)			
	Neutral	8(2.51%)	13(4.08%)			
	Agree	52(16.30%)	115(36.05%)			
	Strongly agree	34(10.66%)	81(25.39%)			
Psychological effects i.e. depression	Strongly disagree	5(1.57%)	15(4.70%)	3.86	0.061	1.092
	Disagree	11(3.44%)	10(3.13%)			
	Neutral	5(1.57%)	28(8.78%)			
	Agree	49(15.36%)	107(33.54%)			
	Strongly agree	27(8.46%)	62(19.44%)			
Chased from home	Strongly disagree	4(1.25%)	12(3.76%)	4.21	0.058	1.035
	Disagree	2(0.63%)	8(2.51%)			
	Neutral	6(1.88%)	12(3.76%)			
	Agree	41(12.85%)	81(25.39%)			
	Strongly agree	44(13.79%)	109(34.19%)			
School drop out	Strongly disagree	1(0.31%)	12(3.76%)	4.25	0.054	0.961
	Disagree	2(0.63%)	5(1.57%)			
	Neutral	6(1.88%)	12(3.76%)			
	Agree	41(12.85%)	89(27.90%)			
	Strongly agree	47(14.73%)	104(32.60%)			
Health risk	Strongly disagree	1(0.31%)	11(3.45%)	4.19	0.055	0.979
	Disagree	2(0.63%)	9(2.82%)			
	Neutral	7(2.19%)	16(5.02%)			
	Agree	49(15.36%)	83(26.02%)			
	Strongly agree	38(11.91%)	103(32.29%)			
Premature birth	Strongly disagree	2(0.63%)	11(3.45%)	4.21	0.054	0.964
	Disagree	3(0.94%)	4(1.25%)			
	Neutral	3(0.94%)	19(5.96%)			
	Agree	47(14.73%)	87(27.27%)			
	Strongly agree	42(13.17%)	101(31.66%)			
Still birth	Strongly disagree	3(0.94%)	17(5.33%)	3.95	0.063	1.119
	Disagree	5(1.57%)	12(3.76%)			
	Neutral	14(4.39%)	22(6.90%)			
	Agree	40(12.54%)	91(28.53%)			
	Strongly agree	35(10.97%)	80(25.08%)			
Death of child due to improper care – Poverty	Strongly disagree	2(0.63%)	10(3.13%)	3.95	0.063	1.119
	Disagree	2(0.63%)	7(2.19%)			
	Neutral	9(2.82%)	16(5.02%)			
	Agree	45(14.11%)	94(29.47%)			
	Strongly agree	39(12.23%)	95(29.78%)			
Weighted average				4.13		

Table Legend: 1-totally disagree, 2-disagree, 3-neutral, 4-agree; 5-totally agree Calibration by weighted average.

The results presented in Table 4.4 illustrate the participants' agreement regarding the consequences of teenage pregnancy. The findings indicate that the participants perceived maternal mortality (mean=4.16, SD=0.881), psychological effects such as depression (mean=3.86, SD=1.092), being chased from home after pregnancy (mean=4.21, SD=1.035), school dropout (mean=4.25, SD=0.961), health risks (mean=4.19, SD=0.979), premature birth by the teenager (mean=4.21, SD=0.964), stillbirth by the teenager (mean=3.95, SD=1.119), and death of the new-born due to improper care or poverty (mean=4.17, SD=0.961) as significant consequences of teenage pregnancy. The calculated weighted average of 4.13 indicates that caregivers in the study possessed a good understanding of the consequences associated with teenage pregnancy.

4.3 Perception of the Caregivers towards Teenage Pregnancy in the Community

The study sought to determine the perception of the participants towards teenage pregnancy. The participants were asked to give their opinions on the statements relating to perception towards teenage pregnancy and mitigation strategies. The responses were measured using five point Likert scale which involved levels of agreement coded as 1 for totally disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 totally agree. Table 4.5 below provides valuable insights into caregivers' perspectives on teenage pregnancy. The findings reveal a consistent pattern of disapproval and negative sentiments among caregivers regarding girls becoming pregnant in the community (mean=4.10, SD=0.962), as well as the community's prevailing negative attitude towards teenage pregnancy (mean=4.06, SD=1.007). Caregivers also recognized teenage pregnancy as a significant issue within the community (mean=4.17, SD=0.805) and agree that it has adverse effects on teenagers' education (mean=4.30, SD=0.892). In summary, with an overall cumulative mean of 4.16, it becomes evident that caregivers predominantly agree that they and the entire community feel bad towards teenage pregnancy. Teenage pregnancy is a problem and affect teenager's school work. By feeling bad about teenage pregnancy, the statement, however, indicate that caregivers have negative perception towards teenage pregnancy.

Table 4.5: Caregiver's perception towards Teenage Pregnancy

Perception	Prevalence of teenage pregnancy		Mean		Std. Deviation	
	Yes (n)	No (n)	Statistic	Std. Error		
Caregiver feeling bad about teenage pregnancy	Strongly disagree Disagree Neutral Agree	4(1.25%) 3(0.94%) 2(0.63%) 57(17.87%)	12(3.76%) 5(1.57%) 11(3.45%) 117(36.68%)	4.1	0.054	0.962
Community having bad feeling about teenage pregnancy	Strongly disagree Disagree Neutral Agree	3(0.94%) 4(1.25%) 10(3.13%) 43(13.48%)	13(4.08%) 4(1.25%) 22(6.70%) 104(32.60%)	4.06	0.056	1.007
Thought on teenage pregnancy affecting teenager's school work in the community	Strongly disagree Disagree Neutral Agree Strongly agree	3(0.94%) 2(0.63%) 0(0) 48(15.05%) 44(13.79%)	5(1.57%) 11(3.45%) 6(1.88%) 92(28.84%) 108(13.79%)	4.17	0.045	0.805
Teenage pregnancy being a problem in the community.	Strong disagree Disagree Neutral Agree Totally agree	2(0.63%) 4(1.25%) 8(2.51%) 47(14.73%) 36(11.29%)	1(0.31%) 10(3.13%) 13(4.08%) 123(38.56%) 75(23.51%)	4.3	0.05	0.892
Weighted average			4.16			

Table Legend: 1-totally disagree, 2-disagree, 3-neutral, 4-agree; 5-totally agree Calibration by weighted average.

On exploring further on how caregivers feel about girls who are falling pregnant in the community, **R5** stated that;

“It is not a good picture and the parents whose children are involved do not feel good since when the girl becomes pregnant it becomes another burden to them.” (R5).

“We feel bad because their future may take a different turn because most the time these girls are still in school and depending on the direction or the way their parents bring them up they may end up not getting an education.” (R6).

4.3.1 Caregiver perception on mitigation strategies towards teenage pregnancy

Caregivers asked about their perception on mitigation strategies.

Table 4.6: *Descriptive statistics on perception of caregivers on mitigation strategies towards teenage pregnancy*

		Prevalence of teenage pregnancy		Mean		
		Yes(n)	No(n)	Statistic	Std. Error	Std. Deviation
Provision of sex education and awareness creation to teenagers in the community	Strongly disagree	3(0.94%)	11(3.45%)	4.1	0.054	0.962
	Disagree	4(1.25%)	4(1.25%)			
	Neutral	4(1.25%)	21(6.58%)			
	Agree	51(15.99%)	107(33.54%)			
	Strongly agree	35(10.97%)	79(24.76%)			
Parental teen communication about pregnancy and sexuality can mitigate teenage pregnancy	Strongly disagree	3(0.94%)	9(2.82%)	4.21	0.05	0.898
	Disagree	1(0.31%)	5(1.57%)			
	Neutral	2(0.63%)	10(3.13%)			
	Agree	51(15.99%)	112(35.11%)			
	Strongly agree	40(12.54%)	86(26.96%)			
Allowing teenagers to use contraceptives to mitigate teenage pregnancy	Strongly disagree	3(0.94%)	11(3.45%)	4.16	0.052	0.924
	Disagree	3(0.94%)	2(0.63%)			
	Neutral	4(1.25%)	11(3.45%)			
	Agree	55(17.24%)	111(34.80%)			
	Strongly agree	32(10.03%)	87(27.27%)			
Allowing access information on contraceptives by teenagers to mitigate teenage pregnancy	Strongly disagree	5(1.57%)	10(3.13%)	4.09	0.051	0.912
	Disagree	3(0.94%)	2(0.63%)			
	Neutral	3(0.94%)	11(3.45%)			
	Agree	55(17.24%)	132(41.38%)			
	Strongly agree	31(9.72%)	67(21.00%)			
Establishing connections for teens who are pregnant to be effectively referred to pertinent services	Strongly disagree	4(1.25%)	11(3.45%)	4.14	0.052	0.934
	Disagree	4(1.25%)	1(0.31%)			
	Neutral	3(0.94%)	11(3.45%)			
	Agree	55(17.24%)	115(36.05%)			
	Strongly agree	31(9.72%)	84(26.33%)			
Establishing more polices and regulation to control teenage pregnancy	Strongly disagree	3(0.94%)	12(3.76%)	4.27	0.053	0.946
	Disagree	3(0.94%)	1(0.31%)			
	Neutral	3(0.94%)	6(1.88%)			
	Agree	47(14.73%)	96(30.09%)			
	Strongly agree	41(12.85%)	107(33.54%)			
Stakeholder	Strongly	5(1.57%)	11(3.45%)	4.08	0.054	0.957

capacity building	disagree					
	Disagree	1(0.31%)	5(1.57%)			
	Neutral	6(1.88%)	14(4.39%)			
	Agree	53(16.61%)	119(37.30%)			
	Strongly agree	32(10.03%)	73(22.88%)			
Community development and economic empowerment	Strongly disagree	5(1.57%)	10(3.13%)	4.12	0.054	0.968
	Disagree					
	Neutral	2(0.63%)	6(1.88%)			
	Agree	3(0.94%)	15(4.70%)			
	Strongly agree	46(14.42%)	114(35.74%)			
Re-entry policy for teen mothers	Strongly disagree	41(12.85%)	77(24.14%)			
	Disagree	5(1.57%)	11(3.45%)	4.09	0.054	0.96
	Neutral					
	Agree	1(0.31%)	5(1.57%)			
	Strongly agree	6(1.88%)	13(4.08%)			
	Agree	54(16.93%)	115(36.05%)			
	Strongly agree	31(9.72%)	78(24.45%)			
Weighted average				4.14		

Table Legend: 1-totally disagree, 2-disagree, 3-neutral, 4-agree; 5-totally agree Calibration by weighted average.

Table 4.6 presents caregiver's perceptions regarding various strategies to mitigate teenage pregnancy. The findings highlight caregivers' belief in the effectiveness of several measures as preventive methods. These measures included providing sex education and awareness to teenagers in the community (mean=4.10, standard deviation=0.962), encouraging parental communication on pregnancy and sexuality (mean=4.21, standard deviation=0.898), enabling teenagers to access contraceptives (mean=4.16, standard deviation=0.924), facilitating access to contraceptive information for teenagers (mean=4.09, standard deviation=0.912), establishing referral connections for pregnant teens to essential services (mean=4.14, standard deviation=0.934), implementing additional policies and regulations (mean=4.27, standard deviation=0.946), enhancing stakeholder capacity (mean=4.08, standard deviation=0.957), promoting community development and economic empowerment (mean=4.12, standard deviation=0.968), and implementing re-entry policies for teen mothers (mean=4.09, standard deviation=0.960).

To evaluate the overall perception of these mitigation strategies, the weighted average score was calculated. Strategies with scores above the mean of 3.50 were considered to have a positive perception, while those below the mean were considered to have a

negative perception. Since the weighted average was 4.14, it indicates that the participants held a positive perception towards the mitigation strategies, as indicated in Appendix IV. Notably, when the interviewees were asked what they think can or should be done to reduce the number of teenagers who get pregnant in the community, R6 stated that;

“..... programmes can be initiated which will teach these girls how to take good care of themselves at teenage age and support some of these girls with social amenities that they lack and even organise lunch programmes at school so that some people do not take advantage of their hunger.....”. (R6).

4.4 Mitigation Strategies towards Teenage Pregnancy

The study further sought to find the mitigation strategies caregivers use in the prevention of teenage pregnancy in the community. The study participants were asked question to regarding their level of agreement depending on the mitigation strategy.

Table 4.7: Descriptive statistics on mitigation strategies towards teenage pregnancy

Mitigation strategies		Prevalence of teenage pregnancy		Mean		Std. Deviation
		Yes(n)	No(n)	Statistic	Std. Error	
Provision of sex education and awareness to teenagers in the community	Strongly disagree	5(1.57%)	13(4.08%)	4.13	0.054	0.973
	Disagree	1(0.31%)	1(0.31%)			
	Neutral	6(1.88%)	12(3.76%)			
	Agree	44(13.79%)	118(36.99%)			
	Strongly agree	41(12.85%)	78(24.45%)			
Communication with my teenagers about pregnancy	Strongly disagree	5(1.57%)	13(4.08%)	4.21	0.055	0.988
	Disagree	1(0.31%)	3(0.94%)			
	Neutral	2(0.63%)	7(2.19%)			
	Agree	44(13.79%)	107(33.54%)			
	Strongly agree	45(14.11%)	92(28.84%)			
Allowing teenagers to use contraceptives	Strongly disagree	39(12.23%)	119(37.39%)	1.5	0.028	0.501
	Disagree	58(18.18%)	103(32.29%)			
Allowing teenagers to access information on contraceptives	Strongly disagree	75(23.51%)	153(47.96%)	1.29	0.025	0.452
	Disagree	22(6.90%)	69(21.63%)			
Participation in capacity building to end teenage pregnancy	Strongly disagree	91(28.53%)	181(56.73%)	1.15	0.02	0.355
	Disagree	6(1.88%)	41(12.85%)			
Participation in community development and economic empowerment	Strongly disagree	50(15.67%)	67(21.00%)	2.39	0.082	1.471
	Disagree	9(2.82%)	82(25.71%)			
	Neutral	10(3.13%)	24(7.52%)			
	Agree	14(4.39%)	13(4.08%)			
	Strongly agree	14(4.39%)	32(10.03%)			
Supporting re-entry policy to school for teen mothers	Strongly disagree	55(17.24%)	140(43.89%)	1.99	0.086	1.528
	Disagree	5(1.57%)	48(15.05%)			
	Neutral	0(0)	2(0.63%)			
	Agree	9(2.82%)	9(2.82%)			
	Strongly agree	27(8.46%)	22(6.90%)			
Weighted average				2.38		

Table Legend: 1-totally disagree, 2-disagree, 3-neutral, 4-agree; 5-totally agree Calibration by weighted average.

The findings presented in Table 4.7 shed light on the mitigation strategies employed by the study participants to address teenage pregnancy. The results reveal varying levels of agreement among the participants regarding these strategies. Some participants expressed agreement with certain approaches, such as providing sex education and awareness (mean=4.13, standard deviation=0.973) and facilitating communication with teenagers (mean=4.21, standard deviation=0.988) regarding teenage pregnancy.

However, there were participants who disagreed with several mitigation strategies. For instance, there was disagreement concerning allowing teenagers to use contraceptives (mean=1.50, standard deviation=0.501), granting teenagers access to information about contraceptives (mean=1.29, standard deviation=0.452), participating in capacity building initiatives to combat teenage pregnancy (mean=1.15, standard deviation=0.355), engaging in community development and economic empowerment efforts (mean=2.39, standard deviation=1.471), and supporting re-entry policies for teen mothers to continue their education (mean=1.99, standard deviation=1.528).

To assess the overall perception of these mitigation strategies, a weighted average score was calculated. Strategies with scores above the mean of 3.50 were considered indicative of agreement, while those below the mean were seen as indicating disagreement. Given the weighted average of 2.38, it suggests that the participants expressed disagreement regarding the mitigation strategies for teenage pregnancy, as indicated in Appendix VI. In addition, the results reveals that the mitigation strategies put in place by caregivers were associated with prevalence of teenage pregnancy (P-value < 0.05)

Additional probing of the participants revealed the theme of caregivers as key players in reducing teenage pregnancy as indicated below;

“Caregivers are supposed to give direction and understand to the teenagers with the current century, basically the problem in the society is that we want to bring up our children the way we were brought up without understanding the changes, so we have to understand the changes according to the current situation.” (R5).

“They should be educating these teenagers; they should be sitting down and interacting with them on the dangers of getting pregnant early yeah. You know getting pregnant also means you are involving in sex and that is not good so they should also teach them that early sex is not good yeah because you can expose yourself to HIV and other viral diseases which may result to HIV once you get infected it means there is no cure so you will be living yes, but you will be living

on drugs and sometimes even your body the antidote is very weak and you will be in a position that you can get any.... your body will not be in a position to resist some diseases.” (RI).

4.5 The relationship between socio-demographic attributes of primary caregivers and the prevalence of teenage pregnancy in Siaya County.

The sought to determine the relationship between socio-demographic variables that included gender, age, marital status, occupational status, education level and religion; and the prevalence of teenage pregnancy. This was done by establishing the existence of multicollinearity between socio-demographic variables to determine the relationship.

4.5.1 Multicollinearity

To identify the presence of multicollinearity, the research used the Variance Inflation Factor.

Table 4.8: *The Variance Inflation Output*

Model	Collinearity Statistics	
	Tolerance	VIF
1 Caregiver gender	0.981	1.020
Caregiver age	0.916	1.092
Caregiver marital status	0.960	1.041
Caregiver level of education	0.948	1.055
Caregiver occupation status	0.941	1.063
Caregiver religion	0.968	1.033

a. Dependent Variable: Prevalence of teenage pregnancy

According to the findings in Table 4.8, the VIF for the independent variables is between 1 and 5 while tolerance is below 1. A lower tolerance indicates a lower multicollinearity between variables. Additionally, a VIF ranging from 1 to 5 shows no multicollinearity, whereas a VIF greater than 5 shows there is the presence of multicollinearity. According to the results, multicollinearity does not exist between the variables.

4.7.2 Pearson chi-square analysis

The study employed chi-square to establish the relationship between socio-demographic variables of study participants and prevalence of teenage pregnancy. The p-values were calculated to assess the strength and significance of the relationships. The results of the

chi-square analysis examining the relationship between socio-demographic variables of caregivers and teenage pregnancy prevalence.

Table 4.9: *Pearson chi-square analysis of the relationship between socio-demographic variables of caregivers and teenage pregnancy prevalence.*

		Prevalence of teenage pregnancy		Chi-square statistics
		Yes(n)	No(n)	
Caregiver gender	Male	37	69	$X^2=1.578; df=1; P\text{-value}=0.218$
	Female	60	153	
Caregiver age	30-39 years	12	33	$X^2=1.575; df=3; P\text{-value}=0.665$
	40-49 years	31	65	
	50-59 years	34	88	
	60 years and above	20	36	
Caregiver marital status	Single parent	7	18	$X^2=1.911; df=4; P\text{-value}=0.752$
	Married	66	146	
	Separated	10	21	
	Widow	11	22	
Caregiver level of education	Widower	3	15	$X^2=0.732; df=3; P\text{-value}=0.866$
	Primary	27	59	
	Secondary	37	77	
	Tertiary/College	23	62	
Caregiver occupation status	University	10	24	$X^2=4.356; df=2; P\text{-value}=0.113$
	Self-employed	27	81	
	Employed	41	68	
Caregiver religion	Not employed	29	73	$X^2=5.976; df=2; P\text{-value}=0.050$
	Christian	78	195	
	Islam	6	15	
	Traditional	13	12	

Table Legend: Source field data, 2021.

The chi-square analysis in table 4.9 above revealed that gender, age, marital status, education, and occupation of caregivers were not significantly associated with the prevalence of teenage pregnancy ($P\text{-value}>0.05$). However, there was a significant association between the religion of caregivers and the prevalence teenage pregnancy prevalence ($(X^2=5.976; df=2; P\text{-value}=0.050)$).

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter five discusses the findings and compare with the findings from other similar studies. The chapter discusses prevalence of teenage pregnancy, caregiver knowledge on teenage pregnancy, caregiver perception towards teenage pregnancy, mitigation strategies towards teenage pregnancy and the relationship between socio-demographic variables and the prevalence of teenage pregnancy.

5.2 Caregivers Knowledge on Teenage Pregnancy

The study findings revealed that majority of the caregivers know what teenage pregnancy is and have had an experience with pregnant teenager. The findings further showed that most respondents had knowledge of the causes and consequences of teenage pregnancy as they expressed their level of agreement with the causes of teenage pregnancy as was asked. The findings from key informant interviews revealed that caregivers had good understanding of teenage pregnancy, causes and consequences. The findings of the study are in agreement with the findings that were obtained by Kirubamani, (2019) that noted a majority of the study participants had adequate knowledge of the consequences of teenage pregnancy. Caregivers' towards teenage pregnancy might have been attributed by the high prevalence of teenage in the community and consistent health education by health workers in the community

Moreover, the study revealed that the problem of peer pressure, lack stable family structure, early marriages and sexual violence as causes of teenage pregnancy were perceived as commonest challenges. Pregnant teen girls also perceived by caregivers to face other health risks and complications including maternal death. This is largely plausible given their premature body physiology, leading to premature birth, stillbirth, death of the new-born and school dropout thus deprive them biological, socio-economical and physical development (Kukundakwe, 2021). The good knowledge of caregivers on teenage pregnancy demonstrate the good job the government has on awareness creation through media on how to end teenage pregnancy and implementing some of the mitigation strategies.

5.3 Caregivers Perception towards Teenage Pregnancy

The research went further to find out the perception of caregivers towards teenage pregnancy in the community. The findings showed that caregivers had poor perception towards teenage pregnancy. The results concur with those of Mgbokwere et al., (2015) who found that several mothers rated the scenario as frightening and alarming, leading to dissatisfaction. Another research that supports these conclusions is Ashraf et al., (2020) which showed that some caregivers would grieve and worry for the future of such girls while others would feel guilty for failing in their duty and not doing more to shield their kid from this situation. This study revealed that caregivers felt bad about girls getting pregnant and thought that the pregnancy affects teenager's education and future in the community.

Additionally, the study established the perception of the general community towards teenage pregnancy indicating that they have a negative perception towards teenage pregnancy. On exploring further on how caregivers feel about girls who are falling pregnant in the community, some of the participants mentioned that it is not a good picture to the parents whose children are involved as they do not feel good since when the girl becomes pregnant it is like another burden to them. In addition, it was noted that the community feels bad as the future of the girls might take a different turn because in most cases these girls are still in school and depending on the direction or the way their parents bring them up they may end up not getting education. Thus, indicating that teenage pregnancy within the study area is viewed negatively based on the negative effects that it has on both the parent and the teenage daughter. This finding is consistent with that of Ashraf et al.,(2020) and Mgbokwere et al., (2015) that some caregivers felt ashamed of their teen's pregnancy and were concerned about the reaction of family, friends, and neighbours. This finding reveal the importance of significant other of caregivers and teenagers towards the impact of teenage pregnancy.

The study, further, revealed the perception of caregivers towards perceived mitigation strategies. The findings showed that the participants of the study expressed their agreement that the provision of sex education and awareness, parental teen communication on pregnancy and sexuality, use contraceptives, access information on

contraceptives, establishing referral connections for pregnant teens for pertinent services, establishing more policies and regulation, stakeholder capacity building, community development and economic empowerment and re-entry policy for teen mothers as mitigation strategies towards teenage pregnancy. These findings revealed that caregivers had good perception towards the mitigation strategies and agreed with Nabugoomu *et al.*, (2020) that caregivers, community and multi-stakeholders positive perception in the involvement, identification and establishment of strategies is key in the prevention of teenage pregnancy. This is because majority of the caregivers watch various campaigns and discussion on media which helped them build positive perception with the mitigation strategies towards teenage pregnancy.

5.4 Mitigation Strategies toward Teenage Pregnancy

The study further sought to establish the mitigation strategies used towards teenage pregnancy. The finding revealed that some participants expressed their agreement on the engagement on providing sex education and awareness and, communication to teenagers about teenage pregnancy. These results are at odds with studies which hypothesized that teenagers are less likely to engage in delinquent sexual behaviour and more likely to postpone their first sexual encounter, the more caregivers talk about stuff like sex, unwanted pregnancies, and birth control with them (Hu & Wang, 2022).

Furthermore, numerous sexual discourse is linked to teenagers being more open and closer to their caregivers (Coakley *et al.*, 2017). The Key informant interview noted that parents should be educating teenage girls on the dangers of getting pregnant early. This finding is in agreement with that “sexual education by caregivers, as one of the main components of sexual socialization, is one of the best strategies for children’s sexual health promotion.” (Aluh *et al.*, (2018)

Consequently, caregivers expressed disagreement with some of the mitigation strategies including allowing teenagers to use contraceptives, allowing teenagers to access information on contraceptives, participation in capacity building to end teenage pregnancy, participation in community development and economic empowerment and supporting re-entry policy to school for teen mothers towards teenage pregnancy. The findings agreed with the study conducted which found that strategies for mitigation of

teenage pregnancy is closely linked to their perceptions and knowledge of caregivers (Baker, 2022) ,(Emelumadu et al., 2014). Caregivers who possess accurate and comprehensive knowledge about the implications of teenage pregnancy are better equipped to engage in open and informed conversations with teenagers. This can lead to adolescents becoming more aware of the potential consequences of their actions and choices since teenagers are likely to value their family's perception on sexual behaviour and childbearing.

5.5 The Relationship between Socio-Demographic Attributes of Caregivers and Prevalence Towards Teenage Pregnancy

The findings finally sought to determine the relationship between socio demographic variables attributes and teenage pregnancy prevalence. The results suggest that the relationship is not strong enough to show statistically significance between gender and prevalence of teenage pregnancy. The findings are consistent with Uwizeye et al., (2020), that found that female caregivers and their guidance are important in preventing teenage pregnancy. This finding demonstrate that gender is not a determinant on teenage pregnancy.

The results also showed that there was no significant relationship between age and prevalence of teenage pregnancy. In this study, there were more caregivers between the age of 50 years to 59 years as compared to those in their 60 years or other age groups. With these findings, we argue that younger caregivers may find it difficult to advise their teenagers about sexuality and teenage pregnancy. The findings also revealed that older caregivers may command more respect and are mature enough than younger caregivers. Thus, older caregivers know how to approach sexuality and teenage pregnancy context issues and create ambient environment to talk about them. We further argue that teenage pregnancy can happen regardless of caregivers age, thus , the findings are similar to that of Jonas et al., (2016; Kassa et al., (2018); Uwizeye et al., (2020); Worku et al., (2021),which found that caregiver age can influence teenage pregnancy to some extent but it cannot prevent teenage pregnancy from happening. Further, results showed that there was no significant relationship between marital status and prevalence of teenage pregnancy. The findings revealed that marital status of caregivers does not influence

teenage pregnancy. This finding contradicts a study that was carried in Uganda which found that there was a significant association between teenage pregnancy and marital status of the caregiver (Worku et al., 2021), Uwizeye et al., 2020). In the same way, we argue that when caregivers separate, teenagers are more likely to engage into risky sexual behaviour at an early age than when they are married hence can lead to teenage pregnancy.

The results further indicated that there was no significant relationship between occupational status and prevalence of teenage pregnancy. In this study, most caregivers were employed, slightly higher than those not employed or self-employed. Findings from this present study indicated that occupational status of caregivers does not contribute to prevalence of teenage pregnancy. The findings contradicted the findings of a study by Nwogweze, (2020) and Malesi et al., (2021) that established that teenager whose caregivers are employed are less likely to involve into early pregnancy as compared to those not employed or self-employed. However, the findings are consistent with those findings of Uwizeye et al., (2020), that found that teenage pregnancy can happen irrespective of the caregiver occupational status. Likewise, we argue that caregiver may be employed but still cannot provide the financial needs of the teenager hence enabling teenage pregnancy.

Moreover, the findings revealed that there was no significant relationship between educational level and prevalence of teenage pregnancy ($X^2=0.732$; $df=3$; $P\text{-value}=0.866$). The findings indicated that most caregivers attained secondary education level while few attained university education level. The findings showed that caregivers' educational achievement has less impact to play on the prevalence of teenage pregnancy. Although, caregivers with less education advice less their teens on the risk factors for teenage pregnancy as compared to those with higher educational level since they know and understand the mitigation strategies of teenage pregnancy. The findings of this study is consistent with that of Nwogweze, (2020) that found that educational level achievement of caregivers are not correlated with teenage pregnancy.

Lastly, the findings revealed that there was a significant relationship between religion and prevalence of teenage pregnancy. The findings indicated that majority of caregivers were Christians and few were from either Muslims or traditional religion. The findings showed that for caregivers who value religion, their teenagers were victims of teenage pregnancy. Since it is believed that religion provide a moral framework for socialization (Nwogueze, 2020),the prevalence of teenage pregnancy still was correlated with religion. This findings were in agreement with the study conducted on determinants of teenage pregnancy that found that religion was associated with teenage pregnancy (Yakubu & Salisu, 2018). . In our argument, this may have been attributed due to different practices along religion lines and the choice of mitigation measure.

CHAPTER SIX: CONCLUSION, AND RECOMMENDATION

This chapter presents the conclusion, recommendations and areas for further research.

6.1 Conclusion

The study found majority of the study participants knew and had experience with a pregnant teenager within their household. They were able to identify its risk factors and consequences of teenage pregnancy. However, the study participants held negative perceptions towards teenage pregnancy viewing it as undesirable and expressing concern for its impact on teenagers' education and future prospects, while having positive perception on mitigation measures and relationship religion beliefs influence the occurrence of teenage pregnancy in Siaya County.

6.2 Recommendations

The following recommendations are essential based on the study results and the conclusion above.

- i. The study recommend adoption of a more comprehensive strategy to provide teenagers and their caregivers with information about sexuality and access to sexual and reproductive health services to improve the caregiver's knowledge and their perception on teenage pregnancy.
- ii. To reduce the prevalence of teenage pregnancy, the study recommend that the Ministry of Health and Ministry of Education to initiate programs that educate caregivers and teenagers about reproductive health inside and outside schools in mitigation of teenage pregnancy in Siaya County.
- iii. The study further recommend, that caregivers should be assisted to develop new skills and practices crucial in communication strategies of sexuality and awareness creation to improve their knowledge and perceptions towards teenage pregnancy.
- iv. The church and its should be involved as key stakeholder in mitigation of teenage pregnancy.

6.3 Further Research

- i. More studies should be conducted on the prevalence of mental health disorders among caregivers of pregnant teenagers in the community.

- ii. Additional research should be carried out in Kenya to determine the prevalence of teenage pregnancy along the lines of religion.

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APPENDICES

APPENDIX I: INFORMED CONSENT FORM

Study Title	Caregiver’s perception towards teenage pregnancy and mitigation strategies in Siaya County
Principal Investigator	Ochieng Kevin Mobile:+254 706961690 Email address:kochieng9@gmail.com Reg No. H153/4147/2018 Jaramogi Oginga Odinga University of Science and Technology

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

This questionnaire has been developed to gather information from caregivers of teenage girls regarding “*Caregiver’s Perception towards Teenage Pregnancy and Mitigation Strategies in Siaya County*”. The purpose is purely academic research and not for financial or material gain whatsoever.

Who Can Participate?

We are including caregivers of teenage girls between the ages of 10 – 19 years in Siaya County.

Voluntary Participation

You have the choice of participating or not. Any questions that you do not wish to answer are not required to be answered. You have the right to withdraw from this research at any time.

What Is Involved in this Project?

If you agree to participate in this research study, you will talk privately with me for approximately 30 minutes. You will be asked some questions relating to your perception towards teenage pregnancy and mitigation strategies. There are no "correct" or "wrong" answers to the questions, so please keep that in mind. If you feel uncomfortable answering any of the questions, you are free not to.

How long will the Project Last?

This research will last around one month.

What are the Risks?

The only known risk to you of your involvement in this study is the inconvenience of giving 30 minutes of your time. No information is being collected that could identify you with your responses. We will not write your name anywhere so that your answers cannot be linked to you.

What are the Benefits?

There are no direct benefits to participating in this study

How will we protect your Information and Confidentiality?

All answers will be kept private. We will not write your name down, and anything you tell us will not be linked to your name. We will do everything we can to keep the data confidential. Access to the data will also be limited to the researcher, and who will use the information obtained only for research purposes.

What will happen with the Results?

Study results will be analysed and produced as a report that will be shared with the university which I am studying in. We will also disseminate results through journal publications.

Can I Refuse to Participate or Withdraw from the Study?

You can refuse to participate, or even withdraw your participation in this study at any time, and there will be no consequences at all to you.

Compensation

There will be no direct or material compensation for your participation in this study.

Whom Can I Contact?

If you have questions about the study, you can contact -

[The Principal Investigator: Ochieng Kevin; +254-706961690].

[The Study Supervisors: Dr. Jane Owenga +254724360087 and Dr. Elizabeth Omondi +254714606872 P.O. Box 210 – 40601 Bondo, Department of Public Health, and JOOUST]

[The Jaramogi Oginga Odinga Teaching and Referral Hospital Ethics and Research Committee, P.O Box 849 Kisumu Telephone no: 057-2020801/2020803/2020321 Email: ercjootrh@gmail.com]

Do you have any questions at this time?

Certificate of Consent

Statement by the participant

If you consent to participate in the study, please sign below:

I thus give my permission to take part in the research. I was made aware of the study's purpose and given an explanation of any hazards that could be involved. I am aware that my participation in the research is optional, and whether or not I choose to take part has absolutely no impact on me. I am aware that I may decide to stop taking part in the research at any time without having to provide a reason or suffer any repercussions. Additionally, I have received assurances that my information would be kept private.

Signature: _____ Date: _____

Statement by the researcher

I certify that the participant was given a chance to inquire about the research and that I have accurately and fully responded to all inquiries. I attest that the person's permission was freely provided and willingly given and not forced.

Print Name of Researcher	
Signature of Researcher/	
DD/MM/YYYY	

APPENDIX II: HOUSEHOLDS DATA COLLECTION TOOL

Dear Participant,

RE: QUESTIONNAIRE FILLING

Hello. My name is *Kevin Ochieng*, a student undertaking Masters of Science in epidemiology and Biostatistics at Jaramogi Oginga Odinga University of Science and Technology. This questionnaire has been developed to gather information from caregivers of teenage girls regarding “*Caregivers knowledge, perception and Mitigation Strategies towards Teenage Pregnancy in Siaya County*”. The purpose is purely academic research and not for financial or material gain whatsoever. Confidentiality will be kept regarding the information gathered. Participation in study is purely voluntary and you can withdraw at any time you wish. The study will take 30 minutes of your time. If you have any question, you can ask before we begin.

Now, do wish to participate in this study Yes [] No []

Thank you for your time.

Instructions

Please be truthful while answering the questions and draw on your knowledge, perception *and mitigation strategies towards teenage pregnancy*. We will maintain the privacy of all of your opinions.

Indicate your response by ticking (√) within the check boxes provided.

PART 1: SOCIO-DEMOGRAPHIC INFORMATION (*Tick appropriate choice*)

1. What is your gender?
Male Female
2. What is your age?
30-39 years 40-49 years 50-59 years 60 years & above
3. What is your marital status?
Single parent married Separated Widow Widower
4. What is your highest level of education?
Primary Secondary Tertiary/College University
5. What is your occupational status?
Self-employed Employed Not employed
6. Which religion do you belong to?
Christian Islam Traditional

PART 2: CAREGIVER KNOWLEDGE TOWARDS TEENAGE PREGNANCY (*Knowledge*)

This section is meant to provide information to establish your perception towards teenage pregnancy.

1. Have you ever heard about teenage pregnancy?
(a) Yes (b) No
2. Have you had an experience with a pregnant teenager in your household?
(a) Yes (b) No
3. In the past year, have you have teenage who have given birth?
a) Yes (b) No
4. If yes in question 3 above, how many teenage girls have given birth in your household?.....
5. Do you currently have a pregnant teenager in your household?
(a) Yes (b) No
6. If yes in question 5 above, how many teenage girls are currently pregnant in your household?.....

7. In your opinion, to what extent do you agree or disagree with the statements as the causes of teenage pregnancy in your community? (*Tick appropriate choice*)

For every way, indicate your opinion by ticking one box against each statement provided. Use the scale 5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree and 1=Strongly Disagree.						
		SA	A	UD	D	SD
	Causes of teenage pregnancy	5	4	3	2	1
I	Peer pressure among teenagers					
Ii	Poverty (low socio-economic status of the parent/caregivers)					
Iii	Lack of stable family structure(broken families)					
Vi	Early teenage marriage (Cultural practices)					
V	Peer pressure among teenagers					
Vi	Lack of sexual awareness (Sex education)					
Vii	Drug abuses by young people (alcohol abuse)					
Viii	Sexual violence or abuse i.e. rape					

1. In your opinion, to what extent do you agree or disagree with the statements as the consequences of teenage pregnancy in your community? (*Tick appropriate choice*)

For every way, indicate your opinion by ticking one box against each statement provided. Use the scale 5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree and 1=Strongly Disagree.						
		SA	A	UD	D	SD
	Causes of teenage pregnancy	5	4	3	2	1
I	Maternal mortality					
Ii	Psychological effects i.e. depression					
Iii	Chased from home					
Vi	School drop out					
V	Health risk					
Vi	Premature birth					
Vii	Still birth					
Viii	Death of child due to improper care – Poverty					

PART 3: CAREGIVER PERCEPTION TOWARDS TEENAGE PREGNANCY

8. In your opinion, to what extent do you agree with the statements as your feeling towards teenage pregnancy in your community? *(Tick appropriate choice)*

For every way, indicate your opinion by ticking one box against each statement provided. Use the scale 5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree and 1= Strongly Disagree.		SA	A	UD	D	SD
	Perception towards teenage pregnancy	5	4	3	2	1
i	I feel good about teenage pregnancy					
ii	Most people who are important or close to you think good about teenage pregnancy in your community.					
iii	Teenage pregnancy is a problem in your community.					
iv	Teenage pregnancy affects teenager's schoolwork in your community.					

Perception on mitigation strategies towards teenage pregnancy

1. In your opinion, to what extent do you agree or disagree with the statements as your perception on mitigation strategies towards teenage pregnancy in your community? *(Tick appropriate choice)*

For every way, indicate your opinion by ticking one box against each statement provided. Use the scale 5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree and 1= Strongly Disagree.		SA	A	UD	D	SD
	Perceptions on mitigation strategies	5	4	3	2	1
i	Provision of sex education and awareness to teenagers in the community can mitigate teenage pregnancy.					
ii	Parental teen communication about pregnancy and sexuality can mitigate teenage pregnancy					
iii	Allowing teenagers to use contraceptives to mitigate teenage pregnancy					
iv	Allowing access information on contraceptives by teenagers to mitigate teenage pregnancy					
v	Establishing connections for teens who are pregnant to be effectively referred to pertinent services					
vi	Establishing more polices and regulation to control teenage pregnancy					
vii	Stakeholder capacity building					
viii	Community development and economic empowerment					
ix	Re-entry policy for teen mothers					

PART 4: MITIGATION STRATEGIES TOWARDS TEENAGE PREGNANCY

1. This section is meant to provide information on what you have done to mitigate teenage pregnancy in your community.

In your opinion, to what extent do you agree or disagree with the statements as the strategies you have put in place in mitigation of teenage pregnancy in your community? (*Tick appropriate choice*)

For every way, indicate your opinion by ticking one box against each statement provided. Use the scale 5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree and 1= Strongly Disagree.						
		SA	A	UD	D	SD
	Mitigation strategies	5	4	3	2	1
i	I have engaged in providing sex education and awareness to teenagers in the community to mitigate teenage pregnancy.					
ii	I have communicated with my teenagers about pregnancy to mitigate teenage pregnancy.					
iii	I have allowed my teenagers to use contraceptives to mitigate teenage pregnancy.					
iv	I have allowed my teenagers to access information on contraceptives to mitigate teenage pregnancy.					
v	I have participated in capacity building to end teenage pregnancy					
vi	I have participated in community development and economic empowerment					
vii	I support re-entry policy to school for teen mothers					

Thank you for your Cooperation

APPENDIX III: INTERVIEW GUIDES

Perceptions:

1. Have ever heard of teenage pregnancy? Can you explain to me what teenage pregnancy is?
2. How do you feel about girls who fall pregnant in your community? What is your perception towards teenage pregnancy?
3. How does teenage pregnancy affect girls in your community?
4. How does teenage pregnancy affect boys in your community?
5. Do you think teenage pregnancy affects schoolwork? How?
6. Is teenage pregnancy a problem in your community? Why?
7. Whose problem is teenage pregnancy in your community?
8. Why do you think teenagers are falling pregnant in your community?
9. Who do you think is to blame for teenage pregnancy in your community?
10. What do you think can or should be done to reduce the number of teenagers who get pregnant in your community?
11. What are the challenges you think influence teenagers in accessing information on reproductive health in your community (information about sex, contraceptives, STIs, HIV etc.)?
12. What are the roles of caregivers in reducing teenage pregnancy in your community?
13. Do you think more regulations should be introduced in your community or Kenya to help in the prevention of teenage pregnancy?

APPENDIX IV: TYPICAL LIKERT SCALE

A guide for categories and scales for assessment of caregiver knowledge and perception towards teenage pregnancy and mitigation strategies. A typical Likert scale with five possible answers: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree were used.

1.1 Knowledge assessment on teenage pregnancy	Indication	Overall decision
Range of weighted average		
1.00-1.49	Strongly disagree	Lack knowledge
1.50-2.49	Disagree	
2.50-3.49	Neutral	
3.50-4.49	Agree	Expression of good knowledge
4.50-5.00	Strongly agree	
1.2 Perception assessment towards teenage pregnancy	Indication	Overall decision
Range of weighted average		
1.00-1.49	Strongly disagree	Expression of negative perception
1.50-2.49	Disagree	
2.50-3.49	Neutral	
3.50-4.49	Agree	Expression of positive perception
4.50-5.00	Strongly agree	

1.3 Decision Rule for Likert Scale Questions on descriptive statistics

Range of weighted average	Indication	Overall decision
1.00-1.49	Strongly disagree	Expression of disagreement
1.50-2.49	Disagree	
2.50-3.49	Neutral	Expression of undecided
3.50-4.49	Agree	Expression of agreement
4.50-5.00	Strongly agree	

APPENDIX V: SCHOOL LETTER



**COUNTY GOVERNMENT OF KISUMU
DEPARTMENT OF HEALTH**

Telephone: 057-2020801/2020803/2020321
Fax: 057-2024337
E-mail: ercjoorth@gmail.com

**JARAMOGI OGINGA ODINGA TEACHING &
REFERRAL HOSPITAL
P.O. BOX 849
KISUMU**

When replying please quote

IERC/JOOTRH/415/21
Ref:

6th May, 2021

Date.....

To: Kevin Ochieng

Dear Kevin,

**RE: STUDY TITLE:-
COMMUNITY PERCEPTION TOWARDS TEENAGE PREGNANCY AND MITIGATION STRATEGIES IN
SIAYA COUNTY.**

This is to inform you that **JOOTRH IERC** has reviewed and approved your above research proposal. Your application approval number is **IERC/JOOTRH/415/21**. The approval period is **6th May, 2021 - 6th May, 2022**. This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by **JOOTRH - IERC**.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **JOOTRH - IERC** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to **JOOTRH - IERC** within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to **JOOTRH - IERC**.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

In case the study site is JOOTRH, kindly report to Chief Executive Officer before commencement of data collection.

Yours sincerely,

SECRETARY, IERC

Appendix VI: Ethical clearance



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

BOARD OF POSTGRADUATE STUDIES

Office of the Director

Tel. 057-2501804
Email: bps@jooust.ac.ke

P.O. BOX 210 - 40601
BONDO

Our Ref: H153/4147/2018

Date: 12th March 2021

TO WHOM IT MAY CONCERN

RE: OCHIENG KEVIN – H153/4147/2018

The above person is a bonafide postgraduate student of Jaramogi Oginga Odinga University of Science and Technology in the School of Health Sciences pursuing Master of Science in Epidemiology and Biostatistics. He has been authorized by the University to undertake research on the topic: “*Community Perception towards Teenage Pregnancy and Mitigation Strategies in Siaya County*”.





Any assistance accorded him shall be appreciated.

Thank you.

Prof. Dennis Ochuodho

DIRECTOR, BOARD OF POSTGRADUATE STUDIES

Appendix VII: NACOSTI Research Permit

 <p>REPUBLIC OF KENYA</p>	 <p>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION</p>
Ref No: 854745	Date of Issue: 18/May/2021
RESEARCH LICENSE	
	
<p>This is to Certify that Mr.. KEVIN OCHIENG of Jaramogi Oginga Odinga University of Science and Technology, has been licensed to conduct research in Siaya on the topic: COMMUNITY PERCEPTION TOWARDS TEENAGE PREGNANCY AND MITIGATION STRATEGIES IN SIAYA COUNTY for the period ending : 18/May/2022.</p>	
License No: NACOSTI/P/21/10556	
854745	
Applicant Identification Number	Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
<p>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</p>	

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is Guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014

CONDITIONS

1. The License is valid for the proposed research, location and specified period
2. The License any rights thereunder are non-transferable
3. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies
5. The License does not give authority to transfer research materials
6. NACOSTI may monitor and evaluate the licensed research project
7. The Licensee shall submit one hard copy and upload a soft copy of their final report (thesis) within one year of completion of the research
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice

National Commission for Science, Technology and Innovation
off Waiyaki Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke / registry@nacosti.go.ke
Website: www.nacosti.go.ke

**Appendix VIII: Research Authorization from Ministry of Interior & Coordination
of National Government**

REPUBLIC OF KENYA



OFFICE OF THE PRESIDENT

MINISTRY OF INTERIOR & CO-ORDINATION OF NATIONAL GOVERNMENT

E-Mail cc.siaya@yahoo.com

When replying please quote ref. & date

CC/SC/A.31 VOL.III/148

Deputy County Commissioner

SIAYA SUB COUNTY

COUNTY COMMISSIONER

SIAYA COUNTY

P O Box 83-40600

SIAYA

20th May, 2020

RE: RESEARCH AUTHORIZATION – MR. KEVIN OCHIENG

The person referred to above from Jaramogi Oginga Odinga University of Science and Technology, has been authorized by the Director General, National Commission for Science, Technology and Innovation vide letter Ref.no *NACOSTI/P/21/10556/854745* dated 18th May, 2021 to carry out research on "**COMMUNITY PERCEPTION TOWARDS TEENAGE PREGNANCY AND MITIGATION STRATEGIES**", for the period ending **18th May, 2022**.

The purpose of this letter therefore is to ask that you accord him the necessary support as he carries out research in your Sub County.

NOTE: Due to the prevailing COVID - 19 situation, he must observe containment protocols as directed by Ministry of Health.

A handwritten signature in blue ink, appearing to be 'Dennis Obiero', written over a circular stamp.

DENNIS OBIERO
For: COUNTY COMMISSIONER
SIAYA COUNTY

Copy to; KEVIN OCHIENG
Jaramogi Oginga Odinga,
University of Science and Technology
P.O.Box 210-40601
BONDO

Appendix IX: Research Authorization from Ministry Education



**REPUBLIC OF KENYA
MINISTRY OF EDUCATION**

State Department for Early Learning and of Basic Education

COUNTY DIRECTOR OF EDUCATION
SIAYA COUNTY
P.O. BOX 564
SIAYA

E-mail: cdesiaya2016@gmail.com

When replying please quote
CDE/SYA/URA/10/VOL.11/23

Wednesday, May 19th, 2021

TO WHOM IT MAY CONCERN

RESEARCH AUTHORIZATION-KEVIN OCHIENG

The above-named person has been mandated to carry out research in Siaya County vide research License No. **NACOSTI/P/21/10556** dated 18th May, 2021 This research study ends on 18th May, 2022.

The research title is "*Community Perception towards teenage pregnancy and Mitigation Strategies in Siaya County*".

Please accord him the necessary assistance in this County as he may require.

**SAMUEL ONDIEKI
FOR: COUNTY DIRECTOR OF EDUCATION
SIAYA COUNTY**

**FOR:
COUNTY DIRECTOR OF EDUCATION
SIAYA COUNTY
P. O. Box 564 - 40600, SIAYA**

Appendix X: Map of Study area



Source (KNBS, 2019)