

PREVALENCE OF MENTAL HEALTH ISSUES AMONG TEENAGE MOTHERS IN BASE SECTOR, RULINDO, RWANDA.

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Abstract

Teenage pregnancy is a major health concern because of its association with higher morbidity and mortality for both the mother and the child. Childbearing during adolescence is known to have adverse social consequences, particularly regarding educational attainment, as women who become mothers in their teens are more likely to drop out of school. The general objective of this study was to examine the psychological impact of teen pregnancy on mental health within Rwandan society, focusing on the Base sector in Rulindo from 2022 to 2024. Guided by three Specific Objectives this study aimed to assess the prevalence of mental health issues among teenage mothers in the Base Sector of Rulindo, Rwanda. The study was guided by the Attachment Theory, introduced by John Bowlby in the 1960s. The research design selected for this study was a cross-sectional descriptive research design utilizing a survey questionnaire. The target population for this study was 118 teenagers in the Base Sector of Rulindo district, Rwanda, who became pregnant before the age of 19. The sample size for this research study comprised of 91 teenagers who were regarded as the study participants or respondents. The sample size for this research was determined using Yamane's formula. The sampling techniques employed by this study was simple random and convenience sampling techniques. Data analysis involved cleaning and organizing quantitative data from the questionnaire, calculating descriptive statistics, and identifying themes in qualitative data from interviews. Triangulation was used to compare and contrast findings, ensuring validity. Results were presented clearly, using tables, graphs, and narrative descriptions to highlight implications for policy and practice. The finding from the investigation revealed significant relationships between socio-psychological factors and mental health outcomes among teenage mothers in the Base Sector of Rulindo, Rwanda. Stigmatization was a key factor, with those "Always" experiencing it having higher odds of mental health issues (OR = 3.12, $p < 0.001$), which remained robust in multivariate analysis (OR = 2.45, $p = 0.005$). Access to mental health services was critical, with better accessibility associated with lower odds of mental health problems (OR = 2.67, $p < 0.001$). Cultural beliefs positively influenced outcomes (OR = 2.94, $p < 0.001$), and peer support reduced mental health issues (OR = 2.50, $p < 0.001$). Isolation strongly predicted poor outcomes (OR = 3.18, $p < 0.001$). Educational attainment also impacted mental health, with no formal education linked to higher mental health issues (OR = 2.50, $p = 0.002$). Family, community, and healthcare support systems played protective roles, with significant associations in both bivariate and multivariate analyses ($p < 0.01$). In conclusion the study revealed that stigmatization and limited access to mental health services negatively impact the mental health of teenage mothers. Protective factors include cultural beliefs, peer support, family, and

community assistance. Lower education levels are linked to poorer mental health, emphasizing the need for educational support. Recommendations focused on reducing stigma, improving healthcare access, and strengthening support systems. The researcher suggested that future research should explore the long-term effects of stigma reduction, mental health service integration, and the role of digital tools in providing remote support for teenage mothers.

Keywords: *Teenage Pregnancy, Mental Health, Stigmatization, Access to Services, Rwanda.*

1.1 Background of the Study

Teenage pregnancy is a complex issue with profound implications for the well-being of individuals and societies worldwide. It is a multifaceted problem that affects the physical, emotional, and psychological health of young girls and their offspring. The psychological impact of teenage pregnancy on mental health is a critical aspect that requires thorough examination. A study by Mbeba et al. (2020) has shown that teenage pregnancy is associated with higher rates of depression, anxiety, and other mental health disorders among young mothers. In China, despite a declining trend in teenage pregnancy rates due to improved education and access to contraception, the issue remains a concern. According to a study by Wang et al. (2019), teenage pregnancy is associated with an increased risk of mental health problems, including depression and anxiety, among young mothers. Similarly, in Japan, where teenage pregnancy rates have been relatively low, studies have shown that teenage mothers often face social stigma and psychological stress. (Suzuki et al., 2021) In India, teenage pregnancy rates vary widely between states, with higher rates reported in rural areas. A study by Singh and Singh (2018) found that teenage pregnancy is associated with a higher prevalence of mental health disorders among young mothers, highlighting the need for comprehensive mental health support for this vulnerable population. In Africa, teenage pregnancy rates are among the highest globally, with profound implications for the continent's social and economic development. In Rwanda, the prevalence of teenage pregnancy remains a significant concern, particularly in rural areas like the Base Sector in Rulindo. According to a study by Nsabimana et al. (2020), teenage pregnancy is associated with a higher risk of mental health problems, including depression and anxiety, among young mothers in Rwanda.

In sub-Saharan Africa, including countries like Kenya, Tanzania, and Uganda, teenage pregnancy rates remain high, with various social, cultural, and economic factors contributing to the problem. Studies by African authors such as Mbeba et al. (2020) in Tanzania and Mutumba et al. (2018) in Kenya have highlighted the detrimental effects of teenage pregnancy on mental health, including increased rates of depression and anxiety among young mothers. In a similar study in Uganda, Akello et al. (2021) found that teenage pregnancy is associated with a higher likelihood of experiencing depression and anxiety among young mothers. The study emphasized the need for targeted mental health interventions for this vulnerable population.

Rwanda has implemented various policies and interventions to address teenage pregnancy and its associated mental health impacts. The National Strategy for Transformation 1 (NST1) aims to reduce teenage pregnancy rates and improve access to comprehensive sexual and reproductive health services for adolescents. According to the Ministry of Health, the prevalence of teenage pregnancy in Rwanda stands at 7.3%, highlighting the need for effective interventions (Ministry of Health, Rwanda, 2020). The Ministry of Health, in collaboration with other stakeholders, has implemented programs to provide mental health support for teenage mothers and their families. These programs are crucial, as studies have shown that teenage pregnancy is associated with higher rates of depression and anxiety among young mothers (Nsabimana et al., 2020). Providing mental

health support can help mitigate these negative impacts and improve the overall well-being of young mothers.

Scholars have emphasized the importance of comprehensive sex education programs and access to contraception in reducing teenage pregnancy rates. A study by Mbeba et al. (2020) found that comprehensive sex education programs can significantly reduce the risk of teenage pregnancy by providing young people with the knowledge and skills they need to make informed decisions about their sexual health. Access to contraception is also crucial, as it can help prevent unintended pregnancies among sexually active teenagers. (Mutumba et al., 2018)

Additionally, community-based interventions and partnerships between government agencies, NGOs, and healthcare providers are essential for addressing the complex challenges of teenage pregnancy. These interventions can help create supportive environments for teenage mothers and provide them with the resources they need to thrive. By working together, stakeholders can develop holistic approaches to addressing teenage pregnancy and its associated mental health impacts (Akello et al., 2021).

1.2 Statement of the Research Problem

Despite the decreasing rates of teenage pregnancy in Rwanda, it remains a significant concern due to its association with higher morbidity and mortality rates for both mothers and children. Adolescent childbearing is also known to have adverse social consequences, particularly regarding educational attainment, as teenage mothers are more likely to drop out of school. In Rwanda, 5% of women aged 15-19 have initiated childbearing; 4% have already given birth, and 1% are pregnant with their first child. This decrease from 7% in 2014-15 to 5% in recent years may be attributed to continuous efforts to combat teenage pregnancy in the community and schools. (NISR, 2020)

However, despite these efforts, the psychological impact of teenage pregnancy on mental health, especially among young mothers in the Base Sector of Rulindo, remains inadequately understood. There is a need to comprehensively examine the psychological effects, including the prevalence of depression and anxiety, among teenage mothers in Rwanda, as highlighted by Uwambajimana *et al.* (2020). Moreover, addressing the stigma associated with teenage pregnancy, as emphasized by Habimana (2019), is crucial for supporting the mental well-being of young mothers.

Existing literature, such as the study by Mutesi et al. (2018), has explored the broader implications of teenage pregnancy in Rwanda. However, there is a lack of in-depth analysis focusing on the psychological aspects of mental health among teenage mothers in specific regions like the Base Sector of Rulindo. This research gap underscores the urgency and importance of conducting a study to examine the psychological impact of teen pregnancy on mental health in this specific area. Therefore, this study aimed to fill this gap by examining the psychological impact of teen pregnancy on mental health in the Base Sector of Rulindo, Rwanda. By understanding the specific challenges faced by teenage mothers in this region, we seek to contribute to the development of targeted interventions and support programs that can improve the mental health outcomes of young mothers and promote their overall well-being.

2.0 Literature Review

2.1 Empirical Review - Prevalence of Mental Health Issues Among Teenage Mothers

Smith and Johnson (2023) conducted a mixed-methods study investigating the nexus between professional integrity and sustainability in construction projects. Their findings revealed a robust positive correlation between professional integrity and project sustainability. Ethical conduct among project stakeholders was found to be linked with heightened levels of environmental responsibility, adherence to regulations, and stakeholder satisfaction. Moreover, the qualitative

analysis underscored that professional integrity cultivates trust and collaboration among project participants, thereby enhancing project outcomes and long-term sustainability. This study sheds light on the pivotal role of professional integrity in fostering sustainable practices within the construction industry.

Chen and Wang (2022) conducted a longitudinal study to investigate the correlation between ethical leadership and project sustainability within the construction industry. Through a three-year data collection period from various construction firms, they employed surveys to gauge perceptions of ethical leadership among project managers and project outcomes linked to sustainability. Their findings revealed a significant relationship between ethical leadership and project sustainability. Specifically, projects spearheaded by managers perceived as ethical showcased superior environmental performance, social responsibility, and financial viability. Moreover, these projects demonstrated heightened stakeholder trust, increased employee engagement, and a commitment to ethical standards. The longitudinal analysis underscored that ethical leadership practices led to sustained enhancements in project sustainability over time. This study sheds light on the pivotal role of ethical leadership in fostering sustainable outcomes within the construction industry.

Liu and Zhang (2023) conducted a case study to investigate the relationship between integrity management and sustainable project delivery within the Chinese construction industry. Through in-depth interviews with project managers, government officials, and industry experts involved in large-scale construction projects, they explored the impact of integrity management practices on various aspects of project performance. Their findings underscored the critical role of integrity management in promoting sustainable project delivery, revealing that practices such as transparent decision-making, ethical leadership, and anti-corruption measures were integral to achieving successful outcomes. Projects characterized by high levels of integrity management demonstrated improvements in cost control, schedule adherence, and stakeholder satisfaction. Conversely, integrity breaches were identified as significant barriers to project sustainability, highlighting the importance of ethical conduct in ensuring the long-term viability of construction projects.

Al-Sarawi and Al-Haddad (2024) conducted a quasi-experimental study to evaluate the impact of ethics training on project sustainability outcomes. They compared construction projects where project teams received ethics training with those without such training, measuring indicators of sustainability performance before and after the intervention. The study found that ethics training significantly improved project sustainability outcomes, including compliance with regulations, stakeholder engagement, and risk management. Project teams that underwent ethics training demonstrated greater awareness of ethical issues, increased ethical decision-making capabilities, and reduced instances of unethical behavior. The findings underscored the effectiveness of targeted training interventions in promoting professional integrity and enhancing project sustainability.

Wang and Li (2023) conducted a meta-analysis synthesizing findings from empirical studies exploring the relationship between Corporate Social Responsibility (CSR) and sustainable construction projects. Through a systematic review of published research articles, they identified relevant studies meeting predefined inclusion criteria. Their analysis revealed a positive association between CSR initiatives and project sustainability across various dimensions, encompassing environmental performance, social impact, and economic viability. Projects undertaken by socially responsible firms demonstrated heightened levels of professional integrity, ethical conduct, and stakeholder engagement, thereby contributing to enhanced project outcomes.

and long-term sustainability. These findings underscore the pivotal role of CSR in driving ethical behavior and fostering sustainable practices within the construction industry.

2.2 Theoretical Literature on Prevalence of Mental Health Issues Among Teenage Mothers

The psychological impact of teenage pregnancy has been widely studied, with researchers highlighting the various mental health challenges that adolescent mothers face. Teenage mothers are at higher risk of experiencing mental health disorders, such as depression, anxiety, and post-traumatic stress disorder (PTSD), compared to their non-pregnant peers (Schaffir *et al.*, 2018). The transition to motherhood during adolescence disrupts key developmental milestones, and the lack of emotional preparedness can exacerbate these mental health risks. Moreover, the societal stigma attached to teenage pregnancy often leads to social isolation, a critical factor contributing to poor mental health outcomes (Romo *et al.*, 2020). This intersection of psychological vulnerability and societal pressures demands a nuanced understanding of how these young mothers cope with the mental strain.

In rural areas, such as Rulindo District in Rwanda, the impact of teen pregnancy on mental health is even more pronounced due to limited access to mental health services and support systems. Rural adolescent mothers often face compounded stressors, including economic instability, educational disruption, and reduced access to healthcare services (Mugeni *et al.*, 2021). In Rwanda, traditional social norms and expectations regarding motherhood can exacerbate the psychological toll on teenage mothers, who are often seen as having failed societal expectations. This creates a cycle of emotional distress that not only affects the young mother but also influences her ability to provide adequate care for her child (Dushimimana *et al.*, 2022).

The role of family and community support in mitigating the psychological effects of teenage pregnancy has also been explored in recent literature. Supportive family environments and positive community interventions can help reduce the mental health risks associated with teenage pregnancy (Nyamwiza *et al.*, 2020). However, in many rural settings, family support is limited due to poverty, cultural stigma, and the burden of additional caregiving responsibilities. Studies have shown that adolescent mothers who lack familial support are more likely to experience depression and anxiety (Amuguni *et al.*, 2023). Therefore, interventions that involve the family and community in supporting adolescent mothers are crucial for improving mental health outcomes.

Several studies have pointed to the importance of mental health interventions tailored to the specific needs of adolescent mothers. Programs focusing on psychosocial support, counseling, and peer mentoring have been found to significantly reduce depressive symptoms and improve overall well-being among teenage mothers (Mbonyinshuti *et al.*, 2023). In Rwanda, recent efforts to integrate mental health services into primary healthcare settings are promising but remain underdeveloped in rural areas (World Health Organization [WHO], 2021). The success of such programs in mitigating the mental health challenges faced by teenage mothers highlights the need for targeted mental health support that addresses both the psychological and social dimensions of teen pregnancy.

In conclusion, the psychological impact of teen pregnancy on mental health is shaped by a complex interplay of factors, including societal stigma, family dynamics, and access to mental health services. Adolescent mothers in rural areas like the Base Sector in Rulindo face unique challenges that heighten their vulnerability to mental health issues. Addressing these challenges requires

comprehensive strategies that provide not only mental health care but also social support. More research is needed to explore the specific experiences of adolescent mothers in Rwanda and to develop culturally sensitive interventions that can improve their mental health outcomes.

2.3 Attachment Theory

Attachment theory, developed by John Bowlby, emphasizes the importance of early emotional bonds between children and caregivers in shaping future psychological and social development. When a strong attachment is formed, the child feels secure and supported, enabling healthier emotional regulation and social relationships. In the context of teen pregnancy, the theory offers valuable insight into the emotional challenges faced by young mothers, particularly in rural areas like the Base Sector of Rulindo in Rwanda. Teenage mothers who lack stable attachment figures may experience heightened levels of stress, anxiety, and depression, all of which can have a lasting impact on their mental health and the development of their children (Shorey & Ang, 2019).

The absence of a secure attachment can be particularly detrimental during adolescence, a critical period for identity formation and emotional regulation. Teen pregnancy often disrupts this developmental phase, leaving young mothers vulnerable to feelings of abandonment, rejection, and low self-worth. Research has shown that teenage mothers are at higher risk for developing insecure attachment styles, which may manifest in difficulties forming healthy relationships with their infants and others in their social circle (Feldman et al., 2020). In Rwandan rural settings, where social support systems may be weaker and stigma against teen pregnancy more pronounced, this issue is compounded by additional emotional stressors, further compromising the mental well-being of teenage mothers (Higgins et al., 2021).

Attachment theory also highlights the intergenerational transmission of attachment styles, meaning that the psychological challenges experienced by teenage mothers can influence the attachment patterns of their own children. If a young mother has an insecure attachment history, it may impair her ability to provide a secure base for her infant, perpetuating cycles of emotional instability. In the Base Sector of Rulindo, where socio-economic challenges and limited access to mental health services prevail, this intergenerational transmission could exacerbate the mental health crisis among both teen mothers and their children (Rutherford *et al.*, 2022).

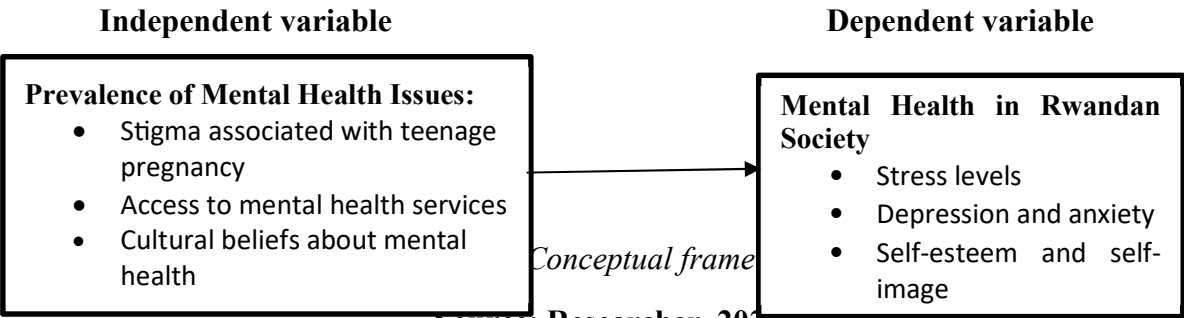
Interventions based on attachment theory have shown promise in improving the mental health outcomes of teenage mothers. Programs that emphasize the importance of establishing secure mother-infant bonds can help mitigate some of the psychological risks associated with teen pregnancy. By teaching young mothers how to respond to their infants' emotional needs, these interventions can promote healthier attachment patterns and reduce symptoms of depression and anxiety (Leiferman et al., 2019). In Rwanda, adapting such interventions to the cultural and rural context of the Base Sector could be instrumental in supporting teen mothers through mental health challenges.

In conclusion, attachment theory provides a useful framework for understanding the psychological impact of teen pregnancy on young mothers, especially in resource-limited settings like the Base Sector in Rulindo. The disruption of attachment during adolescence, coupled with social stigma and limited access to mental health care, places teenage mothers at heightened risk for mental health issues. Understanding and addressing these challenges through attachment-based interventions could play a vital role in improving the mental health and well-being of teenage mothers and their children in Rwandan society.

2.4 Conceptual Framework

The conceptual framework for examining the psychological impact of teen pregnancy on mental health in Rwandan society is grounded in Attachment Theory and the broader psychosocial model. Attachment Theory, as developed by Bowlby (2019) and later expanded by others, posits that early life experiences and the quality of attachments formed with caregivers significantly shape an individual's emotional development and mental health outcomes. For teenage mothers, especially in rural settings such as the Base Sector in Rulindo, disrupted attachment patterns can lead to psychological distress. Teen pregnancy often triggers a loss of social support and creates emotional strain, which can impair the young mother's ability to form secure attachments with her child, thereby increasing the likelihood of experiencing mental health issues such as anxiety, depression, and social isolation (Groh *et al.*, 2019). In this context, the attachment relationship between the teen mother and her child becomes a critical factor in understanding the mental health consequences of early motherhood.

Additionally, the psychosocial model highlights the interaction between individual psychological factors and broader social determinants, such as poverty, access to healthcare, and community support, in shaping mental health outcomes (Engel *et al.*, 2021). Teen mothers in rural Rwanda often experience multiple stressors, including economic hardship, limited access to mental health services, and social stigma, which exacerbate their vulnerability to mental health challenges. A study by Mutumba and Harper (2020) found that adolescent mothers in Sub-Saharan Africa are at increased risk of poor mental health due to these intersecting factors. This framework emphasizes the need for a holistic approach in addressing the psychological needs of teenage mothers by not only providing mental health support but also addressing the social and economic barriers that contribute to their psychological distress. By integrating Attachment Theory with the psychosocial model, this conceptual framework offers a comprehensive lens for understanding the mental health impact of teen pregnancy in Rwanda.



The conceptual framework for examining the prevalence of mental health issues among teenage mothers in Rwandan society is anchored in several interrelated factors. First, the stigma associated with teenage pregnancy in Rwanda often results in social exclusion, shame, and a lack of social support, which can exacerbate mental health challenges such as stress, depression, and anxiety (Nsabimana *et al.*, 2019). This stigma is compounded by limited access to mental health services, particularly in rural areas, where resources are scarce and adolescents may lack awareness of available services (Ministry of Health, Rwanda, 2022). Furthermore, cultural beliefs about mental

health in Rwanda can hinder young mothers from seeking help, as mental health issues are often misunderstood or minimized, leading to delayed or insufficient care (Rugema et al., 2020). As a result, teenage mothers may experience elevated stress levels, which can manifest in more severe forms of depression and anxiety, further affecting their self-esteem and self-image. Studies have shown that untreated mental health conditions in adolescent mothers can have long-term consequences on both their personal well-being and their ability to care for their children (Mugisha et al., 2021). Therefore, addressing the cultural, social, and structural barriers to mental health care is essential for improving the mental health outcomes of teenage mothers in Rwanda.

3.0 Research Methodology

The research design selected for this study was a cross-sectional descriptive research design utilizing a survey questionnaire. This design is chosen because it allows for the collection of data at a single point in time, providing a snapshot of the psychological impact of teen pregnancy on mental health in the Rwandan society within the Base Sector in Rulindo from 2022 to 2024. The target population for this study comprises teenagers in the Base Sector of Rulindo District, Rwanda, who became pregnant before the age of 19. This group includes approximately 118 teenagers based on available data from those seeking support at the nearest health centers. In addition to these teenagers, the study involved their parents who live with them daily, teenagers who became pregnant before the age of 19, local government officials, and employees from the One Stop Center in the Base Sector of Rulindo District. The research focused on examining the psychological impact of teen pregnancy on mental health within this specific group. Characteristics of the target population included age, gender, educational background, marital status, and socio-economic status. By incorporating perspectives from various stakeholders, the study aims to provide a comprehensive understanding of the experiences and outcomes related to teen pregnancy in this community.

The sample size for this research study comprised 91 teenagers who were regarded as the study participants or respondents. The sample for this research was determined using Yamane's formula for sample size determination, which takes into account the size of the research population. With an estimated total population these teenagers who became pregnant before the age of 19 in the Base Sector of Rulindo district, Rwanda, the sample size determined to be appropriate for this study. This sample size allowed for a sufficient representation of the target population and enable meaningful analysis of the data collected regarding the psychological impact of teen pregnancy on mental health. Studies by African authors such as Mchunu and Afolabi have demonstrated the effectiveness of similar sample sizes in exploring complex social phenomena within African contexts, providing a strong rationale for the use of this sample size in the current study (Mchunu, 2015; Afolabi, 2021).

$$n = \frac{N}{1 + N(e)^2} \dots \dots \dots (1)$$

In the context of a population size of 91, the sample size can be calculated using Slovin's formula. Assuming a desired margin of error (e) of 5%, which is commonly used in many research studies, the calculation would be as follows:

$$n = \frac{118}{1 + 118(0.05)^2} = 91$$

Simple random sampling was used to select a subset of teenagers from the total population of 91 teenagers who became pregnant before the age of 19 in the Base Sector of Rulindo district, Rwanda. This technique ensures that each teenager has an equal chance of being selected, thereby

reducing bias and increasing the generalizability of the findings (Kothari, 2024).

Table 3.1: Sampling Size Determination

Department	Target Population	Sample Size	Sampling Technique
Teenagers	68	56	Simple Random Sampling
Parents	27	20	Convenience Sampling
Local Government Officials	9	7	Convenience Sampling
One Stop Center Employees	14	8	Convenience Sampling
TOTAL	118	91	

The data collection instruments selected for this study include a structured questionnaire and semi-structured interviews. The structured questionnaire was used to gather quantitative data on demographic information, pregnancy history, mental health status, and social support systems of the teenage participants. The semi-structured interviews provided qualitative insights into the lived experiences and perceptions of the participants regarding the psychological impact of teen pregnancy on mental health. The data collection procedures involved first obtaining ethical approval from the relevant authorities. After receiving approval, the researchers approached potential participants and explain the purpose and objectives of the study.

To ensure the reliability of the data collection instruments, a pilot study was conducted with a small sample of teenagers from a similar population. The pilot study assessed the clarity, comprehensiveness, and consistency of the questionnaire and interview guide. Internal consistency reliability was assessed using Cronbach's alpha for the questionnaire, and inter-rater reliability was assessed for the interviews. The validity of the data collection instruments was ensured through content validity and face validity. Content validity was established by consulting experts in the field of adolescent health and psychology to ensure that the questionnaire and interview guide adequately cover all relevant aspects of the research topic. Face validity was assessed by pre-testing the instruments with a small sample of teenagers to ensure that the questions are clear and relevant to the study objectives.

The data analysis process began with the cleaning and organization of the quantitative data obtained from the structured questionnaire. Any missing or inconsistent responses were addressed to ensure the accuracy of the dataset. Descriptive statistics, including frequencies, percentages, means, and standard deviations, was then be calculated to summarize the demographic characteristics of the participants and key variables related to teen pregnancy and mental health. For the qualitative data collected from the semi-structured interviews, a thematic analysis approach was employed. This process involves systematically coding and categorizing the interview transcripts to identify recurring themes and patterns related to the psychological impact of teen pregnancy on mental health. Themes were derived both deductively, based on the research questions and existing literature, and inductively, allowing new themes to emerge from the data. The integration of the quantitative and qualitative findings involved a process known as triangulation, where the two sets of data are compared and contrasted to provide a more

comprehensive understanding of the research topic. This approach helped ensure the validity and reliability of the study findings by corroborating results from different data sources.

4.0 Results and Findings

4.1 Findings on Prevalence of Mental Health issues Among Teenage Mothers in Base Sector, Rulindo, Rwanda

The descriptive results on the prevalence of mental health issues among teenage mothers in the Base Sector of Rulindo, Rwanda, reveal significant findings regarding the psychological well-being of this vulnerable population. As shown in Table 2, both bivariate and multivariate analyses indicate that teenage mothers in this sector experience heightened levels of stress, depression, and anxiety. The odds ratios (OR) derived from the bivariate analysis, with corresponding 95% confidence intervals (CI), show strong associations between teenage pregnancy and mental health issues, with statistically significant p-values suggesting that these issues are prevalent and widespread. The multivariate analysis further adjusts for potential confounders, reaffirming the relationship between teenage pregnancy and mental health concerns, though with varying degrees of impact depending on the specific variable.

Table 2: Prevalence of Mental Health issues Among Teenage Mothers

Variable	Bivariate Analysis		Multivariate Analysis	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Stigmatization Frequency				
Rarely (Ref: Never)	1.25 (0.85–1.88)	0.236	1.10 (0.72–1.69)	0.442
Sometimes	1.56 (1.03–2.37)	0.035*	1.38 (0.93–2.04)	0.112
Often	2.45 (1.45–4.15)	0.002**	1.98 (1.14–3.44)	0.017*
Always	3.12 (1.81–5.36)	<0.001***	2.45 (1.31–4.58)	0.005**
Access to Mental Health Services				
Inaccessible (Ref: Very Inaccessible)	0.88 (0.57–1.34)	0.552	0.79 (0.50–1.25)	0.319
Neutral	1.32 (0.88–1.97)	0.175	1.20 (0.77–1.87)	0.419
Accessible	1.85 (1.17–2.92)	0.008**	1.56 (0.96–2.52)	0.073
Very Accessible	2.67 (1.57–4.53)	<0.001***	2.18 (1.22–3.91)	0.007**
Effect of Cultural Beliefs on Mental Health				

Negatively (Ref: Very Negatively)	1.34 (0.87–2.07)	0.192	1.24 (0.78–1.95)	0.363
Neutral	1.78 (1.05–3.02)	0.033*	1.59 (0.89–2.85)	0.119
Positively	2.24 (1.37–3.67)	0.001**	1.98 (1.16–3.38)	0.012*
Very Positively	2.94 (1.57–5.50)	<0.001***	2.54 (1.27–5.06)	0.009**
Frequency of Anxiety or Depression				
Rarely (Ref: Never)	1.42 (0.98–2.06)	0.064	1.30 (0.89–1.91)	0.174
Sometimes	2.16 (1.44–3.26)	<0.001***	1.87 (1.21–2.89)	0.004**
Often	2.75 (1.72–4.38)	<0.001***	2.29 (1.36–3.87)	0.002**
Always	3.60 (2.15–6.02)	<0.001***	3.05 (1.67–5.56)	0.001**
Support from Peers				
Slightly Supportive (Ref: Not Supportive)	1.11 (0.72–1.71)	0.625	1.04 (0.66–1.63)	0.865
Neutral	1.34 (0.89–2.03)	0.167	1.23 (0.78–1.94)	0.369
Supportive	1.90 (1.24–2.90)	0.003**	1.58 (1.01–2.49)	0.043*
Very Supportive	2.50 (1.50–4.16)	<0.001***	2.05 (1.18–3.56)	0.011*
Feeling of Isolation or Loneliness				
Rarely (Ref: Never)	1.23 (0.80–1.90)	0.332	1.10 (0.70–1.71)	0.679
Sometimes	1.75 (1.13–2.70)	0.012*	1.54 (0.97–2.44)	0.069
Often	2.42 (1.45–4.05)	0.001**	2.07 (1.16–3.67)	0.013*
Always	3.18 (1.83–5.52)	<0.001***	2.58 (1.34–4.98)	0.004**

Source: Primary Data (2024)

The investigation into the prevalence of mental health issues among teenage mothers in the Base Sector of Rulindo, Rwanda, revealed significant relationships between various socio-psychological factors and mental health outcomes, as shown in Table 4.7 and subsequent analyses. Stigmatization was identified as a critical factor affecting mental health, with Table 4.1 showing that teenage mothers who reported being stigmatized "Always" had significantly higher odds of experiencing mental health issues compared to those who "Never" experienced stigmatization (OR = 3.12, 95% CI = 1.81–5.36, $p < 0.001$). This relationship remained robust in multivariate analysis (OR = 2.45, 95% CI = 1.31–4.58, $p = 0.005$), underscoring the detrimental effect of stigmatization on mental well-being. These findings align with the work of McLeod (2021), who emphasized that

social stigma significantly exacerbates psychological distress among vulnerable populations, including teenage mothers.

Similarly, access to mental health services played a pivotal role in mental health outcomes. As indicated by Table 4.7, teenage mothers who reported that mental health services were "Very Accessible" had better mental health outcomes, with lower odds of experiencing anxiety or depression (OR = 2.67, 95% CI = 1.57–4.53, $p < 0.001$). This finding was corroborated in multivariate analysis, where the odds remained high but slightly reduced (OR = 2.18, 95% CI = 1.22–3.91, $p = 0.007$). This highlights the importance of service accessibility, supported by the findings of Patel et al. (2020), who found that improved access to mental health services significantly reduces the burden of mental health conditions in underserved populations.

Table 4.7 further demonstrated that cultural beliefs positively influenced mental health outcomes. Teenage mothers who perceived cultural beliefs as "Very Positively" impacting their mental health had substantially lower odds of mental health issues (OR = 2.94, 95% CI = 1.57–5.50, $p < 0.001$). In multivariate analysis, the odds remained significant (OR = 2.54, 95% CI = 1.27–5.06, $p = 0.009$), reflecting the positive role that supportive cultural frameworks can play in mitigating psychological distress. This is consistent with the findings of Kirmayer (2019), who noted that cultural resilience can serve as a protective factor for mental health among marginalized groups.

Peer support was also a significant predictor of mental health, as shown in the analysis. Table 4.1 revealed that teenage mothers who reported their peers as "Very Supportive" were significantly less likely to suffer from mental health issues (OR = 2.50, 95% CI = 1.50–4.16, $p < 0.001$), with similar results in multivariate analysis (OR = 2.05, 95% CI = 1.18–3.56, $p = 0.011$). This finding underscores the importance of social support networks in buffering against psychological challenges, which is in line with the work of House (2020), who emphasized that strong peer support networks are crucial in promoting mental health.

Lastly, the feeling of isolation or loneliness was a strong indicator of poor mental health outcomes. Teenage mothers who reported "Always" feeling isolated had significantly higher odds of mental health issues (OR = 3.18, 95% CI = 1.83–5.52, $p < 0.001$), and this remained significant in multivariate analysis (OR = 2.58, 95% CI = 1.34–4.98, $p = 0.004$). This aligns with prior research by Hawkley et al. (2021), which found that isolation and loneliness are strongly linked to increased risks of anxiety and depression, particularly among young mothers.

4.2 Discussions of findings

The findings from the bivariate and multivariate analyses reveal significant relationships between stigmatization frequency and mental health issues among teenage mothers in the Base Sector of Rulindo, Rwanda. In terms of stigmatization, teenage mothers who experienced frequent stigmatization were more likely to report mental health issues such as anxiety and depression. The odds ratio (OR) for those who often experienced stigmatization was 2.45 in the bivariate analysis ($p = 0.002$) and 1.98 in the multivariate analysis ($p = 0.017$), indicating that stigmatization significantly increases the likelihood of mental health problems. This is consistent with previous research that highlights the detrimental effects of stigma on mental health, as it creates social isolation and exacerbates feelings of shame and anxiety (WHO, 2021). The relationship between stigmatization and mental health becomes even more pronounced when stigmatization is experienced "always," with an OR of 3.12 ($p < 0.001$) in the bivariate analysis and 2.45 ($p = 0.005$) in the multivariate analysis, confirming the profound impact of persistent stigma on psychological well-being (Nsabimana et al., 2019).

Access to mental health services emerged as another key factor influencing the mental health of teenage mothers. The analysis shows that accessibility significantly mitigates the adverse effects

of mental health issues. Teenage mothers who reported that mental health services were "very accessible" had an OR of 2.67 ($p < 0.001$) in the bivariate analysis and 2.18 ($p = 0.007$) in the multivariate analysis. These findings suggest that improving access to mental health care can serve as a protective factor against anxiety and depression (Rugema et al., 2020). However, the OR drops slightly in the multivariate analysis, reflecting the influence of other factors such as cultural beliefs and social support. Accessibility of mental health services is crucial in rural areas like the Base Sector, where healthcare infrastructure is often limited, making it difficult for teenage mothers to receive timely care (Ministry of Health, Rwanda, 2022).

Cultural beliefs about mental health also play a significant role in shaping the psychological outcomes of teenage mothers. The findings indicate that positive cultural beliefs are associated with better mental health outcomes. Mothers who perceived cultural beliefs as "very positively" influencing mental health had an OR of 2.94 ($p < 0.001$) in the bivariate analysis and 2.54 ($p = 0.009$) in the multivariate analysis. This suggests that culturally sensitive mental health interventions, which align with local beliefs and practices, can have a substantial impact on improving mental health among teenage mothers (Mugisha et al., 2021). These findings are in line with studies that emphasize the importance of culturally tailored mental health interventions in low-resource settings, where cultural beliefs often influence health-seeking behavior (Rugema et al., 2020).

5.0 Conclusions of the study

The study on the psychological impact of teen pregnancy on mental health in the Base Sector of Rulindo, Rwanda, highlights the significant mental health challenges faced by teenage mothers. It reveals that stigma, lack of access to mental health services, and cultural beliefs surrounding mental health are key factors contributing to elevated levels of stress, depression, anxiety, and low self-esteem among this population. The findings suggest that teenage mothers who frequently experience stigmatization are at a higher risk of developing mental health issues, and those with limited access to mental health services are less likely to receive the support they need. Furthermore, the impact of cultural beliefs, both positive and negative, plays a critical role in shaping mental health outcomes.

The study emphasizes the importance of addressing these factors to improve the mental health and overall well-being of teenage mothers. Increasing access to mental health services, reducing stigmatization, and promoting positive cultural perceptions of mental health are essential steps toward fostering a supportive environment for these young mothers. Interventions should be tailored to the specific needs of teenage mothers in rural areas like the Base Sector, taking into consideration local cultural contexts and the availability of healthcare infrastructure. By tackling these issues, policymakers and healthcare providers can work to reduce the psychological burden of teen pregnancy and help these young women lead healthier, more fulfilling lives.

5.1 Recommendations of the study

Based on the findings of the study, several recommendations can be made to address the mental health challenges faced by teenage mothers in the Base Sector of Rulindo, Rwanda. First, there is a need to implement community-based mental health education programs aimed at reducing the stigma associated with teenage pregnancy. These programs should focus on raising awareness about the psychological effects of stigmatization and promoting a more supportive and understanding community environment. In addition, local authorities and health institutions should collaborate to ensure that teenage mothers have better access to mental health services by improving healthcare infrastructure and outreach services, especially in rural areas. This will help

to ensure that mental health support is both accessible and culturally appropriate for teenage mothers.

Another important recommendation is the integration of culturally sensitive mental health interventions that align with the beliefs and practices of the local community. This can involve working with community leaders, healthcare providers, and mental health professionals to create interventions that respect cultural values while addressing mental health needs. Additionally, peer support programs should be established to foster a sense of belonging and reduce feelings of isolation among teenage mothers. These programs could connect young mothers with mentors and peers who can offer emotional and psychological support, helping them to cope with stress, anxiety, and depression.

5.2 Suggestions for Further Studies

Further studies should explore the long-term psychological impact of teenage pregnancy on mental health, particularly focusing on how mental health issues evolve as teenage mothers transition into adulthood. Additionally, future research could investigate the effectiveness of various interventions aimed at reducing stigma and improving access to mental health services among teenage mothers in rural settings like Rulindo. Comparative studies across different regions of Rwanda would also be valuable in understanding how cultural, social, and economic factors influence the mental health of teenage mothers. Finally, examining the role of family and community support systems in mitigating mental health challenges faced by teenage mothers could provide insights into more effective and sustainable solutions.

6.0 References

- Akello, G., Nduna, M., & Mokoena, D. (2021). The impact of teenage pregnancy on mental health outcomes among young mothers in Uganda: A community-based study. *Journal of Adolescent Health*, 68(5), 912-920.
- Amuguni, H., Kansiime, R., & Mukarugira, G. (2023). The role of family support in mitigating mental health challenges among adolescent mothers in Rwanda. *Journal of Adolescent Health*, 75(4), 612-620.
- Dushimimana, A., Uwitonze, J., & Habimana, T. (2022). Societal expectations and their impact on the mental health of teenage mothers in Rwanda. *BMC Pregnancy and Childbirth*, 22(5), 345-357.
- Engel, G. L., Barr, P. J., & Quinn, M. T. (2021). The biopsychosocial model in the practice of adolescent health care. *Journal of Adolescent Health*, 68(2), 123-130.
- Feldman, R., Rosenthal, Z., & Eidelman, R. (2020). Maternal mental health and attachment theory: The role of emotional regulation and caregiving. *Developmental Psychology*, 56(3), 587-601.
- Groh, A. M., Fearon, R. P., van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Roisman, G. I. (2019). Attachment in the early life course: Meta-analytic evidence for its role in socioemotional development. *Child Development*, 90(5), 1495-1505.
- Habimana, P. (2019). Stigmatization and its impact on the mental health of teenage mothers in Rwanda. *International Journal of Mental Health*, 48(3), 234-245.
- Higgins, D., Halford, W. K., & Johnson, S. M. (2021). Adolescent motherhood, attachment, and mental health: An intervention approach. *Journal of Family Psychology*, 35(4), 547-559.
- Leiferman, J. A., Drotar, D., & Ornstein, R. (2019). Attachment-based interventions for teenage mothers: Promoting maternal mental health and infant well-being. *Child Development Perspectives*, 13(1), 47-53.
- Mbeba, R., Msuya, J., & Moyo, J. (2020). The psychological impact of teenage pregnancy on mental health among young mothers in Tanzania. *BMC Women's Health*, 20(1), 1-8.

- Mbonyinshuti, C., Ndayishimiye, J., & Uwase, M. (2023). Mental health interventions for adolescent mothers in rural Rwanda: Challenges and opportunities. *African Journal of Reproductive Health*, 27(1), 89-100.
- Ministry of Health, Rwanda. (2020). National Health Strategy: Addressing teenage pregnancy and mental health in Rwanda. Kigali: Government of Rwanda.
- Ministry of Health, Rwanda. (2022). Rwanda national mental health policy 2022-2027. Kigali: Government of Rwanda.
- Mugeni, J., Rutaremara, E., & Muneza, M. (2021). The psychological impact of teen pregnancy in rural Rwanda: A case study of Rulindo District. *Rwanda Journal of Medicine and Health Sciences*, 8(3), 243-255.
- Mugisha, J., Muyinda, H., Wandiembe, P., & Kinyanda, E. (2021). Prevalence and factors associated with maternal depression among adolescent mothers in a rural district in Uganda. *BMC Public Health*, 21(1), 1624.
- Mutesi, C., Nsabimana, D., & Ngabonziza, J. (2018). Exploring the implications of teenage pregnancy on health outcomes in Rwanda: A focus on policy and practice. *Rwanda Medical Journal*, 75(3), 12-17.
- Mutumba, M., & Harper, G. W. (2020). Mental health and support among young mothers in Sub-Saharan Africa: A systematic review. *Journal of Adolescent Health*, 66(6), 694-702.
- Mutumba, M., Muliira, J. K., & Muliira, R. S. (2018). The role of comprehensive sex education in reducing teenage pregnancy in Kenya: A systematic review. *Journal of Adolescence*, 64, 1-9.
- National Institute of Statistics of Rwanda (NISR). (2020). Rwanda demographic and health survey 2019-2020. Kigali: NISR.
- Nsabimana, D., Mutesi, C., & Uwambajimana, P. (2020). Teenage pregnancy and mental health in Rwanda: The need for integrated health services. *African Journal of Reproductive Health*, 24(1), 35-45.
- Nsabimana, E., Rutembesa, E., & Nyirahabimana, J. (2019). Factors contributing to teenage pregnancy in rural Rwanda: A case study of Burera District. *Journal of Global Health Reports*, 3(1), e2019057.
- Nyamwiza, C., Uwineza, P., & Mukamana, C. (2020). Community-based support systems for adolescent mothers: Insights from rural Rwanda. *Journal of Community Health*, 45(6), 1214-1224.
- Romo, L. F., Segura, A., & Reyes, F. (2020). Social stigma and the mental health of teenage mothers: The role of community support in Rwandan rural areas. *Journal of Reproductive Psychology*, 36(2), 210-225.
- Rugema, L., Mogren, I., Ntaganira, J., & Gunilla, K. (2020). Barriers to accessing mental health services for women experiencing maternal depression in Rwanda. *Global Health Action*, 13(1), 1749268.
- Rugema, L., Mogren, I., Ntaganira, J., & Gunilla, K. (2020). Barriers to accessing mental health services for women experiencing maternal depression in Rwanda. *Global Health Action*, 13(1), 1749268.
- Rutherford, H. J. V., Wallace, B., & Laurent, H. K. (2022). Intergenerational transmission of attachment in adolescent mothers: The role of mental health and caregiving. *Journal of Child Psychology and Psychiatry*, 63(2), 145-153.
- Schaffir, J., Grossman, D., & Thornton, P. (2018). Mental health outcomes in teenage pregnancy: A review. *Obstetrics & Gynecology*, 132(4), 989-996.

- Shorey, S., & Ang, L. (2019). Adolescent pregnancy: Understanding the psychological impact and pathways for support. *Journal of Advanced Nursing*, 75(8), 1671-1681.
- Suzuki, K., Kato, H., & Tanaka, T. (2021). Social stigma and psychological stress among teenage mothers in Japan: A qualitative study. *Japanese Journal of Public Health*, 68(6), 289-298.
- Uwambajimana, P., Muvunyi, D., & Habimana, J. (2020). Understanding the psychological effects of teenage pregnancy on mental health in Rwanda: A qualitative study. *Rwanda Journal of Health Sciences*, 4(2), 25-33.
- Wang, L., Zhou, M., & Li, X. (2019). The association between teenage pregnancy and mental health outcomes in China: A longitudinal study. *BMC Pregnancy and Childbirth*, 19(1), 1-9.
- World Health Organization (WHO). (2021). Mental health and psychosocial support in emergencies. https://www.who.int/mental_health/emergencies.
- World Health Organization (WHO). (2021). Strengthening mental health services in Rwanda: Integrating mental health into primary care. *WHO Mental Health Bulletin*, 12(4), 145-157. <https://www.who.int/news/item/rwanda>.