

# Social-Cultural Factors Influencing Mental Health Among Pregnant and Parenting Adolescent Mothers Attending Secondary Schools in Muhanga District, Rwanda

<sup>1</sup>Umugwaneza Marie Alice, <sup>2</sup>Maurice B. Silali, PhD

<sup>1</sup>Mount Kenya University Kigali, Rwanda.

<sup>2</sup>Department of Public Health, Mount Kigali University Kigali, Rwanda

DOI: <https://doi.org/10.5281/zenodo.15744804>

Published Date: 26-June-2025

---

**Abstract:** Globally, regionally in Africa, adolescent pregnancy and parenting pose serious global public health concerns, particularly affecting the mental health of teenage mothers which may result to depression, stressed and if not prevented and controlled, may lead to a suicide manner of death. In Rwanda, 5% of adolescent girls aged 15–19 have begun childbearing, with Muhanga District reporting the highest rate at 12%. Among adolescent mothers attending secondary schools in this district, the prevalence of social and cultural factors influencing mental health disorders is 48.9%. However, little is known about the same study in Muhanga District. This led to a study of Social-Cultural Factors Influencing Mental Health among Pregnancy and Parenting Adolescent Mothers Attending Secondary Schools in Muhanga District, specifically determining the main social-cultural factors influencing mental health among teenage girls and assess how Knowledge, attitude and practice of the study population influence the increased teenager pregnant and mental health in Muhanga district. The study is descriptive cross-sectional, used mixed-methods approach, of surveys and interviews on targeted adolescent mothers aged 15–19. Learning in secondary schools, Sampling techniques used were Purposive and snowball, with a sample size of 235 determined by Fisher's formula (1998). Data was managed by SPSS version and analysed by cross tabulation of descriptive and inferential statistics in interviews was by thematic analysis reaching saturation and written as a caption. Results showed that majority of respondent was 52%, (158), were 19 years old. The study revealed that 60.9% (164), of adolescent mothers had limited sex reproductive health information from the school environment with significant value, p values 0.028), social-cultural factors influencing teenager mental health was significant with 95CI and, p < 0.031), unsupportive school environments ( $\chi^2 = 133.88$ , df = 4, p < 0.001), difficulties balancing school and parenting responsibilities. The results from Knowledge Attitudes and Practices showed that The majority of teenage girls had limited awareness on mental health issues, 50.2% (118), need improved counselling services 49%, (115),

**Keywords:** Sociocultural, Adolescent pregnancy, mental health and secondary schools.

---

## 1. MATERIALS AND METHODOLOGY

### Materials

Adolescent pregnancies and parenting remain pressing global public health challenges, particularly in low- and middle-income countries, where they are associated with significant mental health consequences. linked to social and cultural factors. The WHO, estimates that in 2023, there will be a 1.5 adolescent births for every 1000 women girls between 10 and 14 age and estimate of 12 million girls between 15 and 19 years old and in poor countries with the highest rate of adolescent girl's birth under the age of 15 (WHO, 2022). The World Health Organization (WHO, 2022) estimated that in 2023, there were 1.5 adolescent births per 1,000 girls aged 10–14 and about 12 million births among girls aged 15–19, with the highest

burden observed in developing countries. Despite a global decline in adolescent birth rates—from 64.5 per 1,000 in 2000 to 41.3 in 2023—regions such as East Africa still report adolescent pregnancy rates above the global average of 15% (WHO African Region, 2023; EACRN, 2024), with Rwanda reporting 5% (DHS, 2020). In European countries, the rate is as low as 13.1 per 1,000, compared to 35% in sub-Saharan Africa (Muthelo et al., 2024).

The mental health implications of adolescent motherhood are profound. Transitioning prematurely into parenthood can be overwhelming due to social stigma, cultural burdens, isolation, and limited autonomy, all of which increase vulnerability to common mental disorders (CMDs) such as depression and anxiety (Chimwemwe et al., 2023; Muhati et al., 2022). Globally, 1 in 6 adolescent mothers suffers from mental illness, but only 14% receive appropriate care. In sub-Saharan Africa, CMD prevalence ranges from 12.5% to 27.1% during pregnancy and up to 39% postnatally (Umuziga, 2020; Atuhaire & Cumbe, 2018). Social and Cultural norms significantly influence adolescent mothers' mental health. In many communities, early or out-of-wedlock pregnancy is viewed as a moral failure, leading to shame and social exclusion (Tembo et al., 2023; Rahman et al., 2019). In response, families may encourage early marriage, further compounding psychological distress. Adolescent mothers often encounter rejection, intimate partner violence, limited access to reproductive health services, and discrimination in schools and communities (Somayyeh & Mojgan, 2022; Chimwemwe et al., 2023; Gatsinzi, 2022). Those lacking social support face elevated levels of stress and anxiety, affecting their educational engagement and perpetuating cycles of poverty (Lucy et al., 2023; Ding et al., 2021).

Social Cognitive Theory supports the understanding that behavior is shaped by the interaction of personal, environmental, and behavioral factors (Schunk & Usher, 2019). Applying this theory, it becomes essential to explore how adolescent mothers' mental health is influenced by sociocultural environments, peer interactions, and individual resilience. In Rwanda, adolescent parenthood is reported among 5% of girls aged 15–19, with Muhanga District having the highest prevalence at 12% (DHS, 2019–2020; MOH Report, 2023). Alarming, 48.9% of adolescent mothers in Muhanga secondary schools experience mental health challenges (Umugwaneza & Silali, 2025). Factors such as stigma, lack of mental health awareness, and unsupportive school environments contribute to school dropout and poor health outcomes (Safari, 2016; Gatsinzi, 2022). Despite initiatives aimed at supporting the well-being of adolescent mothers and promoting their secondary education as a means of gender inclusiveness, adolescent pregnancy remains a leading cause of school dropout (Safari, 2016). Despite existing policy efforts, the socio-cultural context of adolescent mental health remains underexplored in Rwanda, especially in high-prevalence Muhanga District. However little is known Factors Influencing Increased Mental Health Among Pregnant and Parenting Adolescent Mothers Attending Secondary Schools in Muhanga District.

### **Social Cultural Factors Influencing Mental Health Among Pregnant and Parenting Adolescent Mothers Attending Secondary Schools**

Culture is an important context for most experiences, shared beliefs, attitudes, and norms for emotional response and therefore affects how individuals experience mental health disorders, and the need to seek help, in some residual cultural traditions, norms, and taboos enhance adolescents vulnerability to mental health issues. (Tembo et al. 2023)

Giving birth in early age by single adolescent mothers in some culture is seen as culture and social deviance associated with the shame and curse to the entire family, some parents prefer to have their adolescent pregnant girls to get married to avoid this presumed culture outcomes (Rahman. et al. 2019), Despite their ignorance, adolescent girls and their mothers showed negative attitudes towards early pregnancy. Consequently, reducing the severity of this injury will need teaching adolescent girls and their respective families about the dangers involved in marriage an early age (Somayyeh & Mojgan, 2022). However, little study has been done on the psychological issues brought on by early pregnancy, especially when it comes to adolescent single adolescent mothers. (Lucy et al., 2023). Social support from caring parents and adults within the community or family can be a protective factors for adolescents and could compensate for the absence of other protective factors and promote resilience, Adolescents mothers who experience Intimacy partners violence ( IPV) were 13.6 times to report the post traumatic disorders than their peer adolescents who had never experienced IPV. These results imply that the mental health of adolescent mothers may be influenced by social as well as cultural variables. Adolescent mothers without family support are with 2.3 times the likelihood of presenting about PND were those who had their families that care for them, compare to those who had no interaction with the health professional, teen mothers who had communicated with them had a lower risk of developing PND (Chimwemwe et al., 2023). The stigma associated with mental health issues, and a lack of knowledge coupled with cultural beliefs, impede access to mental health care services (Kaminga, et al. 2019).

However, social and cultural factors also have an effect on the emotional health of adolescent mothers who are enrolled in secondary school. Being pregnant, found it difficult to concentrate in class, were driven from their home, thought about

having an abortion, thought about killing themselves, had no family support, were broken up with by close friends, faced discrimination and ridicule, were ill and in pain (Gatsinzi,2022)

Their traditional beliefs and cultural norms have affected their experiences with financial hardships, low self-esteem, rejection and prejudice. In addition to the rejection they may experience from friends, family and others community members, they face a resinous risk of dying during delivery. Furthermore, being an unmarried adolescent mothers is stigmatized and denigrated in rural community's dearth of social support is the mayor contributors to the poor mental health of adolescent mothers while having strong social support networks is associated with reduced stress and improved mental health (Lucy et al., 2023).

Pregnant or parenting adolescent mothers who are students in secondary schools are exposed to a lack of family, peer, and inadequate school services to address their mental health conditions. Adolescent mothers are often the targets of discrimination and stigma, which can lead to feeling of feelings of shame, guilt, and lower self-esteem, and this might hurt their mental health and school performance ( Bizimana, P 2016)

### **Knowledge Attitudes, Practices Influencing Mental Health among Pregnant Or Parenting Adolescent Mothers Attending Secondary Schools.**

According to the knowledge, attitudes and practices theory, human health behavioral change is achieved through the acquisition of the right knowledge, generation of attitudes, and adoption of behaviors (or practices) in three successive processes (Alsaleh, et al., 2023). Knowledge about mental health issues, available support systems, and coping mechanisms plays a crucial role in shaping the mental well-being of adolescent mothers. Lack of awareness about the signs and symptoms of mental health disorders, such as postpartum depression, can lead to delayed or inadequate interventions. Additionally, understanding the impact of stress, societal stigma, and hormonal changes during pregnancy and postpartum can empower adolescent mothers to seek timely help and support (Kaminga, et al.2019).

According to Health Believe Models: Perceived Susceptibility and Severity: Individuals are more likely to take action to protect their health if they believe they are susceptible to a particular condition and that the condition has serious consequences. Particularly to mental health of pregnant and parenting adolescent mothers, is the way adolescent mothers and community understand their potential risk of mental health and are more likely to engage in practices that promote their mental well-being Ghorban & Nasirzadeb, 2021)

Unfortunately, the adolescent mothers and community about life experience on mental health among pregnant and parenting mothers is inadequate. Where they attributes the mental health as cultural, believe and society consensus rather that mental health concern which might need medical care. And mental health mental health ( Lucy, 2023), and pregnant and parenting mothers as well as community awareness about possible mental health signs and symptoms of mental health is low.

Among adolescent mothers, their distress was attributed to their situation and, in explanation, they described emotions associated with social issues, and emotions rather than thoughts:

In contrast to the girls' perceptions and attributions of their own mental states, community elders appear to recognise the risk of severe mental illness and attribute it to actions of the individual, such as substance use, or external forces such as witchcraft. (Shah et al., 2017). The poor mental health literacy and difficulties in recognising symptoms are barriers to adolescents accessing mental health services ( Tay& Klainin, 2018).

Attitudes, both within the individual and society, significantly influence the mental health of adolescent mothers. Internalized stigma was raised as a significant barrier to accessing services. Feelings of inadequacy, and fear of judgment from peer and community, adolescent mothers feel that they would be judged for being young and pregnant and mocked for having mental health problems and this exacerbate existing mental health challenges.( Lucy et al., 2023). The adolescent pregnant and parenting mother experience the self guilty as deviant to community norms and get pregnant so seeking care for mental health become a challenges.

Similarly, societal attitudes towards adolescent pregnancy and motherhood can contribute to feelings of isolation and lack of support. Within this pregnant and parenting adolescent mothers are isolated from their peer not pregnant adolescent at school and in the community, they can be also cheasted from their family home as result they dropout the school. In some health setting pregnant and parenting adolescent mother refuse to attend the mental health services due to the judgemental of healthcare workers. ( Kola, L., et al., 2020).

The pregnant or parenting adolescent mothers in most culture are considered as social deviant and when it is associated with mental health challenges, traditional beliefs in that a person who is ‘cursed’ with mental illness may be seen to be serving the community by carrying the curse for others which results in social isolation. Working with community leaders and traditional healers in the interests of shared decision-making and cultural sensitivity can be part of an effective community outreach for mental health (Ojagbemi & Gureje, 2021).

Conversely, maladaptive practices, such as substance abuse or social withdrawal, forced marriage, or traditional healer can contribute to the deterioration of mental health. (Quinn and Knifton 2014).

The study conducted in Uganda, indicated that adolescent mothers reported being expelled from school once they have discovered pregnant and become anguished and missing their education, and after giving birth families were not prepared to support them. As support adolescent mothers are linked to vocational training schools to promote their independence, this is different from that they had planned (Lucy et al 2023). In some cultures when becoming pregnant in adolescent age, the adolescents attempted to live with their father's family and got married as a result they report this experience negatively. Where they are bullied by the family in law, abused and neglected by the child's father and adolescent mothers return to their own family or living elsewhere. After getting pregnant, families and communities valued girls as workers in family subsistence farming activities, so although an unmarried pregnancy was seen as shameful, there was an advantage for some families from the child leaving school work for the family (Fisher et al., 2015).

Family consent on legal responsibilities: In some communities, when adolescent girls become pregnant and willing to put in justice the male perpetrator, the families got agreement to do not put in justice the male father of the child by exchanging this with money which leaves the pregnant without benefiting justice. (Lucy et al., 2023). In addition the lack of standardized treatment guideline specific to pregnant and parenting women was seen as barriers in practices in health care provisions. Kumar et al. (2018).

To conclude, knowledge about mental health issues during pregnancy and motherhood is essential for early detection and intervention. Pregnant and parenting mothers who are aware of the signs and symptoms of conditions are more likely to seek help and receive timely support. Attitudes towards mental health play a crucial role in influencing help-seeking behaviors among pregnant and parenting mothers. Stigma, fear of judgment, and cultural beliefs can all impact a woman's willingness to disclose her struggles or seek professional help. Addressing negative attitudes and promoting a supportive environment that encourages open conversations about mental health can help create a safe space for mothers to express their concerns and access the care they need. Practices address the challenges faced by adolescent mothers, it is essential to implement comprehensive mitigations and interventions.

## 2. CONCEPTUAL FRAMEWORK

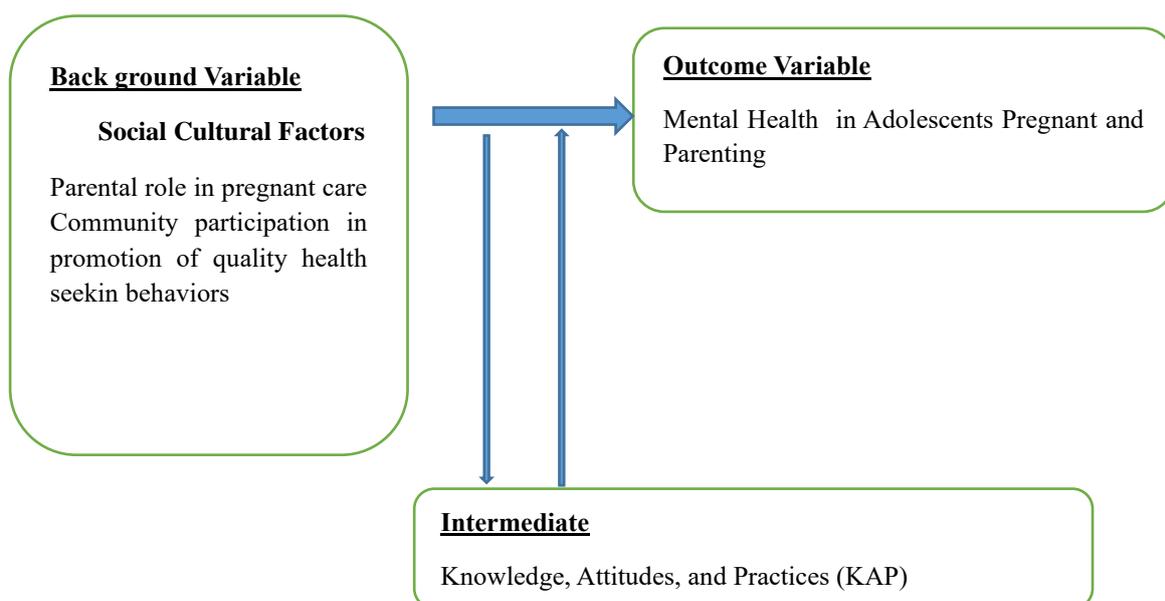


Figure 2.1: Conceptual framework Silali (2024)

### 3. METHODS

Study was descriptive cross-sectional and triangulation designs of mixed methods using questionnaires and interviews administrated to adolescent mothers and schools’ services providers. Qualitative methods, such as interviews or focus groups were used to help in exploring individual perspectives, attitudes, and experiences associated with mental health among pregnant and parenting adolescent mothers attending secondary schools in Muhanga District. Quantitative methods through surveys were used to provide numerical data on demographic characteristics, perception and experiences on mental health in adolescent mothers attending secondary schools in Muhanga District allowing for statistical analysis to identify correlations and patterns. This study was conducted Rwanda, in Southern Province in A target population composed of pregnant or parenting adolescent mothers aged between 15 and 19 years old attending secondary schools in the Muhanga District as well as their school services providers. Purposive and snowball sampling to select 235 adolescent mothers calculated using Fisher’s formula (1998) Adolescent girls between 15–19 years who were not pregnant or parenting adolescent mothers and School services providers who did not sign the consent form. Semi- structured questionnaires, Focus Groups Discussion and Key Informant Interviews were used to gather information to ascertain the frequency and factors influencing increased mental health among pregnant and parenting adolescent mothers attending secondary schools in Muhanga District.

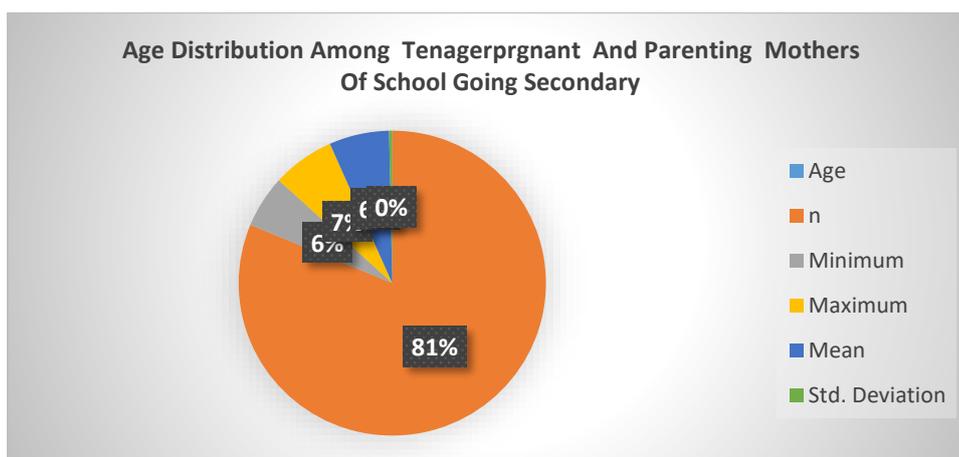
Data was analysed by cross tabulation of descriptive and inferential statistics and managed SPSS version 27. Then after, qualitative data was analysed by discussion of themes to saturation via interviews. The cross-tabulations and logistic regression analysis were used to examine the significant relationships between Mental Health Disorders and various variables .A p-value of less than 0.05 was considered statistically significant, indicating a meaningful association between the factor and the presence of mental health disorders among adolescent mothers in secondary schools. Afterward, qualitative data were analysed through thematic discussions to the point of saturation via interviews. The researcher collaborated with the Supervisor to identify and select recurring patterns and themes from participants' responses, ensuring a comprehensive understanding of qualitative insights.

The ethical approval was obtained from the Ethics Committee of Mount Kenya University. The letter of permission was provided by the Mayor of Muhanga District; schools submitted the request to the Mayor of Muhanga District via the district email.

Prior to data collection, every study participant signed a consent form, participants were guaranteed confidentiality.

### 4. RESULTS

The opined that minimum age was 16 for secondary teenager mother and the maximum was 19 years, with significant mean  $\pm$  Standard deviation (SD) of  $18.27 \pm 0.97$  years.



**Figure 4.2: Age Distribution Among Teenage Pregnant and Parenting Mothers of School Going Secondary**

The results also opined that majority of teenage pregnant and parenting teenager mother were realized in senior class 2 with 77 (33%) respondents' participation, and Senior class 6 with only 13 (6%) . The low rate of senior classes also echoed during KII interview with senior teachers from many schools in Muhanga who opined that :

*“At senior 6 majority of our class have now grown and can realize negative impact of pregnant and parenting when she is still in parents homes and school.”* KII interviews held by senior teachers in the study area the month of January 2025.

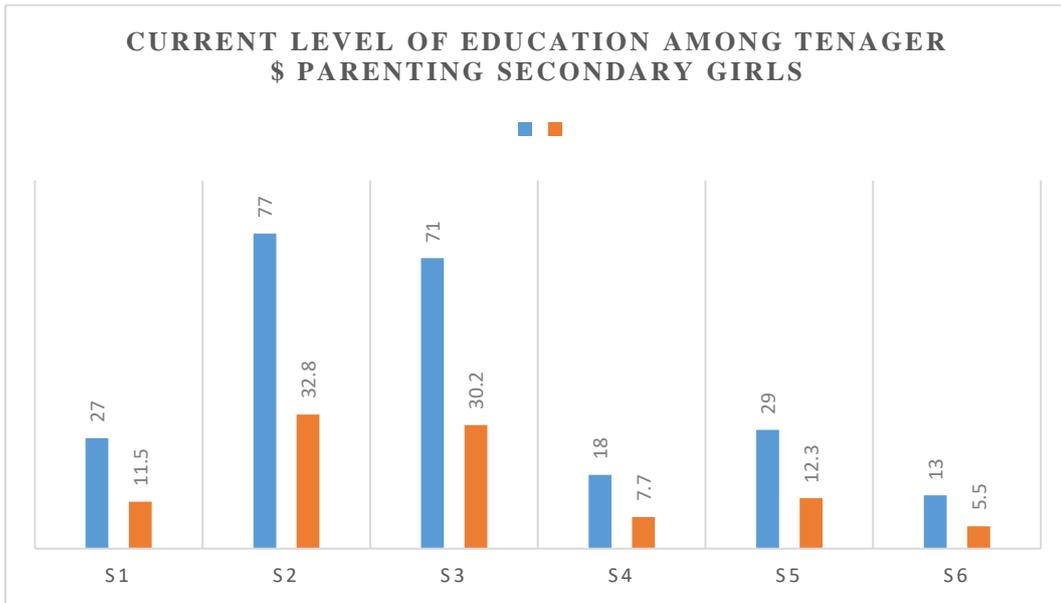


Figure 4.3: Demonstrates Current Level of Education Among Adolescent Mothers in Secondary Schools

#### 4.1 Social-Cultural Practices Which Influence Pregnancy and Parenting of Adolescents

The results showed that the majority of adolescents, 60.9%, (143) have limited of sex education/ reproduction health education, and only 19.1%, (45) had limited community support during pregnant to carry out the gestation period well with significant chi square of 10.86, and p values of 0.028. 95%CI.

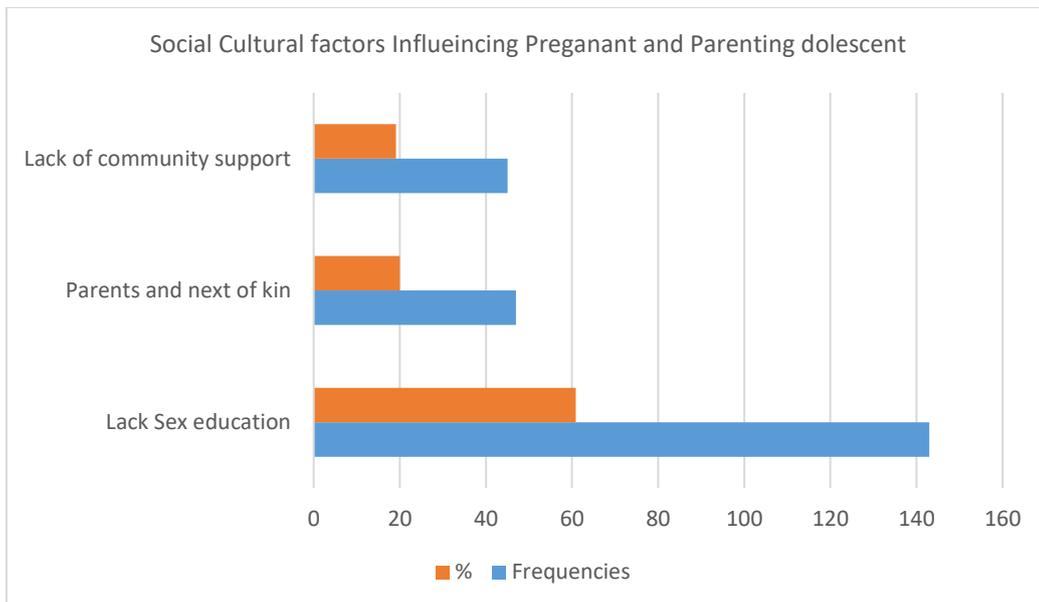


Figure 4.4: Social Cultural factors Influencing Pregnant and Parenting dolescent

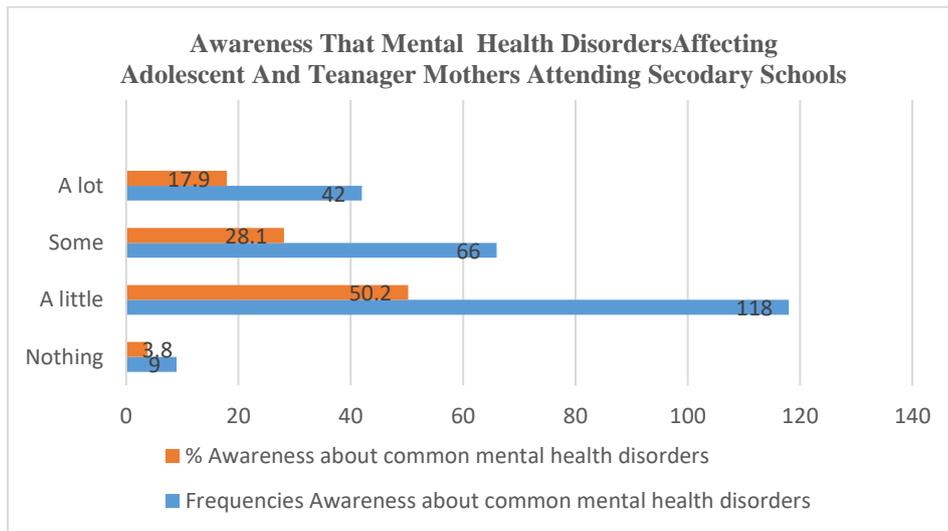
“Themes on social cultural was also discussed in various FGDs and KIIs with education stakeholdres and nurses of some of specific secondsry schools into saturation. In one of the FGD discussion to saturation: “We our tecahers and mentors here at the school will never fail to tell you whatever they want, and those words will always end up hurting you. When someone speaks badly to you because of other problems you might have at that moment, you won't feel like you're moving forward; instead, you'll feel like you're stuck in the same place. Instead of providing you with a solution, it feels like they are making things worse. The sorrow doesn't decrease; it only increases.” FGD held on 25/2 /25.

“Among ourselves teachers , there are some of us who stigmatize these children who are pregnant or have children); they see them as a delinquent . This is a challenge that we need to overcome, teachers should first understand this situation. . FGD held 25/5/25

“Social cultural influence was also opined in KII interview of the head teachers of day schools nad majority said “The living conditions here at school!This situation at school is stressfull, you see at school, the nutritional component is the same and limited , a pregnant individual needs a balanced and sufficient diet. Therefore, I believe that the food provided at school does not meet the nutritional needs of a pregnant parent, both in quality and quantity. This is indeed a concern for the pregnant or nursing child. She is pregnant while attending school, and hunger can become overwhelming, and they have no means to address it. This situation can also contribute to the mental health issues faced by these adolescents!”KII interview held on 3/3/25

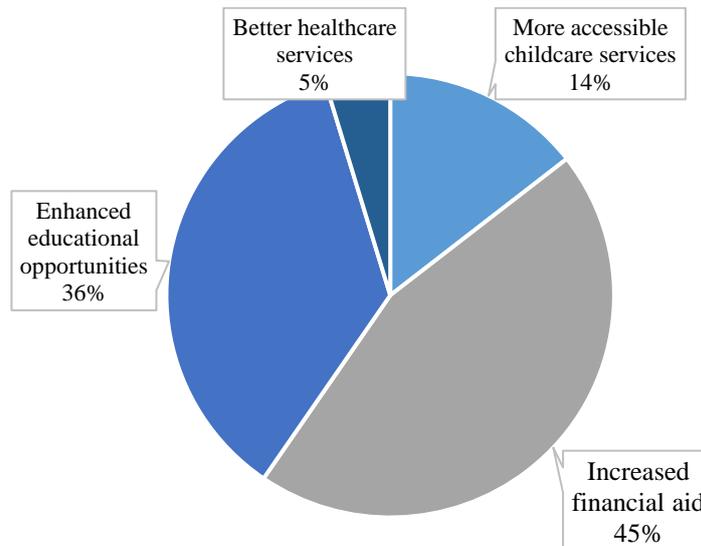
**Knowledge, Attitudes and Practices influence Mental Health among Pregnancy and Parenting Adolescent Mothers attending Secondary Schools in Muhanga District.**

The result showed that target population were awareness that 50.2%, (118) adolescent mothers were being influenced by series of mental heald such depression, anxiety and stress. And only 3.8% (9) admitted According to to having no awareness whatsoever of mental health issues such as depression.



**Figure 4.5: Awareness That Mental Id Affecting Adolescent And Teenager Mothers Attending Secodary Schools**

Study also revealed that, 45% (106 ) of respondents, have perception that economic empowerment is perceived as a critical influence in improving he psychological well-being. Empowerment and financial capacity building of adolescent and tenager mother basic and could influence change of the study poplation livehoods with a significant P value of **0.183, 95% CI**, as demonstrated in the figure 4.7 below.



**Figure 6: The perceptions of Strategies to prevent and control adolescent mothers to improve their mental health**

Empowerment and financial capacity building of adolescent and teenager mother was also discussed in an interview with one of senior teacher *“Empower financialy these adolescent mothers so they can study and reach high, this should let them hope for the better future and they should raise their children well”* *“Putting them together in supporting groups so they can have some thing do do for earning money, with the formal learning they can also benefit from vocation training during holidays , this will support them when they will end with secondary school studies whn waitin g for job of for unibversity studies . Furthermore, considering the critical situation they sytudy in it is not easy for them to have the marks required for them , it is also needed to look they way they should be supported in studying in University.”*KII held on 6/3/25

The need of regular counselling both at school and community households was highlighted in most (188) 80%, respodents and only 20% (47), this was also discussed during KII:” *Advice to the Ministry of Education, and ministry of health as teacher who live alongside the youth every day, we truly see the mental health challenges faced by these adolescent mothers , however when assigning the teacher in the school they refers from what we studied , however, it is lacking is a person with specialized knowledge in mental health, as a counselor. What I would recommend, if it is possible, is that in every school there should be someone responsible for mental health issues. This person would be trained specifically on these matters, which would greatly help the students.The health centers or other medical facilities nearly the schools as they have counsellors or other qualified staff should reach to school to provide the maternal services to these adolescent motheres here as school.The Ministry of Health can play a crucial role in supporting us in schools”* KII held on 6/3/25

*“If possible , Ministry od health , as in health facilities there is a counselors to care with patient with mental challenges , at school also they should be the counsellor in charge of addressing mental health challenges , every school should have this counsellor in charge of mental health concerns. Because if the counselor is available, he/she should do the follow up the welfare of these adolecent mothers and discover the problems they are having, but I repeat if possible because it depends on the economy of the country ! But if possible the counselor should be only in charge of dealing with mental health.”*FGD held on 4/3/25

## 5. CONCLUSION AND RECOMMENDATION

### 5.1 Conclusion

Social Cultural beliefs and familial stigma were widespread, with notable portions of the participants reporting being accused of curses or isolated by family. Many participants reported experiences of forced sexual relations, family rejection, and restrictive cultural norms. Despite these challenges, school and community support systems demonstrated a protective influence. Religious practices were not significantly associated with mental health outcomes in the current sample. Based on the relationships observed between the different variables in the present study, all the study hypotheses were supported.

### 5.2 Recommendation for Ministry of Education

Provide health promotion on reproductive health and continuous awareness campaigns in schools, educating both school leaders and students that an adolescent mother who becomes pregnant is still a student like any other and deserves the same opportunities as her peers. She should not be discriminated against or treated poorly because she is pregnant or has given birth.

### 5.3 Recommendation for Public-Private Partnerships

Encourage Public Private Partnership campaigns within families and in the overall community, particularly targeting parents of adolescent mothers who have become pregnant or have given birth. To provide grants counseled and encouraged them to continue fulfilling their parental responsibilities, recognizing that their daughters are not the first nor the last to experience early pregnancy. They should be guided toward patience, acceptance, and the continued commitment to caring for and supporting their children

## ACKNOWLEDGMENT

Thanks to Mount Kenya University, particularly Dr. Maurice B.Silali, my supervisor, for his unwavering support, invaluable advice, and insightful guidance. Thanks to Catholic University of Rwanda's Faculty of Social Work staff and The FXB/ Rwanda significantly aided me in familiarisation with the mental health experiences of pregnant and parenting adolescent mothers Thanks to the School of Social Work and Public Health at Boston College, especially Professor Therese Betancourt and Professor Vincent Sezibera, for providing me with the opportunity to attend their research presentation , their encouragement, contributed to selecting of this research topic and research design.

Thanks to Muhanga District officials for their assistance in providing me the opportunity to conduct this research in their schools.

## REFERENCES

- [1] Ahorlu, C. K., Pfeiffer, C., & Obrist, B. (2015). Socio-cultural and economic factors influencing adolescents' resilience against the threat of teenage pregnancy: a cross-sectional survey in Accra, Ghana. *Reproductive health*, 12, 1-12.
- [2] Beeston, A. (2022, September 23). Sexual assault impacts teenagers' mental health and education. NIHR Evidence. [https://doi.org/10.3310/nihrevidence\\_53533](https://doi.org/10.3310/nihrevidence_53533)
- [3] Bisengimana Pierre( 2016).Pscho-social effects associated with unintended pregnancies among secondary school teenage girls: (record no. 80360): Mount Kenya Univeristy:Library services :Online Publication Access Catalogue: 2017
- [4] Dzotsi,H.T., Oppong Asante, K.,& Osafo,J.(2020).Challenges associated with teenage motherhood in Ghana: a qualitative study. *Vulnerable Children and Youth Studies*,15(1),85-96.
- [5] Fischer, M., Ramaswamy, R., Fishcer-Flores, L., & Mugisha, G. (2019). Measuring and understanding depression in women in Kisoro, Uganda. *Culture, Medicine & Psychiatry*, 43, 160–180.
- [6] Gatsinzi P (2022). Case study of the out-of-school teenage mother's lived experience and perceptions on education. A back to school framework. *Educational Research and Reviews* 17(3):120-130..
- [7] Harerimana, E., Muziki, J. d'Amour, Nshimyumuremyi, E., Uwera, T., Nshimiyimana, A., & Mutabaruka, J. (2025). Family correlates of behavioral problems among adolescents in Rwanda. *PLOS ONE*, 20(2), e0314507. <https://doi.org/10.1371/journal.pone.0314507>.
- [8] Kassa, G., Batchelder, A., & Gross, D. (2024). Prevalence and determinants of postpartum depression among adolescent and adult mothers in Northwest Ethiopia. *Research in Nursing & Health*, 47(2), 125–140. <https://doi.org/10.1002/nur.22362>
- [9] Kokou, A. M., Emily C., G., Matthew, L., & Valentin C., D. (2022). Gender distribution of mental health disorders among adolescents of Togo, West Africa: A hospital-based study: *International Journal of Mental Health: Vol 53 , No 2—Get Access*. <https://www.tandfonline.com/doi/full/10.1080/00207411.2022.2123695>
- [10] Mutahi, Joan & Larsen, Anna & Cuijpers, Pim & Peterson, Stefan & Unutzer, Jurgen & McKay, Mary & John-Stewart, Grace & Jewell, Teresa & Kinuthia, John & Gohar, Fatima & Lai, Joanna & Wamalwa, Dalton & Gachuno, Onesmus & Kumar, Manasi. (2022). Mental health problems and service gaps experienced by pregnant adolescents and young women in Sub-Saharan Africa: A systematic review. *eClinicalMedicine*. 44. 101289. [10.1016/j.eclinm.2022.101289](https://doi.org/10.1016/j.eclinm.2022.101289).
- [11] Muthelo, L., Mbombi, M.O., Mphekgwana, P. et al. Exploring mental health problems and support needs among pregnant and parenting teenagers in rural areas Of Limpopo, South Africa. *BMC Women's Health* 24, 236 (2024). <https://doi.org/10.1186/s12905-024-03040-z>
- [12] National Institute of statistics of Rwanda (2022). Rwanda Demographic and health Survey 2019-2020.
- [13] National Institute of statistics of Rwanda (2023). The fifth Rwanda population and Housing Census, District Profile:Muhanga.
- [14] Our World in Date team. (2023). *SDG Tracker: Measuring progress towards the Sustainable Development Goals*.
- [15] Pazzagli, C., Buratta, L., Coletti, E., & Mazzeschi, C. (2023). Mother-to-infant bonding mediates the effects of depressive and anxious postpartum symptoms on parenting stress. *Journal of Psychosomatic Obstetrics & Gynecology*, 44(1), 2264487. <https://doi.org/10.1080/0167482X.2023.2264487>
- [16] Safari JP (2016). Institutional causes of school dropout in Rwanda: Perspectives of community education workers .*CEC Journal*, issue 2:1-6.
- [17] Somayyeh , S & Mirghafourvand, M.( 2022). Knowledge and attitudes of adolescent girls and their mothers about early pregnancy: a cross sectional study. *BMC Pregnancy childbirth*, 22(1),205.
- [18] Silali 2024, Role of Community Participation in Integrated Water Hygiene and Sanitation (WASH) Programs in Supply of Accessible Safe and Clean Water to Households in Trans Nzioa, Kenya, DOI: <https://doi.org/10.9734/bpi/cpassr/v4/1951>

- [19] Tembo CP, Burns S, Portsmouth, L ( 2021). Maternal mental health of adolescent mothers: a cross-sectional mixed – method study protocol to determine cultural and social factors and mental health needs in Lilongwe, Malawi. *BMJ*
- [20] The National Institute of Statistics of Rwanda (2022). The fifth Rwanda Population and Housing Census (RPHC5).
- [21] Umugwaneza, M. A. & Silali, M. B. (2025). Prevalence of Mental Health among Pregnant and Parenting Adolescent Mothers in Attending Secondary Schools in Muhanga District, *Journal of Medicine, Nursing & Public Health*, 8(1), 76-93. <https://doi.org/10.53819/81018102t4325>.
- [22] United National Children’s Fund. (2024). Early childbearing: Early childbearing can have severe consequences for adolescent girls. New York: UNICEF.
- [23] World Health Organization. (2019). The WHO special initiative for mental health (2019-2023):universal health coverage for mental health. WHO
- [24] World Health Organization (2020). Fact sheet on adolescent pregnancy. Geneva.