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PSYCHOLOGY

FACTORS ASSOCIATED WITH MAJOR DEPRESSIVE DISORDER AMONG PARENTS OF PREGNANT TEENAGERS AT AFRICAN INLAND CHURCH IN WAMUNYU DISTRICT CHURCH COUNCIL, MACHAKOS COUNTY, KENYA

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ABSTRACT

Purpose of The Study: This study investigated factors associated with major depressive disorder among parents of pregnant teenagers at AIC Wamunyu District Church Council, Machakos County, Kenya.

Problem Statement: Parents of pregnant teenagers face heightened risk for major depressive disorder due to stigma and financial hardship. Research on their mental health remains scarce, particularly in faith-based communities.

Methodology: This cross-sectional study involved 108 parents of pregnant teenagers in Machakos County. Data were collected using a researcher-developed questionnaire. Chi-square tests and Pearson correlations examined associations between depression and socio-demographic variables.

Results: Depression was significantly associated with age ($\chi^2 = 63.057$, $p = .001$), gender ($\chi^2 = 78.867$, $p < .001$), education ($\chi^2 = 137.095$, $p < .001$), employment ($\chi^2 = 85.543$, $p < .001$), financial status ($\chi^2 = 104.457$, $p < .001$), family structure ($\chi^2 = 91.200$, $p < .001$), and residence ($\chi^2 = 97.152$, $p < .001$). Employment status ($r = -0.257$, $p = .008$) and church leadership ($r = -0.220$, $p = .024$) correlated negatively with depression.

Conclusion: Demographic and socioeconomic factors significantly influence depression among parents of pregnant teenagers in faith-based communities. The psychological impact is shaped by parents' socioeconomic environment, requiring interventions addressing broader structural issues beyond individual mental health.

Recommendation: Policymakers should develop community-based mental health interventions incorporating faith-based support systems and economic empowerment programs for affected families.

Keywords: *Depressive Disorder, Parents, Pregnant Teenagers, African Inland Church, Wamunyu District Church Council*

INTRODUCTION

Teenage pregnancy remains a critical public health concern worldwide. According to the World Health Organization (WHO, 2017), it is defined as a pregnancy occurring in a girl between the ages of 10 and 19 years. It also encompasses pregnancies in adolescents who have not yet attained the legal age of adulthood within their respective countries (Cook & Cameron, 2015). Globally, it is estimated that more than 16 million teenage girls give birth each year, representing approximately 11% of all births. Alarmingly, over 90% of these births occur in low- and middle-income countries, with the highest concentrations reported in sub-Saharan Africa (Ganchimeg et al., 2014). A review of 52 studies conducted across 24 African countries revealed that an estimated 18.8% of adolescent girls on the continent experience pregnancy. Notably, the prevalence is highest in East Africa, where the rate stands at 21.5% (Kassa et al., 2018). These figures highlight not only the magnitude of the issue but also the urgent need for targeted interventions, particularly in regions where structural, socio-cultural, and economic factors continue to perpetuate early childbearing among adolescents.

In high-income regions such as the United States and Europe, teenage pregnancy rates have shown a consistent decline over the past few decades. In the United States, the rate of teenage pregnancies has been on a downward trend since 1991. For instance, the birth rate among adolescent females declined from 17.4 per 1,000 in 2018 to 16.7 per 1,000 in 2019 (Martin et al., 2021). Further reductions were observed in 2020, with a 7% decrease among females aged 15–17 years and a 4% decline among those aged 18–19 years (Martin et al., 2021). In addition, across Europe, teenage pregnancy rates have also experienced a steady decrease. Although the United Kingdom previously reported some of the highest adolescent conception rates in the region, recent years have seen marked improvements. In England and Wales, the conception rate among girls aged 15–17 years declined from 21.0 per 1,000 in 2015 to 20.86 per 1,000 in 2017 (Cook & Cameron, 2017). These reductions have been attributed to a combination of comprehensive sexual education, increased access to contraception, and policy interventions aimed at adolescent reproductive health.

In contrast, many African countries continue to report high and, in some cases, rising rates of teenage pregnancy. A systematic review of 52 studies involving over 254,000 participants across 24 African nations found an overall adolescent pregnancy prevalence of 18.8%, with East Africa recording the highest rate at 21.5% and North Africa the lowest at 9.2% (Kassa et al.2018). Country-specific data revealed considerable variation: The Republic of Congo reported the highest prevalence at 44.3%, while Rwanda recorded the lowest at 7.2% (Ahinkorah et al., 2021). These findings underscore persistent regional disparities and the pressing need for context-specific interventions to address the underlying social, cultural, and economic drivers of early childbearing across the continent.

Kenya has one of the highest teenage pregnancy rates globally. Data from the Kenya Data and Health Survey (2014) indicated that 1 in 5 girls aged 15-19 years is either pregnant or already a mother. Between July 2016 and June 2017, 378,397 teenagers aged 10-19 years became pregnant. In 2019, Kenya had the third-highest teen pregnancy rate worldwide, with 82 births per 1,000 (Muturi, 2021). During the COVID-19 lockdown, 3,964 teenagers in Machakos County alone became pregnant, including 200 girls aged 12-14 years (Oduor, 2020). Teenage pregnancy constitutes a significant social and public health challenge, exerting adverse effects not only on the adolescents involved but also on their families, particularly their parents. Adolescent mothers are often unprepared physically, psychologically, and economically for the demands of motherhood. This lack of readiness can result in negative outcomes for both maternal and child health, as well as for the broader social and economic fabric of society (Mgbokwere et al., 2015).

Parents of pregnant teenagers frequently grapple with a range of emotional and psychological burdens, including sadness, guilt, depression, and anxiety. The discovery of a daughter's pregnancy may evoke feelings of shock, anger, disappointment, and deep concern about her future. Many parents also report a sense of failure or regret for not having prevented the pregnancy. These emotional responses often coincide with increased caregiving responsibilities and social stigma, which may intensify familial stress. Recent literature confirms that major depressive disorder (MDD) among parents of pregnant teenagers is influenced by a combination of demographic, socio-economic, and contextual factors. Notably, there is a scarcity of research addressing the

mental health of parents of pregnant teens, especially in low- and middle-income countries (LMICs) where familial support and access to mental health resources tend to be inadequate (Muthelo et al., 2024; Osok et al., 2018). The psychological impact of teenage pregnancy has often focused on the adolescents themselves, overlooking the significant stressors that families endure (Obonyo et al., 2023; Ntshayintshayi et al., 2022).

Age is a pivotal demographic factor affecting the mental health of parents. Older parents often experience heightened psychological distress when faced with a teenage pregnancy, likely due to amplified societal and familial expectations regarding their children's behavior and morality (Muthelo et al., 2024; Öksüzoğlu & TİMUR, 2022). This distress is compounded by cultural stigma associated with teenage pregnancy, which places additional emotional burdens on parents, especially mothers (Seakamela et al., 2023; Ntshayintshayi et al., 2022). Gender plays a crucial role as well; mothers typically express higher levels of emotional distress compared to fathers, reflecting traditional caregiving roles and the expectation that they take primary responsibility for their daughter's emotional and physical care during this period (Kamalak et al., 2016; Govender et al., 2020).

STATEMENT OF THE PROBLEM

Major Depressive Disorder (MDD) remains a significant global mental health concern, closely associated with chronic stress and impaired emotion regulation. While previous studies have extensively examined depression in various populations, little attention has been given to caregivers, particularly parents facing unique psychosocial stressors such as parenting a pregnant adolescent. In Kenya, teenage pregnancy persists as a pressing public health and social challenge, especially in rural and semi-urban areas like Wamunyu in Machakos County. Although the consequences of adolescent pregnancy for the teenage girls themselves have been widely documented, the psychological impact on their parents remains largely overlooked. Parents of pregnant teenagers often endure emotional strain stemming from stigma, shame, community ostracization, and financial hardship. These stressors can place them at heightened risk for developing MDD, particularly when compounded by a lack of social support and limited access to mental health services. Within faith-based communities such as the Africa Inland Church (AIC) in

Wamunyu District Church Council, cultural expectations and moral pressures may intensify these psychological burdens. Despite this, empirical research on the mental health of this population is scarce.

This study seeks to investigate the factors associated with major depressive disorder among parents of pregnant teenagers attending AIC churches in Wamunyu District Church Council, Machakos County. By identifying key emotional, social, and contextual variables, the study aims to contribute to a better understanding of the mental health needs of this underserved group. The findings are expected to inform the development of targeted, culturally sensitive mental health interventions and community support mechanisms tailored to the realities of affected families.

RESEARCH OBJECTIVE

To investigate the factors associated with major depressive disorder among parents of pregnant teenagers at AIC in Wamunyu District Church Council, Machakos County, Kenya.

RESEARCH QUESTION

What are the factors associated with major depressive disorder among parents of pregnant teenagers at AIC in Wamunyu District Church Council, Machakos County, Kenya?

THEORETICAL FRAMEWORK

This study utilized Biosocial Theory of Emotion regulation and depression (Linehan 1993). In her work, Linehan (1993) developed the biosocial theory, which explains behavioral development through the interaction between biological predispositions and environmental influences. According to Linehan, individuals with high emotional sensitivity who experience frequent invalidation of their emotional expressions are at risk of developing emotional dysregulation. This condition is characterized by difficulty in regulating emotional responses and managing impulsive behaviors during heightened emotional states. Her model is one of the most detailed frameworks explaining the roots of mood disorders, including major depressive disorder, emotional dysregulation, suicidal ideation, and borderline personality disorder (Feigenbaum, 2007). Southward and Cheavens (2020) further explain that biosocial theory identifies deficits in emotion regulation skills as central in individuals with emotional dysregulation. Such individuals may

either lack effective strategies or fail to use them properly. Brereton and McGlinchey (2020) also note that early exposure to invalidating environments can contribute to the emergence of maladaptive coping mechanisms or other mental health conditions such as depression in emotionally vulnerable individuals.

From a biological perspective, biosocial theorists highlight genetic influences as key contributors to the development of emotional dysregulation and mood disorders like major depression (Smoller, 2016). Research from twin and family studies has shown that heredity plays a significant role in the onset of psychological disorders, with heritability estimates for depression ranging from 35% to 50% (Yang et al., 2016). Linehan's theory also posits that imbalances in critical neurotransmitters namely dopamine, serotonin, and norepinephrine—are linked to emotion dysregulation and depressive symptoms. Reiss and Dombeck (2007) describe monoamine neurotransmitters as brain chemicals that regulate emotions, memory, and arousal. Serotonin, in particular, is essential for mood stabilization and cognitive functioning. Disruptions in serotonin levels have been associated with depressive states. Furthermore, empirical studies have indicated that reduced dopamine function is linked to depression and emotional instability. These impairments may result from decreased dopamine release or inefficiencies in neural signal processing, contributing to the development of mood disorders (Dunlop & Nemeroff, 2007).

In addition to genetic and neurotransmitter-related factors, the brain's limbic system also plays a crucial role in emotional regulation. This system, which includes structures such as the hippocampus, hypothalamus, cingulate gyrus, and anterior thalamic nuclei, governs emotional processing (Palazidou, 2012). Emotional regulation depends on a fronto-limbic network, where the prefrontal cortex modulates the activity of the amygdala a region central to emotional responses. Disruptions in this network are implicated in disorders like major depressive disorder, borderline personality disorder, bipolar disorder, and ADHD, all of which share emotional dysregulation as a core feature (Shaw et al., 2014). Another biological mechanism implicated in mood and emotional disorders is the Hypothalamic-Pituitary-Adrenal (HPA) axis. Studies indicate that overactivity of this system is associated with depression and cognitive difficulties.

Dysregulation in cortisol receptors mineralocorticoid and glucocorticoid within this axis is thought to contribute to both emotional and cognitive dysfunctions (Joëls et al., 2008).

From the environmental standpoint, biosocial theory also underscores the role of social contexts. Linehan (1993) suggests that individuals with disorders such as borderline personality disorder or major depression often grow up in environments that consistently invalidate their emotional experiences. This invalidation, when combined with a biological predisposition for emotional sensitivity, leads to significant difficulties in emotional regulation. According to Linehan, the interaction between an emotionally vulnerable temperament and a toxic environment creates dysfunction across emotional and behavioral domains. Specifically, she emphasizes that emotional dysregulation and invalidation are the two central problems for individuals with borderline personality disorder, and both are implicated in a range of mood disorders.

EMPIRICAL REVIEW

A growing body of literature has examined the psychological vulnerabilities of pregnant adolescents, with particular emphasis on the factors associated with the onset of major depressive disorder (MDD). Coelho et al. (2022) identified several significant risk factors that contribute to the development of MDD in this population, including a family history of mental illness, exposure to childhood adversity, social isolation, and the occurrence of stressful life events. These factors, individually or collectively, increase susceptibility to depressive symptoms. Additionally, adolescent mothers are disproportionately affected by histories of physical and sexual abuse and frequently encounter barriers to accessing high-quality mental health and reproductive services, compounding their psychological burden.

In line with these findings, Nicolet et al. (2021) reported that unintended or unplanned pregnancy, prior abortion experiences, and exposure to domestic violence were strong predictors of major depression among pregnant adolescents. These stressors often create a hostile emotional environment that undermines psychological well-being. Similarly, Oladeji et al. (2022) emphasized the compounding effect of socio-economic stressors on depression, identifying food insecurity, lack of a cohabiting partner, unemployment, and poor quality of life as prominent

contributors to depressive symptoms. Elevated anxiety and negative perceptions of pregnancy were also highlighted as significant predictors of mental health decline in adolescent mothers.

Despite the wealth of literature documenting the psychosocial challenges facing pregnant adolescents, a notable gap remains in understanding the psychological impact of teenage pregnancy on parents. While extensive research has been devoted to adolescent mental health outcomes, there is a dearth of empirical studies investigating how parents of pregnant teenager's cope with the emotional, social, and financial stressors that accompany their child's pregnancy. The current evidence base lacks sufficient exploration of the risk and protective factors that may influence the development of MDD among these parents.

METHODOLOGY

This cross-sectional correlational study examined factors associated with major depressive disorder among parents of pregnant teenagers at AIC churches in Wamunyu District Church Council, Machakos County, Kenya. The study population comprised parents of teenagers aged 10-19 years who became pregnant, with the target population being all such parents in Machakos County. A total of 108 participants were selected through purposive sampling from AIC churches within the district. While this sampling approach was contextually appropriate, it limited generalizability beyond the faith-based community studied. Data were collected using a researcher-developed questionnaire administered by three trained research assistants. The questionnaire assessed depression levels and various socio-demographic variables including age, gender, education level, employment status, financial status, family structure, residence, community roles, and factors related to the pregnancy circumstances. Ethical approval was obtained from relevant authorities, and community stakeholders including church leaders were consulted prior to data collection. Clear inclusion and exclusion criteria guided participant selection. Data analysis employed chi-square tests to examine associations between depression scores and socio-demographic variables, and Pearson correlation coefficients to assess relationships between major depressive disorder and potential demographic, economic, social, and psychological predictors. All statistical analyses were conducted using appropriate software, with significance set at $p < .05$.

RESULTS AND DISCUSSION

The Chi-square was run to show the associations between total depression scores and some selected socio-demographic variables. The results were presented in Table 1.

Table 1: Chi-Square Test Statistics for Selected Variables

Variable	Chi-Square (χ^2)	df	Asymp. Sig. (p-value)
Participant's age	63.057	33	.001
Participant's gender	78.867	1	.000
Participant's education level	137.095	3	.000
Participant's employment status	85.543	2	.000
Participant's perceived financial status	104.457	2	.000
Participant's family setup	91.200	2	.000
Participant's residence	97.152	1	.000
Holding a significant position in the Church	0.467	1	.495
Holding a significant position in the community	4.200	1	.040
Who impregnated the participant’s daughter?	32.181	3	.000
Economic status of the man who impregnated daughter	105.000	5	.000
Participant's depression scores at baseline	33.924	28	.203

Table 1 presents chi-square test results examining associations between depression scores and socio-demographic variables among parents of pregnant teenagers. Statistically significant associations were found between depression and participant age ($\chi^2 = 63.057$, $p = .001$), gender ($\chi^2 = 78.867$, $p < .001$), education level ($\chi^2 = 137.095$, $p < .001$), employment status ($\chi^2 = 85.543$, $p < .001$), perceived financial status ($\chi^2 = 104.457$, $p < .001$), family structure ($\chi^2 = 91.200$, $p < .001$), and place of residence ($\chi^2 = 97.152$, $p < .001$). Community leadership position showed a modest but significant association ($\chi^2 = 4.200$, $p = .040$), while church leadership position was not significantly associated with depression ($\chi^2 = 0.467$, $p = .495$). Strong associations were observed

for the identity of who impregnated the daughter ($\chi^2 = 32.181$, $p < .001$) and the economic status of that individual ($\chi^2 = 105.000$, $p < .001$). Baseline depression scores showed no significant association with grouped variables ($\chi^2 = 33.924$, $p = .203$); however, this result violated chi-square assumptions as 100% of cells had expected frequencies below five, limiting interpretability. Overall, demographic and contextual variables particularly education, gender, employment, financial status, and pregnancy circumstances demonstrated significant associations with depression among this population.

Table 2: Correlation between MDD and Selected Factors

		Who impregnated?	Economic status	MDD at baseline
Participant's age	Pearson Correlation	.075	.104	-.093
	Sig. (2-tailed)	.450	.292	.343
	N	105	105	105
Participant's gender	Pearson Correlation	.145	.185	-.062
	Sig. (2-tailed)	.139	.059	.533
	N	105	105	105
Participant's education level	Pearson Correlation	.060	.034	-.136
	Sig. (2-tailed)	.541	.731	.167
	N	105	105	105
Participant's employment status	Pearson Correlation	-.119	-.161	-.257**
	Sig. (2-tailed)	.226	.100	.008
	N	105	105	105
Participant's perceived financial status	Pearson Correlation	.192*	.182	-.072
	Sig. (2-tailed)	.050	.064	.468

Table 2 presents correlations between depression scores and selected demographic and economic factors. Employment status demonstrated a significant negative correlation with depression ($r = -.257$, $p = .008$), indicating that employed parents reported lower depressive symptoms than their

unemployed counterparts. Perceived financial status showed a significant positive correlation with who impregnated the daughter (r = .192, p = .050), though it was not significantly related to depression scores (r = -.072, p = .468). Age, gender, and education level showed no significant correlations with depression, with coefficients ranging from -.136 to -.062 and p-values exceeding .167. These findings suggest that economic factors, particularly employment status, play a more critical role in parental depression than basic demographic characteristics.

Table 3: Correlation between MDD and Selected Factors

	N	**105**	**105**	**105**
Participant's family setup	Pearson Correlation	.184	.152	-.057
	Sig. (2-tailed)	.060	.121	.564
	N	105	105	105
Participant's residence	Pearson Correlation	-.092	-.156	-.021
	Sig. (2-tailed)	.353	.112	.830
	N	105	105	105
Participant holding any significant position in the Church	Pearson Correlation	.039	.077	-.220*
	Sig. (2-tailed)	.690	.433	.024
	N	105	105	105
Participant holding any significant position in the community	Pearson Correlation	.034	.035	-.143
	Sig. (2-tailed)	.731	.724	.145
	N	105	105	105
Who impregnated the participant's daughter?	Pearson Correlation	1	.859**	.032
	Sig. (2-tailed)		.000	.745
	N	105	105	105
Economic status of the man who impregnated daughter	Pearson Correlation	.859**	1	.053
	Sig. (2-tailed)	.000		.588
	N	105	105	105
Participant's total scores on depression at baseline	Pearson Correlation	.032	.053	1
	Sig. (2-tailed)	.745	.588	
	N	105	105	105

Table 3 presents correlations between depression and social, contextual, and pregnancy-related factors. Holding a significant position in the church showed a significant negative correlation with depression (r = -.220, p = .024), suggesting that church leadership may serve as a protective factor against depressive symptoms. Family structure, residence, and community leadership position were not significantly correlated with depression, with p-values ranging from .145 to .830.

Notably, neither the identity of who impregnated the daughter ($r = .032$, $p = .745$) nor the economic status of that individual ($r = .053$, $p = .588$) showed significant associations with parental depression. However, a strong positive correlation existed between these two variables ($r = .859$, $p < .001$), indicating that the identity and economic status of the responsible individual were closely linked. Overall, only employment status and church leadership emerged as significant correlates of depression among parents of pregnant teenagers.

CONCLUSION

This study revealed that employment status and active involvement in church leadership were most significantly associated with lower levels of depression among parents of pregnant teenagers. These findings emphasize the protective role of socio-economic stability and community engagement. While other demographic and contextual factors showed no significant correlations, the results underscore the psychological burden faced by this overlooked population. The study highlights the need for targeted, family-inclusive mental health interventions that incorporate both economic support and faith-based community structures to effectively address parental depression linked to teenage pregnancy.

RECOMMENDATIONS

Based on the study findings, several recommendations emerge to address challenges faced by parents of pregnant teenagers. Policymakers should prioritize economic empowerment initiatives including job training, entrepreneurship support, and microfinance opportunities, given the association between employment and lower depression levels. Community-based mental health services should be expanded in rural areas and made accessible through local health centers and churches, with services tailored to local cultural contexts. Reproductive health programs should adopt family-inclusive approaches that incorporate routine depression screening and psychoeducation for both adolescents and their parents. Community health workers and religious leaders should receive training in basic psychosocial support to strengthen early identification and referral systems. Longitudinal research is needed to monitor long-term psychological impacts and inform evidence-based interventions. Public awareness campaigns should address stigma surrounding teenage pregnancy to create more supportive environments for affected families.

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