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Psychological Morbidity Among Post-Partum Adolescent Mothers Attending Pumwani Maternity Hospital Nairobi County, Kenya

Grace Ireri[1*], Priscilla Kabue[2], A. K. Wanyoro[3]
[1]*Kenyatta University, Nairobi, Kenya*
[2]*Department of Community Health and Reproductive Health Nursing, Kenyatta University, Nairobi, Kenya*
[3]*Department of Obstetrics and Gynecology, School of Medicine, Kenyatta University, Nairobi, Kenya*

Abstract*: In the recent past, adolescent pregnancy has been on the rise. Estimations indicate that, globally, teenage girls who give birth annually are roughly sixteen million. In countries with few resources, it becomes challenging. Mental health has found a greater concern related to reproductive and sexual health; however, depression-related information in Kenya is limited. This means that more studies on psychological morbidity among teenage mothers are an important area of inquiry. A number of studies from developed countries show a rise in teenage pregnancy and the health consequences to both the teenage mother and the baby, such as anemia, preterm labour, obstructed labour, retardation in intrauterine growth, increased post-partum hemorrhage risk, eclampsia, cephalic pelvic disproportion, sepsis, neonatal death, genital fistula, and the risk of death which contribute to psychological morbidity. The study aimed at assessing predictors of psychological morbidity among post-partum teenage mothers at Pumwani maternity hospital. Descriptive correlation design was the study design whereby 74 postnatal mothers aged between 10 and 19 years who had been admitted in the postnatal wards at Pumwani maternity hospital were recruited through a convenient sampling method. The study used interviewer-administered and self-administered questionnaires in collecting data from those who could read and understand and those who could not read and understand, respectively. SPSS Version 25 was used in verification, coding, and analysis of data. Findings showed that, 51.3% (n =38) were aged between 16 and 18 years, 56.8% (n=42) were single, 60.8% (n=45) had secondary level education with only 12.2% (n=9) had accomplished their education in their respective levels. Out of 74 post-partum adolescent mothers in maternity at Pumwani Hospital, 86.5% (n=64) had psychological morbidity 95% CI: 76.6% - 93.3%. The multivariable analysis established that aged less than 18 years (AOR=11.41, 95% CI:3.08 – 26.23, p=0.004), those who were single (AOR=3.33, 95% CI:1.51 – 21.87, p=0.031) were more likely to have postpartum depression while those who had received care as they wanted were 94% less likely to have depression compared to those who did not receive the care they wanted, (AOR =0.06, 95% CI: 0.01 – 0.67, p=0.022. The prevalence of psychological morbidity is high with age (<18years) and completing highest level of education being significant determinants. Thus, healthcare providers should regularly screen new mothers for depression to help control the burden of psychological morbidity.

***Keywords*: psychological, morbidity, post-partum, adolescent, Pumwani.**

1. Introduction

A. Research Background

The entire world now experiences teenage pregnancy, which is perceived as a problematic social and public health concern (Ochen et al.,2019). Globally, teenage girls with ages of between fifteen and nineteen years who give birth annually are roughly sixteen million. (Habitu et al.,2018). This contributes to almost 11% of all births globally (WHO, 2014b). Yearly, there are 5.6 million abortions estimated in teenage girls, of whom 3.9 million are unsafe, leading to maternal deaths and morbidity. (WHO, 2014a; Topics & Us, 2020). Teenage pregnancy exposes young girls to mental health issues (Patton et al., 2016). The result of the study conducted by Kabakian-Khasholian et al., 2014) reported 93.6% physical post-partum health problems whereby 84.4% were psychological. However, more health problems were reported more than two months after delivery. Challenges such as waiting time, privacy, and confidentiality were highlighted as barriers to accessing maternal services and risk factors to psychological morbidity (Kisiangani et al., 2020).

The prevalence of teenage pregnancy prevalence varies across various parts globally, with Asia Pacific regions recording a 35% prevalence, 25% in Bangladesh, and 25% in Australia (Marino et al., 2016). In Nigeria, prevalence is 22.9% (Akpor & Thupayagale-Tshweneagae, 2019), and in Kenya, adolescent pregnancy and motherhood rates stand at 18% (Miriti & Mutua, 2018). The rise in adolescent pregnancies is linked to COVID-19 Lockdown, whereby 98% of the pregnant girls were not in school, and 59% of the pregnancies were unintended (Maina, 2020; Kassa et al., 2018).

B. Problem Statement

Teenage or adolescent pregnancy increases young girls' vulnerability to anxiety and becoming depressed, which are the commonly resultant disorders in mental health linked to early pregnancy situations (Osok et al., 2018). Globally, estimation

*Corresponding author: graceireri10@gmail.com

for the depression prevalence in pregnancy ranges between 11% and 18%, while a study involving women conducted in two major hospitals in Nairobi Kenya, found a prevalence of 18% for post-partum depression (Osok et al., 2018).

There is limited information about the rise in depressive symptoms among mothers from the time of pregnancy onwards (Waerden et al., 2015). In Uganda and Bangladesh, diagnosis of post-partum depression in teenagers has not been considered in hospitals (Atuhaire & Cumber, 2018; Nasreen et al.,2011). Regrettably, adolescent post-partum depression still remains under-identified and undertreated because of a lack of knowledge among women and their healthcare providers (Abbasi et al., 2013; Greenhalgh, 2019; Kabakian-Khasholian et al., 2014; Corey & Thapa, 2011). Due to the scarcity of mental health resources and primary health care, mental health coverage is limited, making the burden even deeper (Osok & Grote, 2018). Kenya needs to address and implement more studies on depression in terms of prevalence, severity, and risk factors that contribute to mental illness in adolescents (Osok et al., 2018).

C. Research Questions

1. What relationship exists between psychological morbidity and health system factors among post-partum adolescent mothers at Pumwani Maternity Hospital?
2. What relationship exists between psychological morbidity and socioeconomic factors among post-partum adolescent mothers at Pumwani Maternity Hospital?
3. What relationship exists between psychological morbidity and cultural factors among post-partum adolescent mothers at Pumwani Maternity Hospital?

D. Research Objectives

1) The Main objective

1. To determine psychological morbidity among post-partum adolescent mothers in maternity at Pumwani Hospital.

2) Definite aims

1. To evaluate the health system factors and psychological morbidity's relationship among post-partum adolescent mothers at Pumwani Maternity Hospital.
2. To assess the relationship between socioeconomic factors and psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital.
3. To assess the relationship between cultural factors and psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital.

E. Study Justification

Depression among adolescent mothers is a significant mental health concern that can have far-reaching implications for both the young mothers and their children. Adolescent mothers, typically defined as girls between the ages of 10 and 19 who have given birth, face unique challenges related to their age, socio-economic status, and life circumstances, which can increase their vulnerability to depression. Adolescent mothers are at increased risk of developing postpartum depression. However, in our local context, there is paucity of data on the burden of post-partum depression and associated factors among adolescent mothers. There is need to address and investigate risk factors that contribute to mental illness in adolescents.

Pumwani Maternity Hospital was selected on a purposeful basis because it's the largest county referral maternity hospital in Nairobi, Kenya, which receives the highest number of antenatal and post-partum mothers for inpatient and outpatient services (normal deliveries are about 50 to 100, while Caesarian Sections are about ten to fifteen daily). This will enable the researcher to have a wide range of selection of study participants. Pumwani Maternity Hospital is covering a very large population. It is located in a metropolitan area of Nairobi, covering even poor urban slums with adolescent pregnant girls. In most cases, adolescent girls are not ready for delivery and parenthood, which may lead to stressful feelings of being a failure. It also puts them at risk for depression.

F. Research Implications

The current research outcomes can facilitate deeper and enhanced understanding among the nurses concerning the psychological experiences of teenage mothers and be sensitive when handling their cases. To the parents, this study will serve as a guide to understand their children deeply and to guide them through a very difficult time before and after delivery to minimize the adverse effect of post-partum distress. Teachers will be able to teach their students regarding sex education to follow the Dos and Don'ts actions.

The adolescents will gain valuable insight on why and how teenage pregnancy could lead to post-partum psychological morbidity. This will even help them avoid or prevent adolescent pregnancies. The findings of this study will also increase general information to future researchers; this study will serve as a guide to broaden their knowledge about the experiences of post-partum adolescent mothers.

G. Conceptual Framework

The dependent variable is psychological morbidity, while independent variables include cultural, socioeconomic, and health system factors. The factors related to the health system include; attitude of health care workers, lack of training for health care providers, age and gender of health care providers, long waiting time, and legislative policies and practices.

Socioeconomic factors include financial instability, low education, and poverty. When there is a financial crisis, adolescent mothers face challenges in buying the baby's clothes and other necessities like pads or cotton wool. Adolescent mothers with low education are not able to make concrete decisions, and when faced with challenges, they may not be able to handle them. For example, they may not know when to seek health care at the nearest health facility instead of using traditional medicines for the baby. Poverty in the family is very stressful, especially when the postnatal mother does not get enough food; she may not even have enough milk for

breastfeeding.

Cultural factors include polygamy, preference for a male child, preference for TBAs, early marriages, religious beliefs, and female genital mutilation. Some of these adolescents are subjected to early marriages and polygamy, which is absolutely against their wishes. When they get pregnant, they are too young to cope with pregnancy crisis; they also have difficult deliveries and do not receive the necessary support from their spouses, who have many wives and many other children to take care of. This is a problem that can alter their psychological well-being or even bring depression.

The intervening variables are integrated services which include quality health care provision, social support, religious support, and public policy. Nurses should change their attitude towards adolescent mothers and be kind to them. They should talk to them nicely; avoid making unnecessary noise to them, and showing them, love. The staffing at the health care facilities should be increased so as to minimize long waiting hours. This will help improve the mental status of adolescent mothers.

H. Conceptual Framework

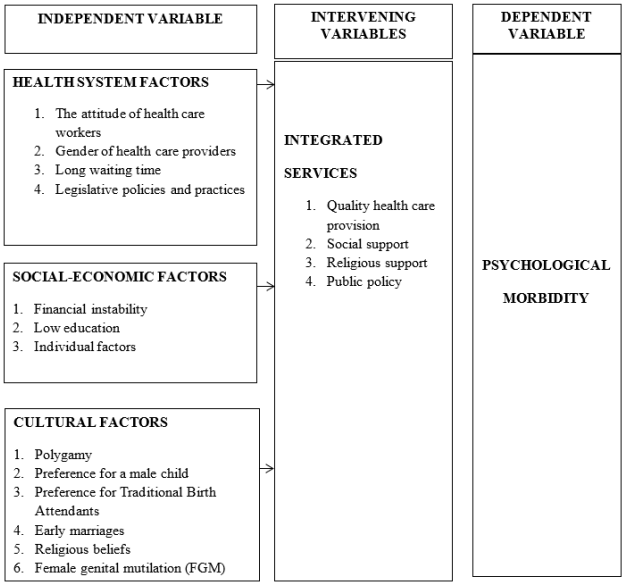

Fig. 1. Psychological morbidity among post-partum teenage mothers at Pumwani Maternity Hospital, Source: Adapted from (Mekonnen et al., 2019)

2. Literature Review

Several studies on adolescent pregnancy suggested that present developmental challenges could have some negative psychological effects on the developing adolescents (Miler, Graefe, &de De Jong, 2013). This chapter aims to review the literature that focuses on predictors of psychological morbidity among post-partum adolescent mothers, which include cultural, socioeconomic, and health system factors.

A. Health System Factors

Various studies identified several health systems in Sub-Saharan Africa that affect maternity care utilization by adolescent mothers (Mekonnen, Dune, & Perz, 2019). Lack of adolescent-friendly services, inadequate privacy, long waiting time, or lack of specific training in adolescent pregnancy to HCP constrained the use of maternity care services. (Mekonnen et al., 2019).

In some studies, the attitude of healthcare workers was described to be unfriendly, rude, and unsympathetic, with regards to confidentiality and privacy, they feared service providers would rebuke and make them feel embarrassed (Omukwugha et al., 2019; Hokororo et al., 2015; Jonas, Crutzen Borne, & Reddy, 2017). Health care workers are incapable of providing adolescent-friendly health care due to insufficient knowledge related to adolescent reproductive health, including basic emergency obstetric care (EmOC), thus making it a big challenge to them (Patton et al., 2016; Jonas et al., 2017).

The age and gender of Health Care Providers were also determinant factors in accessing maternity services among teenagers. The majority of them argued that it would be fair for them to have the services provided by young health care workers who were likely to be friendly and understand their challenges better than the older health workers. (Theresa et al., 2019;Patton et al., 2016). They further explained that they preferred female health care workers to attend to them since they were not comfortable with men attending to them and that they came to the health facilities because they needed the services. This has led to work overload for female health care workers. Provision of services by the chances of the same-sex increase of free expression by the adolescent when seeking medical attention. (Theresa, Munalula, & Zula, 2019).

Due to few health care workers, the adolescents were not comfortable with the long waiting time in the health facilities, and they felt that their time was not respected. (Duggan & Adejumo, 2012; Rukundo et al., 2019; Worku & Woldesenbet, 2016). In both Malawi and Senegal, lack of enough staff led to prolonged waiting by the clients, and inconvenient working hours were noted as a concern that can hinder clients from seeking medical services (Kayongo, 2013). Some of the health facilities do not provide services at certain times, and they have not indicated when the services are available. A study in Kenya showed that some of these services are not offered in the afternoon, and this limits the clients who are only available in the afternoon (Kisiangani et al., 2020).

Health Care Providers were also bound to provide some services to the adolescents because of unclear or strict legislative frameworks and also fear of entertaining sexual activity among the adolescents (Patton et al., 2016). In Zimbabwe, the provision of these services requires the provision of national identity cards from the clients or their spouses. This hinders unmarried adolescents and who do lack national identity cards from utilizing maternal services, thus, raising the alarm for depression.

B. Socioeconomic Factors

Socioeconomic consequences for pregnant adolescents are not only maternal health and reproductive health issue but also include other factors such as poverty, low education, and financial instability. These factors have contributed to poor knowledge on reproductive health among adolescents contributing to lack of access to adolescent-friendly services at the health care facilities leading to adolescent pregnancy, which

is neither intended nor planned (Osok et al., 2018).

Adolescent mothers are faced with physical challenges to their health and are mostly socially disadvantaged (Oluwasola, Banke-Thomas, & Ameh, 2017). Many of them do not complete studies making it difficult for them to secure a job, and raising children as single parents becomes very challenging for them. (WHO, 2014a).

The economic status of the adolescents' families was found to influence maternal health care and psychological well-being. Those who came from well up families reported better knowledge of health care services as compared to the group that came from poor families who had poor social networks and did not have much information concerning the programs that can enhance the utilization of maternal and mental health services for teenage mothers thus reducing psychological morbidity (Mekonnen et al., 2019).

Married adolescents also face challenges. Osok et al. (2018) reviewed the experiences of pregnant adolescent girls in Kenya from the time the pregnancy is confirmed to the post-partum period. It revealed that the majority of married girls lacked support from their spouse/partners, who abandoned and stigmatized them. The older men exploited young girls and abandoned them right after, while young men were fearful and ran away from responsibilities leaving the young pregnant girls without support.

Additionally, unexpected pregnancy, denial of the role, responsibilities, lack of food, poor family support, inaccessible health services increased anxiety and feelings of depression (Ochako et al., 2011). All these challenges had a negative impact on the mothers and the community at large, leading to a repeated cycle of poverty (Osok et al., 2018).

Even when these postnatal adolescent mothers went back to school, they could not concentrate in school because of threats to discontinue due to unpaid school fees, and sometimes they opted to drop on their own (Osok et al.,2018). Additionally, similar studies have shown that women with less education tended to marry at a younger age and are depressed compared with more educated women (Hervish & Feldman-Jacobs, 2011; Azad et al. (2019). In Pakistan, educated women who have better jobs are living better than those who are not educated (John, 2017). Similar findings were reported among post-partum women in Bangladesh, of which financial crises, sickness, poverty and led to sadness and depression during the post-partum period (Azad et al., 2019).

Adolescent mothers who were faced with mental health problems were also poor, and this lead to exposure to psychological distress, antisocial behaviour, and exposure to risky behaviour leading to unaffordable adequate healthcare and nutrition (Lunda et al., 2010; Diniz et al., 2015) which exacerbate the mental distress of the adolescent mothers.

In areas where private health facilities predominate, accessing health care becomes a challenge (Chaibva et al., 2009) as it involves long distances and longer travel durations to health facilities and payments for operative or emergency procedures such as cesarean sections, which increases poverty and psychological distress (Jonas et al., 2017; Clarke et al., 2014).

C. Cultural Factors

Child and maternal health is strongly linked to customs, beliefs, and taboos and are cultural practices, which often have implications in determining the care that mothers receive during and after pregnancy and after the birth of the child. (Gedamu, Debebe, & Tsegaw, 2018; Choudhury et al., 2012). Polygamy is strongly associated with depressive symptoms (Morgan, 2019). According to results from a research study conducted in rural Uganda involving married adults, post-delivery depression is significantly related to some factors, including marital problems, polygamous spouses, infants' breastfeeding inability, spouse support a mother receives succeeding childbirth, and high parity (Kayongo 2013; Atuhaire & Cumber, 2018).

For women of child-bearing age, gender disadvantage is considered as psychological morbidity's independent risk factor (Qadir, Khan, Medhin, & Prince, 2011). A study in Pakistan indicated revealed that women's perceptions of being disadvantaged in their families based on their gender strongly predicted male child preferences among women (Qadir et al., 2011). Some studies indicated higher vulnerability chances for psychological distress among women who did not have a son (Clarke et al., 2014). Therefore, women remain under pressure to have sons from their families and the community, therefore, making those without a son face hostility (Clarke et al., 2014). Boy-bearing demand can be explained by the fact that, unlike women who are married to live with their in-laws and take care of husbands' parents, boys stay with the parents and care for them during old age. Additionally, boys are also responsible for continuing with family trade and carrying family names (Ola et al. (2011).

Preference for traditional birth attendants (TBAs), as opposed to skilled birth delivery, increases the risk of complications during childbirth that may result in PPD. Musyimi, Mutiso, Nyamai, Ebuenyi, and Ndetei (2019) conducted a study that revealed that there is no clear definition of TBAs' health care roles despite providing pregnant mothers with psychosocial interventions.

In most societies, marrying girls who are under18 years old is considered gender discriminative as opposed to having boys marry much later in life. Such practices negatively impact the adolescents' psychological well-being, especially when they get pregnant at that early age (Svanemyr et al., 2012). From a global perspective, about one in seven girls marry before they reach 15 years of age, while one in three girls wed before they are eighteen years old. In societies where teenage marriages are a social norm, the economic hardships or existing traditions and expectations exert more pressure on parents (Prakash, Patha, &Singh, 2011). Poor well-being and health are attributable to premature independence with early detachment from school and parents combined with high-risk behaviours levels (Patton et al., 2016).

Religious beliefs have been shown to be positively and negatively influencing the psychological well-being of mothers. According to results from a study carried out in the Netherlands among pregnant Muslim women, the lower newborn birth weight could result if pregnant women at early

pregnancy stages adhered to Ramadan fasting. Kisiangani et al., (2020) recent study conducted in Garrisa- Kenya, reported similar findings. The study revealed that socio-cultural norms were a barrier hindering the usage of maternal and newborn health services. Additionally, the study noted that women from that community preferred female healthcare professionals due to religious obligations and cultural beliefs (Kisiangani et al., 2020).

More post-traumatic stress, depression, and anxiety symptoms were reported in women who had undergone FGM (Vloeberghs et al., 2012). The FGM negatively affected marital satisfaction, life quality, and self-confidence. These women exhibited less lubrication and arousal, less sexual desires, had more often dyspareunia, and fewer orgasms (van Moorst et al., 2018). The negative feeling associated with FGM were more prominent when women suffered a physical problem and during childbirth. Many women who had FGM in Netherland were ashamed of having physician examinations, and they could avoid doctors who never concealed their FGM-related astonishment.

3. Methodology

A. Introduction

The type of methodology and designs adopted in this study are outlined in this section. These designs and methodologies are linked to each other and have highly contributed to a successful study. Some of which include; the study design, the study area, the sampling method, the study variables, the study population, the inclusion and exclusion criteria, ethical considerations, and data collection procedure.

B. Research Design

The research design used in this study is the descriptive correlation. It is suitable because descriptive information was given without changing or interfering with the environment, implying that no changes were made to the study subjects. Research studies that adopt descriptive correlation designs aimed at describing relationships occurring naturally, among, and between the variables. They were easy and quick to conduct, establishing the prevalence of a condition. The design assessed the data at one juncture, implying collecting data in one instance with the same subjects instead of several points in time with the same subjects. Therefore, this study involved collecting data on one occasion.

C. Research Setting and Location

The research was carried out at Pumwani Maternity Hospital, Nairobi City County. Pumwani hospital was selected on purposive basis because it is the biggest referral and obstetric hospital in Nairobi County and adjacent counties for pregnant women delivery with 354 beds capacity and a monthly admission range of 1900 – 2200 mothers in labour. The facility has 2 postnatal wards i.e., one for mothers who have delivered normally and the other one for those who have delivered through caeserian section (maternity surgical ward) with a bed capacity of 33 and 22 respectively. The postnatal ward is managed by several obstetricians and gynecologists, and 24 qualified registered nurses. Admissions are received directly from normal delivery room, theatre and also referrals from other health facilities, home deliveries and or mothers who deliver on their way to hospital.

D. Study Population and Sample

The study participants included; postnatal mothers aged 10 to 19 years who have been admitted in the postnatal wards at Pumwani Maternity Hospital. The postnatal mothers are allowed to stay in the ward for not less than 48 hours after delivery. The best time to interview them was at least 24 hours after the delivery when they have settled down, relaxed in the ward, probably when both mother and baby are resting.

E. Techniques of Sampling

1) Determining the size of the study sample

Fisher's et al. formula described below was used in calculating the actual size of study participants

Whereby:

$$n = \frac{z^2 p\,(1-p)}{d^2}$$

z = represents the confidence interval of 95% (1.96)

p = postnatal patients estimated numbers, 50% (0.5).

d = the value of precision degree to be used, 5% (0.05).

n = desired size of the sample where the size of the populace exceeds ten thousand.

N = represents the estimates of size of population (minimum monthly population of postnatal mothers is 90)

$$n = \frac{1.96^2 \times 0.5\,(1 - 0.5)}{0.05^2}$$

n = 384

n_f =desired size for the sample where the population is lower than 10,000.

Where;

$n_f = n \div \{1 + (n \div N)\}$

$n_f = 384 \div \{1 + (384 \div 90)\}$

$n_f = 384 \div \{1 + 4.2\}$

$n_f = 384 \div 5.2$

$n_f = 73.8$ (which was approximated to 74 people).

$N_f = 74$ participants

2) Sampling Method

The study used a simple random sampling method in recruiting the study participants to achieve the desired size of the study sample. This study did not only enroll adolescent mothers in postnatal wars but also those who attended MCH/FP clinics at Pumwani Maternity Hospital. Papers that are written YES or NO were properly mixed and placed in a box from where the potential participants were required to pick, drawing one paper at a time. The eligible participants were those who picked YES papers. A desirable size of the study sample was achieved, reiterating the process.

3) Criteria for inclusion and exclusion

Females aged below 20 years old who are admitted in the postnatal wards and those attending the clinic at MCH/FP before or at 6 weeks after delivery at Pumwani Maternity hospital and were willing to participate were included. The study excluded all postnatal women below 20 years of age in Pumwani Maternity Hospital who had not completed 24 hours after delivery, those who had stayed more than 6 weeks after delivery in the MCHFP clinic, those who had comorbidities and or were reluctant to partake in the study.

F. The Research Characteristics

1) Independent Characteristics

Health system factors:

The health care workers' attitude, age and gender of health care providers, long waiting time, and legislative policies and practices.

Socioeconomic factors:

Financial instability, Low education, individual factors

Cultural factors:

Polygamy, preference for a male child, preference for TBAs, early marriages, religious beliefs, and female genital mutilation.

2) Dependent variable: Psychological Morbidity

Intervening Variable:

Integrated services:

Quality health care provision, social support, religious support, and public policy

G. Data Collection Method

Two research assistants helped in questionnaire distribution and administration to the participant. The research team used the nurses working in the postnatal ward and MCH/FP clinics so as to introduce the research team to the participants. The researcher began with introduction of the research team and explained the study purpose and aim to the participants in order to obtain their consent. The researcher assured the participants concerning the confidentiality of their information and requested them to provide truthful answers. The research assistants then administered and distributed the questionnaires. The participants were also directed on how to answer the questions either by circling or ticking the desired response to the structured questions in the questionnaire.

1) Study instruments

The questionnaire consisted of closed-ended questions printed in the English language.

2) Validity and reliability of study tool

The researcher established the instrument's reliability by conducting a pretest questionnaire on a small sample population in Mbagathi County Referral Hospital to test the relevance and the reliability of the questionnaires as a data collection tool. This enabled the researcher to evaluate the accuracy of the questionnaire and the necessary changes were made on it.

3) Pretesting

Pretesting of the study was done at Mbagathi County Referral Hospital since it is of the same level as Pumwani Maternity Hospital. A pretest sample size equivalent to 10% of the total sample size was used. 10% of 74 is 7.4. In this case, eight people were used in pretesting.

4) Recruitment and consenting procedures

The information sheet with the research content and the consent sheet were translated in Kiswahili (attached). Eligible participants were guided through the contents in the participant information tool including the purpose of the study and procedure to be followed, voluntary involvement, potential risks and benefits of the study, participants' freedom to pull out of the study and any negative repercussions. Eligible participants were allowed to ask questions and seek clarification on any aspect that was not clear about the study. Witnessed signatures or thumbprints were obtained from the candidates at the commencement of the study.

5) Collection of data process

The researcher sought consent and permission from the relevant authority consistent with the established research policies before the data collection process commenced. Interviews were conducted in a well-lit booked private room, comfortable, convenient to the participants, to facilitate participants to speak freely about their individual experiences, free from any potential disruptions and noise. Interviews were conducted outside the presence of parents and guardians or those external to the study so as to maintain the integrity of the information collected. The interviewers were notified about the interview duration. Pretested interviewer-administered and self-administered semi-structured questionnaires with closed-ended questions were used in data collection. For participants who were incapable of reading or writing, the research assistants interviewed them. The ANC Booklets were reviewed by the researcher to facilitate the extraction of participants' clinical information or data. The researcher first checked all questions for completeness before entering the information into the Microsoft Excel worksheet, followed by the importation of the data into the statistical analysis software for data analysis and management.

6) Data management & analysis

The completed questionnaires were coded for easy analysis. A computer was used in storing the questionnaire-coded data for analysis and backup through a statistical package for social science (SPSS). Reference numbers were assigned for hard copies and stored safely for future references. For soft copies, their storage was done in a written compact disk (CD) and the external hard drive, where accessibility to these backups was limited to the investigator alone.

The study enrolled 74 individuals as the study sample. The quantitative analysis of collected data utilized SPSS version 25. The participants' demography was summarized using descriptive statistics like standard deviation. Pearson's correlation also analyzed and determined the relationship between the variables, while multiple regressions helped assess psychological impacts on adolescent pregnancies related independent variables. A 5% ($p<0.05$) statistical significance level was used in evaluating all statistical tests.

H. Ethical Considerations

Some considerations were taken for the purpose of legality and ethical issues. Some of these considerations included:

An introduction letter from Kenyatta University Graduate

School was obtained by the researcher and submission of the proposal to the Kenyatta University Ethical Review Committee to obtain ethical clearance. NACOSTI issued an approval letter before the research commenced.

Since Pumwani Maternity Hospital does not have an ethics committee, approval from the above bodies were presented to the Training and Research Committee of Pumwani Hospital, after which the medical superintendent issued an approval letter to allow the research activity in the hospital.

The researcher obtained voluntary informed consent from every single participant before participating in the study where the participants were also at liberty to withdraw their participation as they wished. For participants aged below 18 years, caregivers, parents, or guardians gave informed consent on their behalf.

Confidentiality was maintained by ensuring that no name of any participant was indicated when filling in the questionnaire.

I. Study Limitations

The limitation of the results of the study are related to the cross-sectional design used which does not allow establishing relations of cause and effects making the study restricted to one area. Further studies with longitudinal study designs may help to better understand the relationship between the socioeconomic and healthcare factors and psychological morbidity. The study only focused on adolescents' postnatal mothers in Nairobi County attending Pumwani hospital hence the results may be generalizable in Nairobi County but not across the country as different counties may have different factors having an influence on the psychological morbidity of the adolescent postnatal mothers. Other limitations that were encountered during the study include unwillingness of some participants to take part in answering the questionnaires, some of the parents/ guardians/ care givers of the adolescents below 18 years refused to give consent for them to participate in the study, some mothers experienced discomforts related to child birth and could not concentrate, some of the participants gave incorrect information, limited time for some of the participants attending the outpatient postnatal clinic.

J. Delimitations

The study was limited in scope capturing Pumwani Maternity Hospital as a case study. This is basically due to the fact that PMH is the only public hospital solely deals with maternity cases among the referral hospitals in Kenya. Also, the hospital is vested with the kind of personnel targeted to facilitate information required to achieve the study objectives. Other delimiting factors included: the research questions, the choice of objectives, variables of interest, and the population which limits the respondents to the postpaturm adolescent mothers. The study was also conducted within the stipulated time frame and utilized the available staff to capture as much data as possible. Use of the available budget well helped to meet the required research costs.

4. Results

A. Introduction

The study sought to investigate the psychological morbidity among post-partum adolescent mothers in maternity at Pumwani Hospital. The specific objectives of interest included socio-economic factors, health system factors and cultural factors associated with psychological morbidity. A total of 74 adolescent mothers were enrolled in the study. All the questionnaires were filled and returned for analysis representing 100% response rate.

1) Demographic factors of post-partum adolescent mothers in maternity at Pumwani Hospital

Half of the respondents, 51.3% (n =38) were aged between 16 and 18 years, 56.8% (n =42) were single. In investigating the level of education, 60.8% (n =45) had secondary level education with only 12.2% (n =9) had accomplished their education in their respective levels. The common reason for not completing education was pregnancy 56.9% (n =37). Further, 35.1% (n =26) of the respondents were residing with their parents as shown in Table 1.

Table 1
Demographic and socio-economic factors of post-partum adolescent mothers in maternity at Pumwani Hospital

Demographic factors	Frequency	Percent
Age		
12-15 Yrs.	13	17.6
16 -18 Yrs.	38	51.3
Above 18Yrs	23	31.1
Marital status		
Single	42	56.8
Married	25	33.8
Separated	7	9.4
Education level		
None	1	1.3
Primary	21	28.4
Secondary	45	60.8
College/University	1	9.5
Finished highest level of education		
Yes	9	12.2
No	65	87.8
Reason for not completing education (n =65)		
Pregnancy	37	56.9
Got married	20	30.8
Financial problems	5	7.7
Unsatisfactory academic progress	3	4.6
Spouse level of education		
Primary	3	4.1
Secondary	8	10.8
College/University	19	25.7
Missing	44	59.4
Religion		
Christianity	53	71.6
Muslim	18	24.3
Others	3	4.1
Live with		
Parents	26	35.1
Relatives	14	18.9
Spouse	25	33.8
Friend	6	8.1
Guardian	3	4.1

2) Health factors of post-partum adolescent mothers in maternity at Pumwani Hospital

Majority, 56.8% (n=42) of the respondents received healthcare services they wanted, 59.5% (n =44) waited for

between 1 -2 hours before being attended to at the facility. Most of the respondents, 81.1% (n =60) received care from female healthcare workers. Among the respondents, none consented to receive care or need to provide an identity card to receive care as shown in Table 2.

3) Respondents' perception and attitude about healthcare workers

Respondents were asked how they perceived healthcare workers, 82.4% (n =50) felt that they were reasonable, 17.6% (n =13) view healthcare providers as being good while 14.9% (n =11) viewed healthcare workers as deprived as shown in Figure 2.

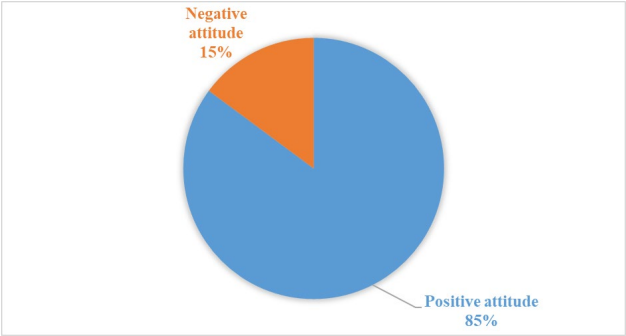

Fig. 2. Respondents' perception and attitude about healthcare workers

4) Cultural factors of post-partum adolescent mothers in maternity at Pumwani Hospital

Analysis of cultural factors established that 60.8% (n =45) stated that there is no preferred gender of a child in their communities, 91.9% (n =68) preferred to deliver with help of a midwife. Almost half 44.6% (n =33) of the respondents were coming from communities that practice female genital

Table 2
Health factors of post-partum adolescent mothers in maternity at Pumwani Hospital

Health factors	Frequency	Percentage
Ability to receive healthcare services required		
Yes	42	56.8
No	32	43.2
Reasons for not receiving services		
Lack of equipment	11	34.4
Lack of money	9	28.1
Unavailable services	9	28.1
Staff shortage	3	9.4
Waiting time before being attended		
Below 30 minutes	2	2.7
One to two hours	44	59.5
More than two hours	28	37.8
Gender of healthcare providers		
Female	60	81.1
Male	14	18.9
Required to consent to receive care		
No	74	100
Identity card prerequisite		
No	74	100

Table 3
Cultural factors of post-partum adolescent mothers in maternity at Pumwani Hospital

Cultural factors	Frequency	Percent
Preferred child in your community		
Any	45	60.8
Boy	22	29.7
Girl	7	9.5
Preference of delivery		
Midwife	68	91.9
Tradition Birth Attendant (TBA)	9	8.1
Preferred gender of the delivery attendant		
Any	28	37.8
Female	36	48.6
Male	10	13.5
Was it your wish to get married		
Not married	42	56.8
No	21	28.4
Yes	11	14.9
Does your religion require you to fast while pregnant		
No	69	93.2
Yes	5	6.8
Heard of FGM		
Yes	74	100
Community practice FGM		
Yes	33	44.6
No	41	55.4

mutilation as shown in Table 3.

B. Psychological morbidity among post-partum adolescent mothers in maternity at Pumwani Hospital

Psychological morbidity assessed in the study was depression. Out of 74 post-partum adolescent mothers in maternity at Pumwani Hospital, 86.5% (n=64) had psychological morbidity 95% CI: 76.6% - 93.3% as shown in Figure 3.

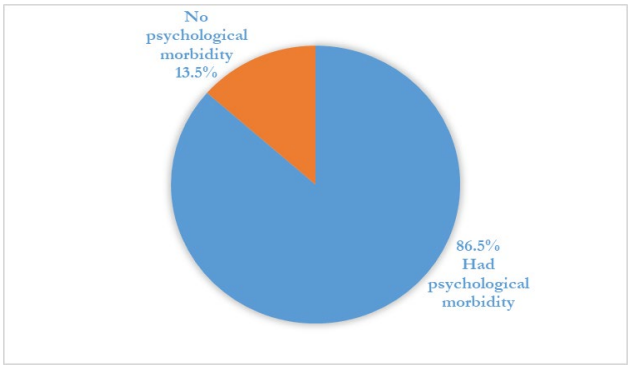

Fig. 3. Psychological morbidity

1) Levels of depression among post-partum adolescent mothers in maternity at Pumwani Hospital

Half of the respondents, 50% (n =32) had mild depression, 29.7% (n =19) had moderate depression while 20.3% (n =13) had major depression as shown in Figure 4.

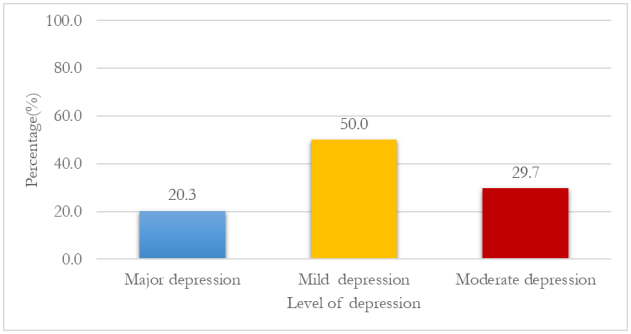

Fig. 4. Levels of depression among post-partum adolescent mothers

Table 4
Demographic and socio-economic factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

Factors	Present n (%)	Absent n (%)	Total n (%)	P-value
Age				
<18 years	43(67.2)	1(10.0)	44(59.5)	0.001
18 - 19 years	21(32.8)	9(90.0)	30(40.5)	
Marital status				
Single	46(71.9)	3(30.0)	49(66.2)	0.026
Married	18(28.1)	7(70.0)	25(33.8)	
Residing with				
Spouse	18(28.1)	7(70.0)	25(33.8)	
Family	38(59.4)	2(20.0)	40(54.1)	0.044
Friend	8(12.5)	1(10)	9(12.2)	
Highest education level				
Primary or lower	21(32.8)	1(10.0)	22(29.7)	0.264
Secondary or higher	43(67.2)	9(90.0)	52(70.3)	
Completed highest level of education				
Yes	5(7.8)	4(40.0)	9(12.2)	0.016
No	59(92.2)	6(60.0)	65(87.8)	
Spouse education level				
Primary or lower	2(9.1)	1(12.5)	3(10.0)	
Secondary	6(27.3)	2(25.0)	8(26.7)	0.872
Tertiary	14(63.6)	5(62.5)	19(63.3)	
Religion				
Christian	47(73.4)	9(90.0)	56(75.7)	0.434
Muslim	17(26.6)	1(10.0)	18(24.3)	
Occupation				
Employed	18(28.1)	5(50.0)	23(31.1)	0.268
Not employed	46(71.9)	5(50.0)	51(68.9)	

Table 5
The health system factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

	Present n (%)	Absent n (%)	Total n (%)	P-value
Received care as wanted				
Yes	33(51.6)	9(90)	42(56.8)	0.036
No	31	1(10)	32(43.2)	
View on perception and attitude of care providers				
Deprived	9(14.1)	2(20.0)	11(14.9)	
Reasonable	44(68.8)	6(60.0)	50(67.6)	0.873
Good	11(17.2)	2(20.0)	13(17.6)	
Waiting time in line to receive care				
≤2 hours	40(62.5)	6(60.0)	46(62.2)	0.57
>2 hours	24(37.5)	4(40.0)	28(37.8)	
Gender of healthcare provider				
Male	12(18.8)	2(20)	14(18.9)	0.088
Female	52(81.3)	8(80)	60(81.1)	

Table 6
Cultural factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

Cultural factors	Present n (%)	Absent n (%)	Total n (%)	P-value
Preferred baby				
Any	41(64.1)	4(40)	45(60.8)	
Male	17(26.6)	5(50.0)	22(29.7)	0.318
Female	6(9.4)	1(10.0)	7(9.5)	
Delivery personnel preferred				
Traditional birth attendant	6(9.4)	0	6(8.1)	
Midwife	58(90.6)	10(100)	68(91.9)	
Preferred gender of resistant				
Male	10(15.6)	0	10(13.5)	
Female	28(43.8)	8(80.0)	36(48.6)	
Any	26(40.6)	2(20.0)	28(37.8)	
Religion require fasting				
Yes	5(7.8)	0	5(6.8)	
No	59(92.2)	10(100)	69(93.2)	
Community practice FGM				
Yes	27(42.2)	6(60)	33(44.6)	0.326
No	37(57.8)	4(40)	41(55.4)	

Table 7
Bivariable and multivariable analysis of factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

Factors	COR (95%CI)	P-value	aOR (95%CI)	P-value
Age				
<18 years	18.43(2.19 – 32.11)	0.001	11.41(3.08 - 26.23)	0.004
18 - 19 years	Ref		Ref	
Residing with				
Spouse	Ref			
Family	3.11(0.33 - 29.66)	0.324		
Friend	0.42(0.03 - 5.23)	0.501		
Marital status				
Single	5.96(1.39 - 25.63)	0.026	3.33(1.51 - 21.87)	0.031
Married	Ref		Ref	
Completed highest level of education				
Yes	0.13(0.03 - 0.61)	0.016	0.49(0.05 - 4.81)	0.537
No	Ref		Ref	
Received care as wanted				
Yes	0.12(0.01 - 0.99)	0.036	0.06(0.01 - 0.67)	0.022
No	Ref		Ref	

C. Demographic and socio-economic factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

The findings from Fischer's exact test revealed that age (p=0.001), marital status (p=0.026), and completing highest level of education (p =0.016) were significantly associated with psychological morbidity as shown in Table 4.

D. The health system factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

The findings from the analysis of association established that there was significant association between receiving care as wanted (p=0.036) and presence of psychological morbidity as shown in Table 5.

E. Cultural factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

In investigating the cultural factors associated with psychological morbidity, the findings revealed that there were no statistically significant factors associated with psychological morbidity (p>0.05) as shown in Table 6.

F. Bivariable and Multivariable analysis of factors associated with psychological morbidity among post-partum adolescent mothers at Pumwani Maternity Hospital

Bivariable analysis was done using logistic regression. The findings showed that respondents who were aged less than 18 years were 18 times more likely to have depression as compared to those aged between 18 and 19 years, Crude Odds Ratio (COR =18.43, 95% CI:2.19 – 32.11, p =0.001). Those who were single were six times more likely to have depression compared to those who had spouse (COR=5.96, 95% CI:1.39 – 29.66, p=0.026). Respondents who completed their education were 87% less likely to have depression compared to those who had not finished their education (COR =0.13, 95%CI:0.03 – 0.61, p=0.016). further, those who had received the care they wanted were 88% less likely to have depression (COR=0.12, 95% CI:0.01 – 0.99, p =0.036).

The multivariable analysis was conducted where significant variables from bivariable analysis (p<0.05) were included in the model. The findings showed that those who were aged less than 18 years were 11 times more likely to have depression, Adjusted Odds Ratio (AOR = 11.41, 95% CI:3.08 – 26.23, p =0.004). Those who were single were 3.3 times more likely to have depression as compared to those who were married (AOR =3.33, 95% CI:1.51 – 21.87, p=0.031). Postpartum women who had received care as they wanted were 94% less likely to have

depression compared to those who did not receive the care they wanted, (AOR =0.06, 95% CI:0.01 – 0.67, p=0.022 as shown in Table 7.

5. Discussion

A. Demographic Characteristics of Postpartum Adolescent Mothers

The present study investigated the psychological morbidity among postpartum adolescents who delivered at Pumwani hospital. The present findings showed that most of the participants were aged less than 18 years old. These findings are comparable to a study from Abenova et al. (2022) on prevalence of postnatal depression among the adolescents in Kazakhstan where most of the adolescents were noted to be less than 15 years with elementary education level. The results also showed majority of the mothers were single and unemployed. The results agree with a study by Waerden, (2015), where young mothers were reported to be housewives with a noted increase in prevalence of adolescents' pregnancies. The increase in adolescent pregnancies also result to increase in anxiety disorders among women which has recently doubled (from 16% to 21-46%) during the Covid 19 pandemic (Wang, 2022). The results are also similar to a study on postpartum Saudi mothers which showed the average age of marriage to be 14 years with most having their first pregnancies at 16 years (Goksoyr et al., 2012). Early pregnancies expose the young mothers to postnatal depression, anemia, pregnancy-induced hypertension and caesarean section due to their inability to go through normal labour. Their children are also exposed to low-birth- weight (LBW) (Britton et al., 2008)

Majority of the young mothers lived with their parents. The results are similar to studies by Farr et al., (2010) where most adolescent's mothers lived with their parents resulting to an increase on parents' burden of taking care of both the young adolescent mother as well as their babies.

Majority of the adolescents had mild depression levels. The results are similar to a study by Kumar et al., (2021) which identified increased depression among the adolescent mothers during pregnancy and also post-natal period. The increased in depression levels among the adolescents may be as a result of lack of pregnancy planning, perceived perinatal stress and lack of support from the child fathers and their parents. These psychological problems hamper their normal parenting behavior (Kumar et al., 2021).

B. The Prevalence of Psychological Morbidity Among Postpartum Adolescent Mothers

The findings from the current study showed that majority of adolescent mothers were depressed with most of them having mild depression. These findings however were higher compared to previous studies which have showed a lower prevalence of depression post-partum. A study conducted in two primary care facilities in Nairobi County found that the prevalence of depression was 43.1% (Tele et al., 2022). The difference could be explained by the depression assessment tool and the study population. The present study utilized the Edinburgh postnatal scale which is more accurate in investigating depression among postnatal mothers compared to PHQ-9 which is a more generalized scale. Similarly, another study in Uganda also found contrasting results which revealed that 27.1% had postpartum depression. Thus, there is varied prevalence of post-natal depression among adolescent mothers. this could be explained by varied factors such as difference in culture, access to healthcare and social support. Different cultures have different beliefs and attitudes towards motherhood, which can affect how postpartum depression is perceived and treated. In some cultures, seeking help for mental health issues is stigmatized, and this can make it more difficult for adolescent mothers to seek the support they need. In some settings, adolescent mothers may not have access to healthcare or social support services that can help them cope with postpartum depression. This can lead to a higher prevalence of depression among adolescent mothers in those settings.

C. Demographic and Socio-Economic Associated with Psychological Morbidity

The results of the study show age of the adolescent mothers to be positively and statistically significantly associated with level of depression. As the age of the mothers increases the level of depression increases. The results of the study are contrary to Kamar et al. (2022) study on effects of being an adolescent mother in Kenya where mental health challenges including depression were found to affect the adolescent mothers more compared to the older mothers. The younger mothers in the study may have received better psychological support compared to the rest resulting to decrease in their level of depression.

Marital status significantly associated with level of depression where the singles and separated were more depressed compared to the married. The results are similar to a study among young Saudi mothers which showed that young mothers who were married had better anxiety management levels compared to the singles (Rich-Edwards et al., 2017). The results of the study also concur with a study done in USA which found that there is increased prevalence of major depression among the unmarried holding the other sociodemographic factors constant (Farr et al., 2010). Married young mothers had less depression levels due to support provided by their partners. O'Hara, et al., (2016) found the perceived support within relationships has protective effect against post-natal depression for both partners. Pregnant mothers with supportive partners receive assistance in taking care of the baby as well as financial support from them which consequently improves their psychological wellbeing.

The present study also established that those who completed their education were less likely to have depression. These findings align with those from a study by Fatma et al. (2021) where mothers with basic education suffered major depression. Adolescents with high education level had decreased depression levels compared to those with basic education. Education among mothers increases their ability to perceive pregnancy related stress. (WHO, 2014a).

The living status of the adolescent and the religion they belonged to was not statistically significant with the level of

depression. The results are contrary to a study by Usmani et al., (2021) which showed that pregnant adolescents who lived with their parents had a better psychological state as compared to those who were not with their parents. This is because parents are known to be supportive to the adolescents despite their condition. Studies by Chen et al. (2022) and Usmani et al. (2021) have shown that lack of parental support is a key risk factors to postnatal depression among the adolescents. Alternative support can be from the husbands where those who live with supportive husbands have lesser risk of displaying depression symptoms. A supportive husband and strong marital relationship with less friction play an important part in promoting a strong social support system for the mother hence decreasing the risk of post-natal depression. Sustained perceived pressure from economic stress supplemented by lack of social support from either the parents or husbands for the married adolescents results to increase in cortisol levels and hence contribute towards vulnerability for developing perinatal and post-natal depression (Saligheh et al., 2017).

D. Health System Factors Associated with Psychological Morbidity

The findings from the present study established that those who received healthcare services as they wanted were less likely to be depressed. The results are similar to those of Omukwugha et al., (2019) study which showed adolescents who receive youth friendly services during pregnancy to portray better psychological wellbeing compared to those who lacked the services.

The findings from the present study also revealed that majority of respondents perceived the attitude of healthcare workers as reasonable although there was no significant association between perception on attitude and depression among respondents. These findings however contrast those from other studies which have established that those who asserted positive attitude from healthcare workers were less likely to be depressed (Omukwugha et al. (2019); Hokororo et al. (2015); Jonas, Crutzen Borne and Reddy, (2017). Healthcare workers identified to be unfriendly, rude, and unsympathetic made the adolescents mothers feel embarrassed affecting their mental wellbeing. Health care workers who lack knowledge on provision of adolescent-friendly health care services exposes adolescents with reproductive problems to depression (Patton et al., 2016; Jonas et al., 2017).

The gender of the health care workers did not have any significant relationship with the adolescents' level of depression. The results are contrary to Kisiangani et al., (2020) who identified socio-cultural norms as barrier hindering the usage of maternal and newborn health services. Women preferred female healthcare professionals due to religious obligations and cultural beliefs (Kisiangani et al., 2020).

Patients waiting time did not have significant relationship with the mothers' level of depression. The results of the study are contrary to Rukundo et al. (2019) study where mothers waiting time was related to their psychological status. The adolescents were not comfortable with the long waiting time in the health facilities, and they felt that their time was not respected affecting their psychological wellbeing (Rukundo et al., 2019).

E. Socio-Cultural Factors Associated with Psychological Morbidity

The findings from present study did not find any significant association between cultural factors and psychological morbidity. There was no significant association between preferred child and depression among postpartum adolescent mothers. However, these findings contrast those from a study done in an Arabic community where boys in a family are regarded as assets where their parents can depend on them in future hence the better preference when born. Being an adolescent's mothers and delivering a girl who is considered a liability result to a negative social influence for the young mother. The young mothers who deliver girls have a feeling of being neglected by the community (Brown et al., 2017). A study in Uganda among adolescents' mothers also support the male gender preference for the Uganda community where men are seen as future leaders. The gender preference has resulted to pregnant Ugandan women having a strong desire to have an ultrasound to determine the fetal sex (Gonzaga,2011). The male preference is also rooted in the African culture where women with female children face a greater risk of postnatal depression (Kumar et al., 2021). Some studies indicated higher vulnerability chances for psychological distress among women who did not have a son (Clarke et al., 2014). Therefore, women remain under pressure to have sons from their families and the community, therefore, making those without a son face hostility (Clarke et al., 2014). Boy-bearing demand can be explained by the fact that, unlike women who are married to live with their in-laws and take care of husbands' parents, boys stay with the parents and care for them during old age. Additionally, boys are also responsible for continuing with family trade and carrying family names (Ola et al. (2011). The differences in the results may be attributed by the different cultural norms practiced by different communities.

Mothers' preference for delivery was not significantly associated with their depression status. The results of the study are contrary to Musyimi et al., (2019) study where mothers had preference for the traditional birth attendants (TBAs), as opposed to skilled birth delivery which resulted to increased chances of complication during childbirth exposing the mothers to postnatal depression. There lacks a clear definition of TBAs' health care roles despite providing pregnant mothers with psychosocial interventions (Musyimi et al., 2019). The differences in results may be due to increased community sensitization on importance of hospital delivery compared to TBAs.

Religious requirement to fasting was not associated with the adolescent's mother's level of depression. The study findings are contrary to a study carried out in the Garrisa -Kenya among pregnant Muslim women where women were required to fast during Ramadhan which adversely affected the babies' birth weight resulting to low-birth-weight babies (Kisiangani et al., 2020).

Community involvement to FGM practices was not

statistically significant to level of depression. This could be attributed to a smaller sample size which limits the comparison between the two groups on the basis of community involvement in FGM. These findings contrast those from Vloeberghs et al. (2012) study where depression was reported in women who had undergone FGM. The FGM negatively affected marital satisfaction, life quality, and self-confidence.

F. Study Limitations

The findings from the study showed that almost all of the postpartum adolescent mothers had a psychological morbidity which limit the ability to make meaningful association between factors of interest due to smaller comparison group (64 vs 10).

The Edinburgh Postnatal Depression Scale (EPDS) is designed to identify women who are at risk of postpartum depression, but it is not a diagnostic tool. Some women who score high on the EPDS may not actually have depression. This could explain the high prevalence of depression among post-partum adolescent as compared to other studies.

6. Conclusion and Recommendations

A. Conclusion

- The prevalence of psychological morbidity among post-partum adolescents was high at 86.5% of which half of them had mild depression, 29.7% had moderate depression and 20.3% had major depression.
- Those who were aged less than 18 years, single and completed their highest level of education were more likely to have psychological morbidity.
- Postpartum adolescent mothers who received healthcare services as required were less likely to have psychological morbidity.
- There was no significant association between cultural factors investigated and psychological morbidity among post-partum adolescent mothers.

B. Recommendations

- Healthcare providers should regularly screen new mothers for depression, especially those who are at higher risk, such as those with a history of depression, a difficult pregnancy or childbirth, or lack of social support.
- Provide access to counselling and support groups for postpartum adolescents who are at risk of or experiencing postpartum depression.
- Encourage postpartum adolescents to build a support system of family and friends who can provide emotional and practical support during this transition.

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