

Postpartum Depression and Risk Factors Among Teenage Mothers Attending Kapsabet Referral Hospital, Nandi County, Kenya

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ABSTRACT

Objective: This study was carried out with the main purpose of determining the risk factors leading to occurrence of postpartum depression among teenage mothers attending Kapsabet County Hospital.

Methodology: A descriptive, cross-sectional study design was used. A self-administered semi-structured questionnaire was used to collect data which adopted the Edinburgh depression scale for depression assessment among 160 teenage mothers. Descriptive statistics used were proportions and percentages for categorical variables whilst mean, standard deviation, minimum and maximum were used for continuous variables was used to organize and preliminary analyze the acquired data. In addition, chi-square analysis was used to find out the association between the data variables. Finally, Mann-Whitney U test was used to find out the risk factors among the variables theorized to be associated with postpartum depression.

Results: This study has shown that truly PPD is a problem in Kenya more specifically in Nandi County (with a prevalence of 93%) having almost all the assessed risk factors contributing to the condition. The risk factors found to be associated with postpartum depression were: respondents' number of children (p-value = 0.019); respondents' relationship with the father of their baby (p-value = 0.033); respondents' source of financial support (p-value < 0.001); respondents' family reception of pregnancy news (p-value < 0.001); abuse experienced by the respondents (p-value < 0.001); who respondents stay with (p-value < 0.001); physical abuse experienced by the respondents (p-value 0.001).

Conclusion: This study has shown that truly PPD is a problem in Kenya more specifically in Nandi County having almost all the assessed risk factors contributing to the condition. Developing ways to help afflicted persons requires an understanding of its prevalence, contributing factors, and repercussions.

Keywords: Postpartum depression, risk factors, prevalence and teen mothers.

INTRODUCTION

Postpartum depression (PPD) has a widely accepted description which includes symptoms of depression present every day for at least two weeks within one year of

post-delivery and having significant interference with the daily life. The prevalence of postpartum depression in teenage mothers is increasing every year. Unpreparedness in accepting the new role is

behind the increase. The World Health Organization reports that depression is the most common mental condition among pregnant women worldwide, accounting for 10% of those globally, as well as 13% of those who have just given birth. Around 10 to 15 percent of all new mothers suffer from PPD, which has negative effects overall family^{1,2,3}.

A study revealed that the aggregate prevalence of PPD in low- and middle-income nations was 19%. According to recent estimations, PPD is quite common in developing nations like Ethiopia (23.3%) and Nepal (19.4%). After childbirth, around 1 in 10 women will develop postpartum depression, however various estimates indicate that this number is closer to 1 in 7. Depending on a number of conditions, PPD can persist anywhere between three and six months. PPD has been given the description of “a thief that steals motherhood”⁴, mainly because there is a possibility that depressed mothers may prematurely discontinue breastfeeding due to low production of breast milk six months of postpartum⁴. Moreover, the state of depressed mothers can also induce and contribute to depression in infant. Adolescent mothers display higher prenatal and 6-months rates of depression than lower- and higher-resource adult mothers, with significantly more adolescent mothers “consistently” depressed at the two time points than lower- and higher-resource adult mothers².

However, not so very extensively explored area is in teenage mothers therefore, the teenage mothers are at higher risk of PPD as compared to their adult counterparts. Studies also suggest a teenage PPD rates between 15% and 50% which is greater as compared to 10% in their adult counterparts (WHO, 2019). It has been reported that in developed countries, the prevalence estimates of antepartum depression range from 7% to 15%⁵ while in the developing countries, estimates ranges from 15% to 25%⁵. The prevalence estimates of PPD also follow a similar pattern with estimates of

approximately 10% in developed countries as compared to 20% in the developing countries⁵. According to EPDS results, the prevalence of PPD in the research region in southern Sudan was found to be 10.9%^{6,7}. Mothers show a poor interaction with their infants in the postpartum period, which has a negative consequence to their child’s cognitive and physical development⁸. A study in sub-Saharan reported a 50% increase in new-born illnesses⁹ because of maternal depression which are not limited to only the infancy stage but persist into the toddler and teenage stages of life. Higher risk of childhood disorders that may persist on into teenage stage among children of depressed mothers have been reported¹⁰. In a study conducted in Kenya, mothers who experience postnatal depression are more likely to have underweight infants¹¹.

Postpartum depression is more commonly diagnosed among adolescents and may be a risk factor for poor growth and development in children born to these mothers, being that teenage stage is a special age group which itself needs specific health care added to maternal interventions¹². The majority (86%) of these teenagers live in the developing countries. Adolescent mothers are twice more likely to suffer from postpartum depression than adult mothers. In addition, teenage mothers experience social stigma associated with teenage pregnancy and motherhood. Adolescent mothers also abuse substances at a higher rate than adult mothers, and teenage dads are less likely to be involved in parenting responsibilities than adult fathers¹³. When an infant arrives, teenage mothers must adapt quickly to the new maternal life as an added role to their other life roles. The mental, emotional and physical demands which comes with motherhood are overwhelming even to the adult mothers who are well supported and most accomplished. However, to the teenage mothers, who are still negotiating their role in society, this drastic and permanent changes have a huge impact on them. While evidence clearly shows how this scenario

affects child morbidity and mortality, the factors which are associated with PPD in teenage mothers are inconclusive and limited¹⁴.

In response to this problem, this study suggests examining several options for, if not to eliminate but to reduce significantly the number of postpartum depression prevalence among teenagers in making awareness to the country about the PPD, develop guidelines on the same, conceive tools to measure PPD during antenatal and post-natal clinic in various levels in all health care facilities, avail counselling centers for PPD. The researcher plans to carry out an all- inclusive participatory investigation into options for improving the situation of postpartum depression among teenage mothers. We will also consider less expensive ways to mitigate some, or all of the problems noted above (such as include sex education in schools as early as in primary, organize youth groups in church and in our respective communities).

MATERIALS & METHODS

A descriptive, quantitative, cross-sectional research design was used to assess postpartum depression and risk factors among teenage mothers. The study was specifically intended to assess the postpartum depression and risk factors among teenage mothers attending Kapsabet County Referral Hospital. This study population comprised of all the teenage mothers attending Kapsabet County Referral Hospital Mother and Child Health (MCH) service. There are 314 teenage mothers as per the hospital records attending Kapsabet County Referral Hospital and their visit to the MCH service is daily. The study managed to get 160 teenage mothers during the one-month period of data collection. All teenage mother attending Kapsabet County Referral Hospital present and willing to participate at the time of data collection were involved in the study. This study excluded all teenage mother attending Kapsabet County Referral Hospital who were not present and not willing to

participate at the time of data collection. The current statistics states that there are roughly 314 teenage mothers attending Kapsabet County Referral Hospital per month and approximately 16 teenage mothers per day, and since the population is controllable, all teenage mothers were purposively part of the study. This study was carried out for a period of one month (30 days) of which it was expected that almost half (50% or 157) of this population would be reached. As expected, 51% ($160/314 \times 100 = 51\%$) of the teenage mothers managed to participate in the study. Purposive sampling was employed to narrow down to the teenage mothers. Systematic random sampling was then employed in this study. Where respondents were selected at an interval of 2. The first participant was selected using a lottery method and thereafter the k^{th} factor of two was in play. Cluster sampling technique was employed in the selection of the hospital. The study employed a self-administered questionnaire with closed-ended items. The questionnaire developed was submitted for the content validation and any recommendation was incorporated to the study questionnaire. The guiding principle used to develop questionnaires was based on the variables of choice by the researcher and the supervisors. Literature was also used to develop the questionnaire. A pilot study was conducted in Nandi Hills Sub- County Hospital using the sample size of 40. This was done to test for the reliability of the instruments to be used in data collection. Cronbach's alpha greater than or equals 0.6 was to be accepted. The reliability analysis gave a Cronbach's Alpha value of 0.75. For ethical concerns the researcher sought approval from the Institutional Research Ethics Committee (IREC) of the University of Eastern Africa, Baraton and National Commission for Science Technology and Innovation (NACOSTI). The Medical superintendent, hospital administrator the MCH in-charge of Kapsabet County Referral Hospital were requested for permission to carry out the study in their

institution. The researcher also sought the assent of the teenage mothers attending the MCH clinics by explaining the purpose of the study and asking them to give informed assent if willing to voluntary participation in the study. The participants were then interviewed or given the questionnaires to fill on their own and was collected back after filling them. Confidentiality was be guaranteed; where the filled questionnaires issued for filling did not have respondent's names but rather numbers to ensure anonymity. All personal information from participants obtained from the study was not used to victimize the individuals. Moreover, participants were not required to reveal their identity since the questionnaires were identified using codes. Each participant was allowed to make an informed consent/assent before being involved in the study. An informed consent/assent form was provided wherein the respondent was required to consent/assent by signing and writing the date of consent/assent after being explained to about the research and its purpose. The respondents were treated as autonomous

agents, by informing them about the proposed study and allowing them to voluntarily choose to participate or not. The respondents had the right to withdraw from the study anytime without any penalty.

STATISTICAL ANALYSIS

Descriptive statistics was used to organize and preliminary analyze the acquired data. In addition, chi-square analysis was be used to find out the association between the data variables. Finally, Mann-Whitney U test was used to find out the risk factors among the variables theorized to be associated with postpartum depression.

RESULT

4.2. Demographic Variables

Respondents Age \bar{X} = 17.21 years Sd. = 1.674 Min. = 14 Max. = 19

As indicated above the mean age for the respondents was 17.21 years with a standard deviation of 1.674 having a minimum and maximum ages being 14 year and 19years respectively.

Variables	Values	Percentages
Respondents Residence		
Chebarbar	27	18%
Kamobo	38	25%
Namgoi	27	18%
Show ground	60	39%
Respondents Religious affiliations		
Catholic	44	29%
Protestant	60	39%
Seventh day Adventist	27	18%
Muslim	21	14%
Number of children Respondents Have		
First time mother	136	90%
Two children	14	9%
Three children	2	1%

Table 1: Demographic variables

The above table 1 indicate the respondents' demographic variables. As indicated above most of the respondents resided in Show ground (39%) followed by Kamobo (25%) and having the least number of residences from Namgoi and Chebarbar (both 18% each). Most respondents were Protestants having a percentage of 39 while the Muslims were the least having a percentage of 14 in terms of respondents' religious affiliation. Majority of the respondents were first time mothers (90%) while the least were those with three children (1%).

4.2. The Prevalence of Postpartum Depression among Teenage Mothers Attending Kapsabet County Hospital.

Edinburgh Postnatal Depression Scale Results (EPDS)

I have been able to laugh and see the funny side of things	As much as I always could (3%)	Not quite so much now (4%)	Definitely not so much now (10%)	Not at all (83%)
I have looked forward with enjoyment to things	As much as I ever did (2%)	Rather less than I used to (4%)	Definitely less than I used to (14%)	Hardly at all (80%)
I have blamed myself unnecessarily when things went wrong	Yes, most of the time (86%)	Yes, some of the time (11%)	Not very often (2%)	No, never (1%)
I have been anxious or worried for no good reason	No, not at all (3%)	Hardly ever (7%)	Yes, sometimes (11%)	Yes, very often (79%)
I have felt scared or panicky for no very good reason	Yes, quite a lot (75%)	Yes, sometimes (20%)	No, not much (3%)	No, not at all (2%)
Things have been getting on top of me	Yes, most of the time I haven't been able to cope at all (75%)	Yes, sometimes I haven't been coping as well as usual (15%)	No, most of the time I have coped quite well. (7%)	No, I have been coping as well as ever (3%)
I have been so unhappy that I have had difficulty sleeping	Yes, most of the time (77%)	Yes, sometimes (10%)	Not very often (6%)	No, not at all (7%)
I have felt sad or miserable	Yes, most of the time (88%)	Yes, quite often (10%)	Not very often (1%)	No, not at all (1%)
I have been so unhappy that I have been crying	Yes, most of the time (80%)	Yes, quite often (15%)	Only occasionally (3%)	No, never (2%)
The thought of harming myself has occurred to me	Yes, quite often (73%)	Sometimes (17%)	Hardly ever (6%)	Never (4%)

Table 2: Respondents performance of the Edinburgh Postnatal Depression Scale

The above Table 2 indicate the performance of the Edinburgh Postnatal Depression Scale on the teenage mothers. Most of the respondents exhibited tendencies of PPD

having a score of more than 10. The mean score for the scale among the respondents was 25 a clear indication of PPD.

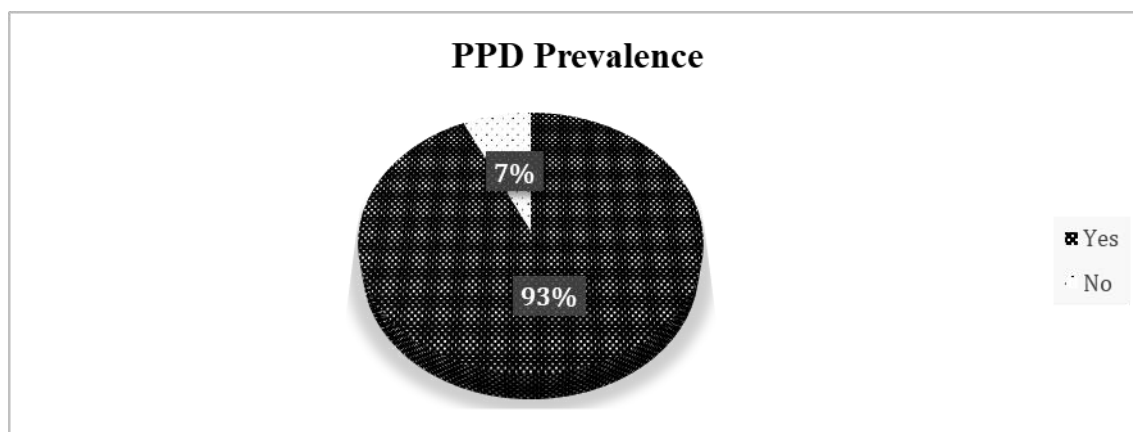


Figure 2: Pie chart showing respondents prevalence of PPD

Per the pie chart in figure 1 above 93% of the respondents had postpartum depression while 7% did not have postpartum depression.

4.3. The Risk Factors Associated with Postpartum Depression among Teenage Mothers attending Kapsabet County Hospital.

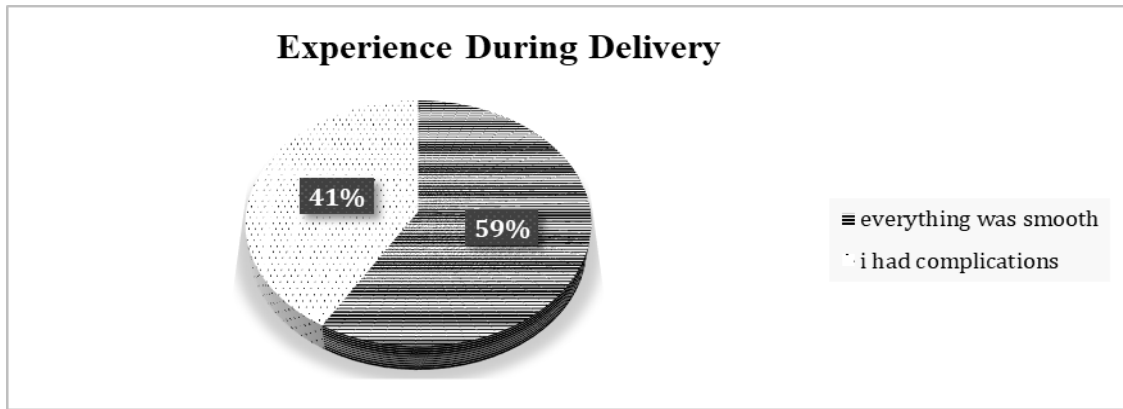


Figure 3: Pie chart showing respondents experience during delivery

As shown in the pie chart per figure 2 above 59% of the respondents had a good experience during delivery with no

complications while 41% did not have it go smoothly as they had complications during delivery.

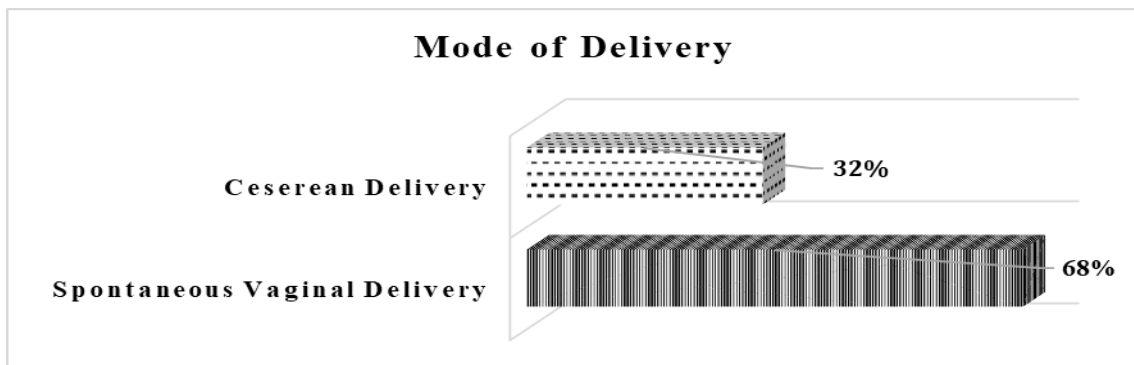


Figure 4: Bar chart showing respondents mode of delivery

In figure 3 above the bar chart shows that 68% of the respondents had a spontaneous vaginal delivery while 32% cesarean delivery.

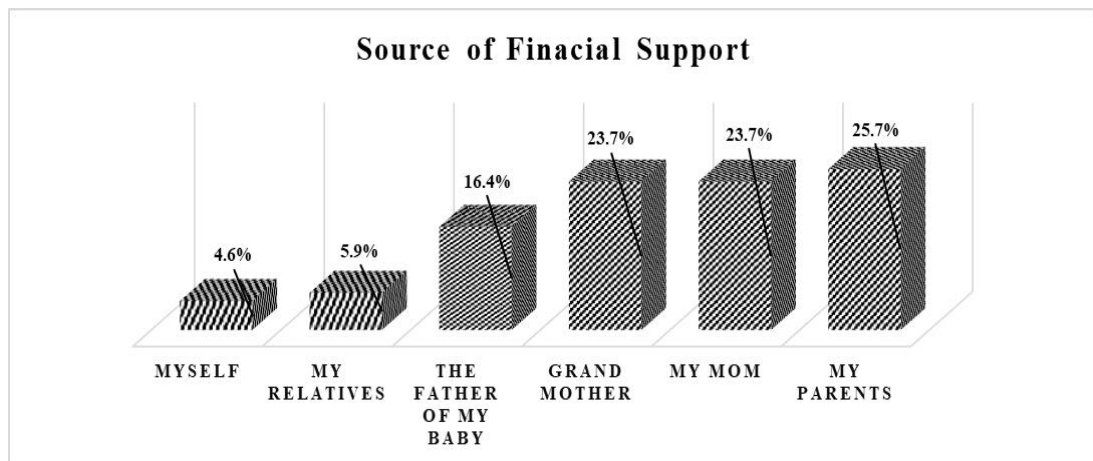


Figure 5: Bar chart showing respondents source of financial support.

As per figure 4 above the bar chart shows that most of the respondents (25.7%) had their parents support financially while the least number of respondents supported themselves 4.6%.

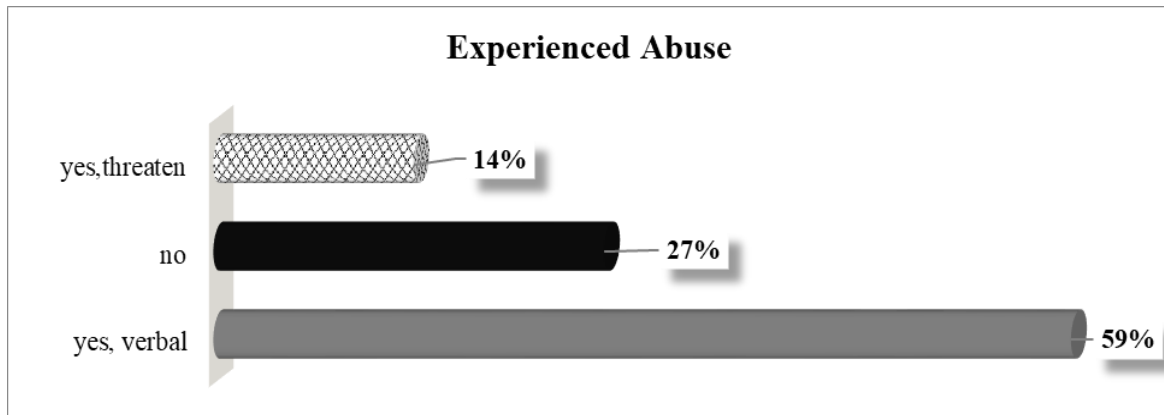


Figure 6: Bar chart showing respondents experiencing abuse

Per figure 5 above the bar chart shows that most of the respondents (73%) had experienced abuse more specifically verbal

abuse and threats having 59% and 14% respectively while 27% of the respondents had not experienced any form of abuse.

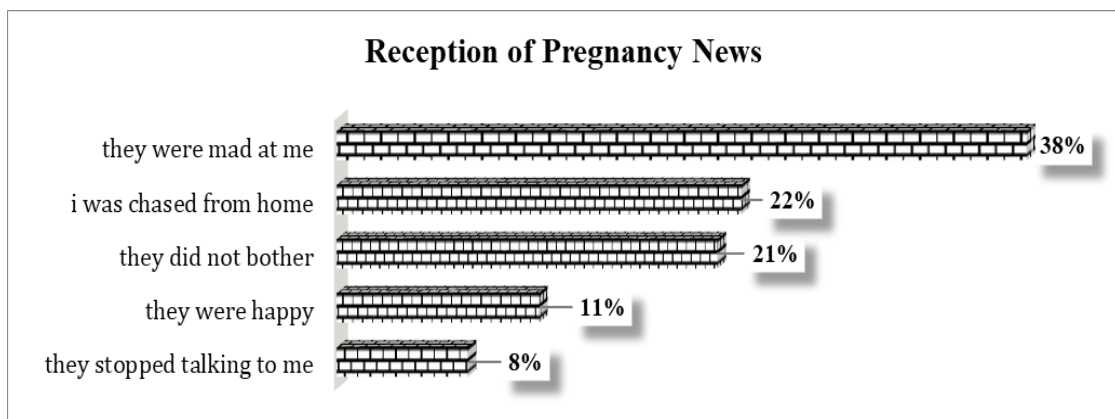


Figure 7: Bar chart showing how respondents' relations received the pregnancy news

In figure 6 above the bar chart shows that majority of the respondents' relation (89%) did not receive the pregnancy news so well

having them react differently to the news while only 11% of the respondents' relation were happy.

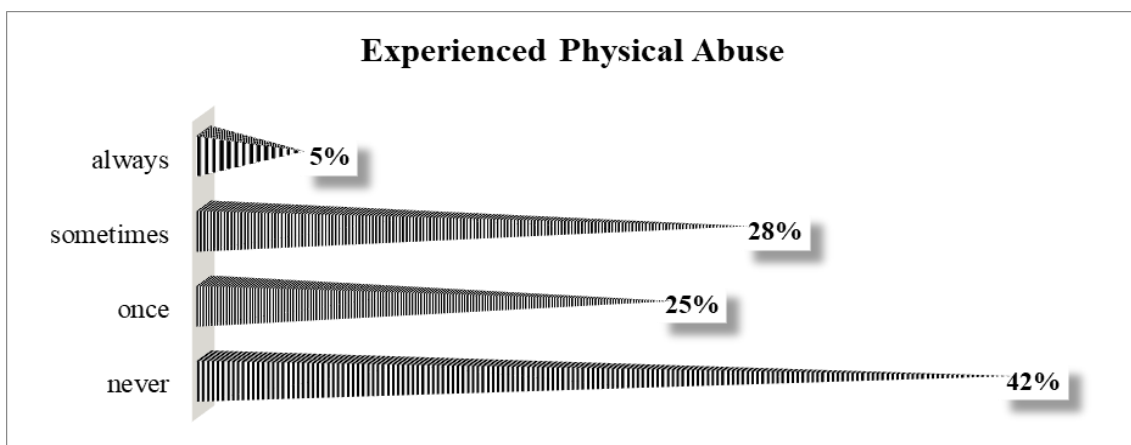


Figure 8: Bar chart showing whether respondents experienced physical abuse.

Per figure 7 above the bar chart shows that most of the respondents (58%) had experienced physical abuse in one way or

the other at some point in their journey while 42% of the respondents never experienced any form of physical abuse.

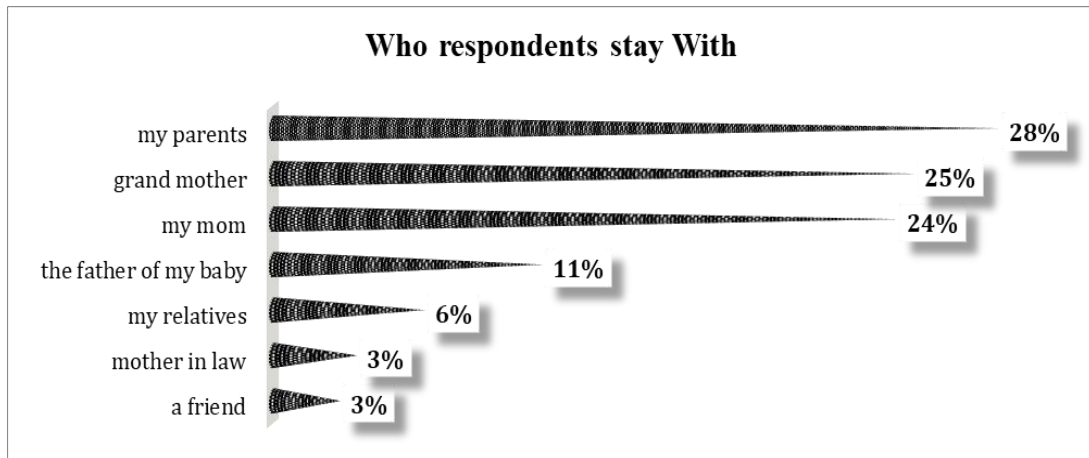


Figure 9: Bar chart showing who respondents stay with.

As indicated in figure 8 above the bar chart shows that most of the respondents stayed with their parents while staying with mother in law and friend had the least percentage of 3.

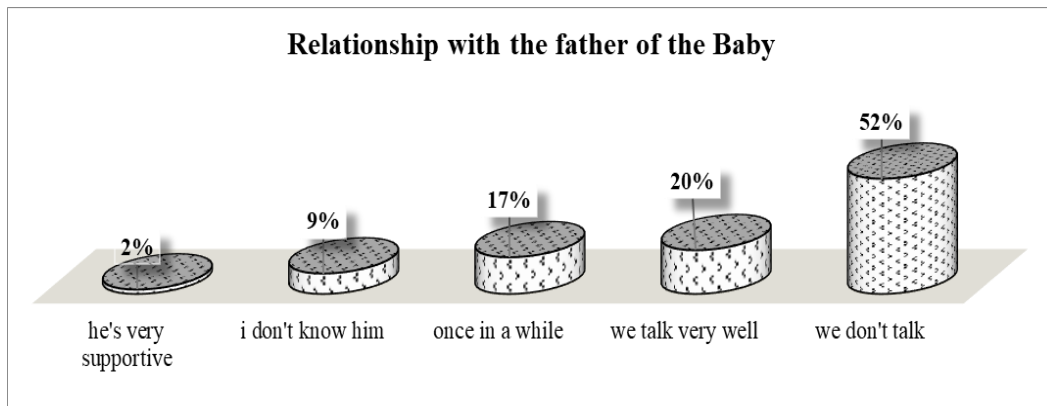


Figure 10: Bar chart showing respondents' relationship with the father of the baby.

As per the bar chart in figure 9 above most of the respondents (78%) do not have a good and supportive relationship with the father of their baby while 22% of the respondents seem to have fostered a good and supportive relationships with the father of their baby.

4.4. The Relationship between Risk Factors and Postpartum Depression among Teenage Mothers attending Kapsabet County Hospital. Chi-Square Results

Variables	Value	df	p-value
Number of children	7.942	2	0.019
Relationship with the father	12.116	5	0.033
Mode of delivery	0.025	1	0.876
Experience during delivery	0.578	1	0.447
Financial support	34.061	5	< 0.001
Reception of pregnancy news	21.639	4	< 0.001
Abuse experienced	15.417	2	< 0.001
Who respondents stay with	34.044	6	< 0.001
Physical abuse experienced	10.328	3	0.016

Table 3: Chi-square results

The table 2 above give an overview of the relationship between postpartum depression and proposed risk factors. As shown by the chi-square test results above all the risk factors had a significant relationship with postpartum depression having only mode of delivery and experience during delivery not having a bearing on postpartum depression with a p-value of 0.876 and 0.447 respectively

Non- parametric Mann-Whitney U Test Results

Variables	p-value
Number of children	0.033
Relationship with the father	0.002
Mode of delivery	0.876
Experience during delivery	0.449
Financial support	0.005
Reception of pregnancy news	0.041
Abuse experienced	< 0.001
Who respondents stay with	0.002
Physical abuse experienced	0.002

Table 4: Non- parametric Mann-Whitney U Test Results

To further validate these relationships a Non- parametric Mann-Whitney U Test was done. The table 3 above give an overview of the relationship between postpartum depression and proposed risk factors per the Non- parametric Mann-Whitney U Test. As shown in the table 3 above all the risk factors had a significant relationship with postpartum depression having only mode of delivery and experience during delivery not having a bearing on postpartum depression with a p-value of 0.876 and 0.449 respectively

DISCUSSION

Understanding the prevalence of postpartum depression (PPD) necessitates an awareness of demographic factors. Numerous demographic characteristics might affect an individual's chance of developing PPD, as demonstrated by studies. It is crucial to remember that these demographic factors do not always indicate PPD. Instead, they stand for elements that could make some female demographics more vulnerable than others.

These demographic characteristics, in addition to hormonal, psychological, and environmental influences, all have a role in the complicated disease known as PPD. It is vital to highlight that these demographic factors do not operate in solitude. They frequently interact with each other, and several variables may have an impact on the risk of PPD. Furthermore, not all women with particular demographic traits will develop PPD; individual experiences differ. By having a better understanding of these factors, medical practitioners may assist at-risk groups in receiving more focused support and treatments, which will eventually lower the occurrence of PPD and improve the mental health of mothers.

Per the study findings above the mean age for the respondents was 17.21 years with a standard deviation of 1.674 having a minimum and maximum ages being 14 year and 19 years respectively. All age groups of women are susceptible to PPD, although younger mothers—especially those who are teenagers—may be more vulnerable. This susceptibility may result from the emotional strain and stress of being a first-time mother, as well as from a lack of expertise managing the responsibilities of the role. Early parenthood is also linked to higher stress levels and mental difficulties. In addition, the pressures associated with their age and inexperience also affect them, which can exacerbate depression in the postpartum phase. This is in line with a study by Almeida *et. al.*, 2020 who listed age as one of the key factors that impacted on the occurrence of PPD.

According to the above findings in table 1 most respondents were protestants having a percentage of 39, followed by Catholics (29%) then seventh-day Adventists (18%) while the Muslims were the least having a percentage of 14 in terms of respondents religious affiliation. A person's mental health is only one of the many facets of their life that are impacted by their religion. Nevertheless, depending on personal beliefs, behaviors, and social support networks, there is a complicated association that varies

greatly between religion and the occurrence of postpartum depression (PPD). It's critical to understand that there is a strong individualistic correlation between religion and the occurrence of PPD. Religion can have a protective or risk-increasing effect on mental health, depending on the individual. Pregnancy and delivery are two difficult life events that numerous religious beliefs encourage and provide coping techniques for. Practicing religion - prayer, meditation, consulting religious authorities - can provide emotional and psychological support to certain people and may even lower their chance of developing postpartum depression. Stressors or stigmatization may occasionally be caused by cultural standards and religious beliefs. In particular, new mothers may experience additional strain if they believe they fail to live up to certain cultural or religious standards that place strong demands on women as mothers. If this happens, their chance of developing postpartum depression may increase.

Lastly, based on the findings in table 1 majority of the respondents were first time mothers (90%) while the least were those with three children (1%). The number of children is one of the demographic variables that can have a double edged sword effect towards the occurrence of PPD. PPD prevalence can also be influenced by a woman's number of children. Compared to women who become pregnant again, individuals who have postpartum depression (PPD) after their first pregnancy may have distinct needs and experiences. First-time moms may find the transition to parenthood more difficult, which raises their risk of developing PPD. However, moms who have bigger families that is, who have more than two children may be more susceptible to PPD. Because taking care of several children can lead to stress and feelings of being overwhelmed. Having several kids in a short amount of time might raise the risk of postpartum depression (PPD) since it can be harder for moms to handle the demands of several kids, especially if they don't have

support. This aligns with the research conducted by Laurenzi et al.¹⁵, who recognized that having several children is a contributing factor to postpartum depression.

According to the pie chart in figure 1 above 93% of the respondents had postpartum depression while 7% did not have postpartum depression. A child's birth is frequently hailed as a happy and transformative occasion. Expectant parents look forward to their baby's arrival with hope and enthusiasm. It is a period of happiness and contentment for a lot of ladies. But it's important to understand that not every mother feels this way and that a number of them struggle with postpartum depression (PPD). This complicated mental health condition is frequently concealed beneath the surface of this euphoria. Postpartum depression (PPD) is a difficult and sometimes hidden battle that affects the mental as well as emotional well-being of a substantial number of women worldwide. PPD affects a sizable percentage of new mothers, thus it is not an uncommon occurrence. The rate of occurrence of postpartum depression varies among people and geographical areas.

There is a considerable correlation between cultural, socioeconomic, and demographic variables and the occurrence of postpartum depression. Nonetheless, studies continually demonstrate that PPD is a widespread problem impacting a significant portion of women globally. The World Health Organization (WHO) estimates that 10–15% of women worldwide are thought to be affected by PPD. However, because of underreporting and the stigma associated with mental health concerns, this number could potentially be greater in some areas. This was confirmed by the research, whose 93% prevalence is far higher than the WHO's estimated 10-15% frequency. This might be because the study concentrated on teenage mothers rather than all women who must reconcile parenthood with the demands of self-discovery. The aforementioned results are consistent with

other research that found a higher prevalence of teen moms^{16,17}. The fact that the study location was in a developing nation, where high incidence is predicted based on prior research, explains the high prevalence.

Furthermore, considering that Kapsabet serves the majority of the rural population, the PPD has high expectations of occurrence. As indicated by Rahmadhani, Kusumastuti, Chamroen,¹⁸ and Wang *et. al.*,¹⁹ in their findings, high-income nations or areas had a substantially lower prevalence of 15.54% than those with lower incomes. Moreover, industrialized nations had a substantially lower prevalence of postpartum depression (14.85%) than underdeveloped nations (19.99%). In rural regions, Asaye, Muche, and Zelalem,⁹; Obioha *et. al.*,²⁰; and Nguyen,²¹ note that the PPD prevalence in developing nations was higher (31.1%) than in industrialized ones (21.5%). It is important to keep in mind that even within countries with comparable economic levels, estimates of the prevalence of postpartum depression vary nationally. As per Atuhaire *et. al.*,²² study the findings were that mothers living in a rural area were strongly related with a clinical diagnosis with postpartum depression.

The findings in the above pie chart per figure 2 shows that 59% of the respondents had a good experience during delivery with no complications while 41% did not have it go smoothly as they had complications during delivery. In figure 3 above the bar chart the findings show that 68% of the respondents had a spontaneous vaginal delivery while 32% cesarean delivery. PPD risk might be influenced by the delivery method, delivery problems, and the well-being of the newborn. There may be an increased vulnerability for women who have difficult childbirths or whose children have experienced health problems. Given the additional stress and worry, women who have difficulties in the course of their pregnancy or childbirth, such as premature birth or health issues with the unborn child, may be more susceptible to

PPD. Similarly, PPD may be impacted by a birthing experience. PPD can arise as a result of difficult pregnancies, traumatic deliveries, or a feeling of being in the dark during labor.

These findings are consistent with Kale, Tambawala, and Rajputhas²³ findings which demonstrated that there was a slightly increased likelihood of postpartum depression among those who had an eventful intranatal history, the emergence of an additional high-risk factor in the ongoing pregnancy, as well as a poor personal encounter of labor by the patients. In addition to this Atuhaire *et. al.*,²² notes that pregnant women who had complications, were strongly related with a clinical diagnosis with postpartum depression. These findings are also similar to Asaye *et. al.*,⁹ which demonstrated that multiple pregnancies, unwanted pregnancies, unfavorable pregnancy attitudes, perinatal sleep disruption, pregnancy problems, postpartum "blues," and childcare stress are other potential risk factors for PPD.

Per figure 7 above the findings in the bar chart shows that most of the respondents (58%) had experienced physical abuse in one way or the other at some point in their journey while 42% of the respondents never experienced any form of physical abuse. This finding is similar to Asaye *et. al.*,⁹ which demonstrated that intimate partner abuse was one of the potential risk factors for PPD. Tele *et. al.*,²⁴ acknowledges that individuals whose husbands had a bad attitude about pregnancy scored substantially higher on depression scales than respondents whose partners had a good attitude. Furthermore, intimate partner abuse survivors scored considerably worse on the depression scale than non-victims.

Based on the findings in figure 6 above, the bar chart shows that majority of the respondents' relation (89%) did not receive the pregnancy news so well having them react differently to the news while only 11% of the respondents' relation were happy. Further, as indicated in the findings of figure 8 above, the bar chart shows that

most of the respondents stayed with their parents while staying with mother in law and friend had the least percentage of 3. Findings as per figure 4 above, the bar chart shows that most of the respondents (25.7%) had their parents support financially while the least number of respondents supported themselves 4.6%. Moreover, as per the findings illustrated in the bar chart in figure 9 above, most of the respondents (78%) do not have a good and supportive relationship with the father of their baby while 22% of the respondents seem to have fostered a good and supportive relationships with the father of their baby. Having a solid social support network that consists of friends, family, and a spouse can help prevent PPD. Women who don't have enough assistance might be more vulnerable. Regardless of other demographic factors, having enough social support shields one against PPD. Sufficient assistance can aid women in managing the difficulties of parenting and lower their chance of developing PPD. PPD can be exacerbated by a lack of emotional support or solitude. Strong networks of family, friends, and medical professionals can protect women from PPD or at least minimize its effects.

These findings are in line with Kale, Tambawala, and Rajputhas²³ who demonstrated that there was a slightly increased likelihood of postpartum depression among those who had a lack of familial or social support. As per²² study the findings were that mothers' perceptions of social support from partners, families, and friends were strongly related with a clinical diagnosis with postpartum depression. According to²⁵, participants with weak social support systems had higher rates of depression compared to those who had strong social support in the social support category. Asaye *et. al*⁹, also affirms that stressful life events and PPD are typically linked to poor social, emotional, and economical support.

The findings in table 2 above shows the relationship between postpartum depression and proposed risk factors. The chi-square

test results above indicate that all the risk factors had a significant relationship with postpartum depression having only mode of delivery and experience during delivery not having a bearing on postpartum depression with a p-value of 0.876 and 0.447 respectively. The Non- parametric Mann-Whitney U Test done to further validate these relationships between postpartum depression and proposed risk factors as given in table 3 above indicate that all the risk factors had a significant relationship with postpartum depression having only mode of delivery and experience during delivery not having a bearing on postpartum depression with a p-value of 0.876 and 0.449 respectively.

These findings contradict the expectations based on previous studies that linked mode of delivery and experience during delivery with PPD. For instance, they contradict^{22,9,23} all who not only noted the relationship with PPD but also had that relationship be on a higher side when it comes to an eventful intranatal history, the emergence of an additional high-risk factor in the ongoing pregnancy, as well as a poor personal encounter of labor by the patients.

RECOMMENDATIONS

With respect to the findings and conclusions, this study makes the following recommendations in regard to the prevalence and risk factors of postpartum depression among teenage mothers:

Recommendations to the county government

The Nandi county government to provide mental health services best suited for teen mothers. Just like CCC, teenage mothers too need a special clinic that will be linked with the MCH which will help them follow up on those teen mothers.

As they focus on a child during PNC, mothers too should be taken care of so that they can easily detect PPD in not only teen but all mothers.

Provide in service training for health workers on PPD, from screening, diagnosis,

management and treatment of postpartum depression.

Recommendations to the ministry of health

The ministry of health should formulate policy guidelines that will help in the screening, diagnosis, management and treatment of postpartum depression.

The ministry of health should formulate in service training manuals for health workers for the counties to use in training the healthcare workers.

CONCLUSION

A common yet sometimes disregarded condition that impacts the lives of countless women worldwide is postpartum depression. This study has shown that truly PPD is a problem in Kenya more specifically in Nandi County having almost all the assessed risk factors contributing to the condition. Still alarming is that in the course of the study it was revealed that the health care providers who are to give the needed help do not even have the tools to provide the help not to talk of providing the help. The risk factors found to be associated with postpartum depression were: respondents' number of children; respondents' relationship with the father of their baby; respondents' source of financial support; respondents' family reception of pregnancy news; abuse experienced by the respondents; who respondents stay with; physical abuse experienced by the respondents. Developing ways to help afflicted persons requires an understanding of its prevalence, contributing factors, and repercussions. In order to combat the quiet battle of postpartum depression and make sure that teen mothers can get the help and support they require to get through this difficult stage of life, it is imperative to raise awareness, conduct early screenings, and provide access to mental health services.

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