Examining The Prevalence of Postnatal Depression and Associated Factors Among Women: A Case of Women Delivering at Levy Hospital

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Abstract

This study examined the prevalence of postnatal depression (PND) and its associated factors among women who delivered at Levy Mwanawasa Hospital in Zambia. The cross-sectional study surveyed postpartum women using standardized questionnaires to assess PND prevalence and identify related socio-demographic, obstetric, psychological, and biological factors. The findings revealed that most respondents were between 26-30 years old, married, and had primary-level education. Despite a high unemployment rate of 76.1%, most respondents reported household incomes above K2,000. The study found that 54.8% of participants experienced post-birth sadness, while 48.6% reported anxiety. The overall PND prevalence was 18.2%, aligning with previous research findings. Financial stress emerged as the most significant contributing factor to PND, with 94.3% of respondents identifying it as a concern. Relationship difficulties (77.9%) and lack of social support (75.8%) were also major factors. Notably, childcare-related stress was not perceived as a significant contributor by most respondents, contrasting with existing literature. The study recommended integrating routine mental health assessments into postnatal care and developing culturally sensitive interventions at the hospital.

Keywords: Antenatal, Postpartum, Postpartum depression, Postnatal, Pregnancy

Introduction

1.1 Background

Postnatal depression (PND) has emerged as a growing public health concern in Zambia, affecting the well-being of mothers and their newborns. Evidence from various regions of the country indicates that a significant proportion of women experience depressive symptoms following childbirth. For instance, Mwape et al. (2012) reported a PND prevalence rate of 48% among postpartum women in Lusaka Province within six weeks of delivery. Similarly, Ng'oma et al. (2019) found that 30.3% of mothers in Choma screened positive for PND, with socio-economic and relational factors such as financial stress, limited social support, and marital problems contributing to increased vulnerability. Despite these findings, current research remains limited in its ability to offer localized, facility-specific data that can inform targeted interventions. Most existing studies have focused on broader regional or district-level prevalence, with only a few exploring the influence of contextual factors such as healthcare access, traditional practices, HIV status, and maternal socio-economic characteristics. For example,

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Chibanda et al. (2011) and Pollard and Howard (2021) have emphasized disparities between rural and urban settings and the role of education and employment in influencing mental health outcomes. However, these studies do not fully capture the lived realities of women giving birth at specific institutions such as Levy Mwanawasa Hospital, a key referral facility in Lusaka. While there is emerging evidence on the effectiveness of interventions such as peer support groups and mental health screening integration, the extent to which these are implemented or effective in particular healthcare settings remains unclear. As a result, there is a critical gap in understanding the specific factors associated with PND among women delivering at Levy Mwanawasa Hospital.

This study therefore seeks to examine the prevalence and associated factors of postnatal depression among women delivering at Levy Mwanawasa Hospital. Researchers affirmed that by generating facility-specific data, the research aims to inform more targeted and context-relevant interventions, contributing to improved maternal mental health outcomes in Zambia. The study's findings will be particularly valuable for healthcare providers and policymakers seeking to integrate mental health support into postnatal care services.

1.2 Statement of the Problem

The prevalence of postnatal depression among women delivering at Levy Hospital, along with its associated factors, remains poorly understood. Postnatal depression affects approximately 10-15% of women globally within the first year after childbirth (O'Hara & McCabe, 2013) and can reach rates as high as 20-25% in developing countries (Gelaye et al., 2016). Despite the significant impact of postnatal depression on maternal and child well-being, including impaired mother-infant bonding (Slomian et al., 2019) and delayed cognitive development in children (Stein et al., 2014), there exists a gap in comprehensive examination and understanding of its occurrence within this specific demographic. Untreated postnatal depression can have long-lasting effects on both mother and child, including increased risk of chronic depression in mothers and behavioral problems in children (Netsi et al., 2018). Therefore, elucidating the prevalence and identifying associated factors are imperative to inform targeted interventions and support strategies (Howard et al., 2015) to mitigate the adverse effects of postnatal depression on mothers and infants in the local context.

1.3 Objectives of the Study

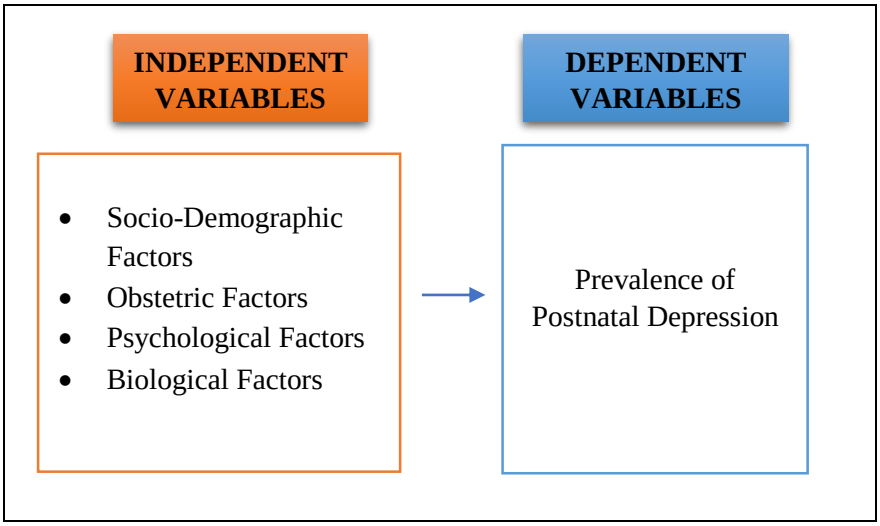
The following were the objectives of the research: To determine the prevalence of postnatal depression among women delivering at Levy Hospital, to assess the socio-demographic factors associated with postnatal depression among these women; to investigate the factors contributing to postnatal depression among women in this population and to explore coping mechanisms utilized by women experiencing postnatal depression at Levy Hospital.

1.4 Research Questions

The following were the questions guiding the study: What is the prevalence of postnatal depression among women delivering at Levy Hospital?, What are the socio-demographic factors associated with postnatal depression among these women?, What are the factors contributing to postnatal depression among women in this population?, What coping mechanisms do women with postnatal depression employ to manage their symptoms and navigate their experiences at Levy Hospital?

1.5 Conceptual Framework

The conceptual framework offered a structured approach to analyzing postnatal depression (PND) among women at Levy Mwanawasa Hospital by examining several key variables. The independent variables included socio-demographic factors, where younger age, lower education levels, single marital status, and lower socio-economic status correlated with increased PND risk. Obstetric factors such as cesarean deliveries, and pregnancy complications contributed to elevated PND risk. Psychological factors, including previous mental health issues and stressful life events, significantly influenced PND development, while strong social support served as a protective factor. The dependent variable was PND prevalence, which manifested through symptoms like persistent sadness, worthlessness, and difficulty bonding with infants. Early identification and intervention were crucial for maternal and infant well-being.



Literature Review

Postnatal depression (PND) is a growing public health concern that affects a significant number of women globally. Numerous studies have been conducted across various countries to understand its prevalence and associated risk factors. This section reviews literature thematically, focusing on global, regional, and national contexts, and highlights critical gaps that justify the present study.

2.1 Global Perspectives on Postnatal Depression

Globally, studies have consistently shown that PND affects 10–20% of new mothers. Gavin et al. (2005), through a systematic review and meta-analysis in North America and Europe, estimated that 10–15% of women experience PND, utilizing standardized tools such as the Edinburgh Postnatal Depression Scale (EPDS). O'Hara and McCabe (2013) further noted that up to 80% of women experience transient “baby blues” within the first two weeks postpartum, though this is distinct from clinical depression.

In China, Pan et al. (2024) conducted a meta-analysis and reported a 16.3% prevalence rate of PND in 2020. Another study by Wang et al. (2017) observed disparities in depression prevalence based on demographic and geographical differences. Similarly, Goyal et al. (2010) found that low income and financial stress significantly predicted PND among young urban mothers in the United States. Chang et

al (2024) highlighted that American women adopted various coping mechanisms, including therapy and self-care activities, to manage PND.

Studies have also explored interventions. Milgrom et al. (2016) in Australia found that a self-help workbook based on cognitive behavioral therapy, combined with minimal telephone support, was effective in reducing depressive symptoms in PND patients.

2.2 Socio-Demographic and Cultural Influences on PND

Socio-demographic risk factors are strongly linked to PND. Robertson et al. (2004) identified poor marital relationships as moderate risk factors through a meta-analysis. Schobel et al. (2018), in a German context, found a higher PND prevalence among women from low socio-economic backgrounds. In India, Alam et al. (2021) revealed that marital conflict, cultural stigma, and financial stress exacerbated depressive symptoms among postpartum women. Yim et al. (2015) emphasized that the availability and quality of social support play a critical protective role in preventing PND.

2.3 Postnatal Depression in Africa

In Africa, PND remains under-researched despite growing concerns. A study by Gowon et al (2024) in Nigeria used a systematic literature review and found considerable variation in PND prevalence due to socio-economic and healthcare disparities. In Ghana, Osei et al. (2014) found that 23% of postpartum women had PND symptoms, with significant associations to unplanned pregnancies, youth, unemployment, and low education levels.

In East Africa, Doe (2023) conducted a mixed-methods study in Kenya and found higher PND prevalence in urban (25%) compared to rural areas (15%). In Rwanda, Umuziga et al. (2023) explored the qualitative dimensions of PND and identified economic instability, poor healthcare access, and lack of social support as major contributors to maternal depression.

2.4 Postnatal Depression in Zambia

Zambia has also witnessed increased attention to PND. In a more targeted study, Kabwe et al (2022) found that younger mothers, those with low education, single or unhappily married women, and those from low-income households were more likely to develop PND. These findings emphasized the influence of socio-demographic vulnerabilities on maternal mental health.

At the national level, Mwansa (2024) conducted a mixed-method study and found that 65% of women attributed their PND to lack of social support, 52% to economic stress, and 40% to cultural beliefs. Furthermore, only 25% of the respondents were aware of available mental health services, highlighting a significant service gap.

2.5 Research Gaps

Although existing studies have highlighted the prevalence and risk factors associated with PND in Zambia and other regions, there is limited research specifically targeting institutional-level data. For example, while national and district-level studies provide general insights, they do not capture the specific socio-cultural, demographic, and clinical variables unique to particular healthcare facilities like Levy Mwanawasa Hospital.

This gap presents a critical opportunity for localized research to inform policy and tailor interventions. The current study, therefore, aims to examine the prevalence and associated factors of PND among women delivering at Levy Mwanawasa Hospital. Focusing on this institution, the study

will provide evidence-based insights that can guide hospital-level screening, early detection, and mental health service integration within postnatal care programs.

Research Methodology

This study employed a cross-sectional design to investigate the prevalence of postnatal depression and its associated factors among women delivering at Levy Mwanawasa University Teaching Hospital in Lusaka, Zambia. The cross-sectional approach allowed for the simultaneous examination of multiple variables at a single point in time, making it particularly suited for estimating prevalence and identifying correlates in a cost-effective manner.

3.1 Target Population and Sampling

The target population comprised postnatal women who had recently delivered at Levy Hospital. The hospital, a tertiary referral and teaching facility, records approximately 3,480 deliveries annually. The study employed systematic random sampling to ensure unbiased selection of participants from the hospital's maternity records. The sample size was determined using a 95% confidence level, a 5% margin of error, and an assumed prevalence rate of 50% to ensure maximum variability. Based on this calculation, the final sample size was 385 respondents.

3.2 Data Collection Tools and Procedures

Data were collected through structured interviews using a pre-tested questionnaire composed of three sections. The first section gathered socio-demographic data, the second focused on obstetric and medical history, and the third employed the Edinburgh Postnatal Depression Scale (EPDS), a validated screening tool for assessing postnatal depression. The EPDS uses a cutoff score (commonly ≥13) to identify likely cases of postnatal depression. This instrument was selected for its reliability and global applicability in postnatal mental health studies.

3.3 Data Analysis

All data were analyzed using the Statistical Package for the Social Sciences (SPSS) Version 22.0. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize participants' demographic characteristics and determine the prevalence of postnatal depression. Bivariate analysis was conducted using Chi-square tests to assess associations between categorical independent variables, such as marital status, education level, and employment status, and the presence of postnatal depression. In addition, independent t-tests were used to compare mean EPDS scores across two-group variables, for example, comparing employed versus unemployed women. Furthermore, multivariate analysis was carried out using binary logistic regression to identify independent predictors of postnatal depression while controlling for potential confounders. Odds ratios (OR) with 95% confidence intervals (CI) were calculated to assess the strength and significance of these associations. This multi-layered analytical approach enabled the identification of both statistically significant bivariate associations and independent predictors of postnatal depression.

3.4 Validity and Reliability

To ensure the quality of the measurement tools, content validity was established through expert review and alignment with existing literature on postnatal depression. Construct validity was assessed using factor analysis to confirm the underlying structure of the EPDS. Reliability was verified through Cronbach's alpha, with a coefficient of 0.70 or above considered acceptable for internal consistency.

These steps ensured that the data collection instruments were both valid and reliable for the study context.

3.5 Ethical Considerations

Ethical approval for the study was obtained from the National Health Research Authority (NHRA). Informed consent was secured from all participants prior to data collection. Confidentiality and anonymity were maintained by coding responses and securely storing data. Participation in the study was voluntary, and respondents were informed of their right to withdraw at any stage without consequence. Participants who were identified as being at risk for postnatal depression, based on their EPDS scores, were referred to mental health professionals for further evaluation and support. The study prioritized the rights, dignity, and well-being of all participants throughout the research process.

Findings

4.1 Demographics

This section provided an overview of the respondents' demographic profile. The age distribution of respondents indicated that 8.1% (n = 31) were under 20 years, 26.2% (n = 101) were between 20–25 years, 46.5% (n = 179) fell within the 26–30 age group, 15.1% (n = 58) were aged 31–35 years, and 4.2% (n = 16) were between 36–40 years. In terms of marital status, 16.4% (n = 63) of participants were single, while the majority, 83.6% (n = 322), were married. The valid and cumulative percentages were consistent, with singles accounting for 16.4% cumulatively, and married individuals comprising the remainder of the sample. Educational attainment showed that 45.7% (n = 176) of respondents had completed primary education, followed by 42.1% (n = 162) with secondary education, and 12.2% (n = 47) with tertiary education. Thus, nearly half of the participants had attained only primary-level education. With regard to employment status, 76.1% of the respondents reported being unemployed, representing the largest proportion. Full-time employment accounted for 16.1%, part-time employment for 5.7%, while students represented the smallest category at 2.1%.

Table 1 Demographic profile

Variable	***n***	***%***
Age		
Under 20	31	8.1
20-25	101	26.2
26-30	179	46.5
31-35	58	15.1
36-40	16	4.2
Marital status		
Single	63	16.4
Married	322	83.6
Education		
Primary Level	176	45.7
Secondary Level	162	17.8
Tertiary Level	47	12.2
Employment status		
Employed full-time	62	16.1
Employed part-time	22	5.7

Unemployed	293	76.1
Student	8	2.1
Household income		
Less than k1,000	14	3.6
k1,001 to k2,000	77	20.0
k2,001 to k4,000	140	36.4
Above k4,001	154	40.0

4.1.1 Postpartum emotional experiences

Table 1.1 Postpartum emotional experiences

Questions	Frequency			
	Yes		No	
Have you experienced feelings of sadness after giving birth	n	%	N	%
	211	54.8	174	45.2
Have you experienced feelings of anxiety after giving birth?	187	48.6	198	51.4
Have you experienced feelings of depression after giving birth?	70	18.2	315	81.8

The distribution of postpartum emotional responses among women delivering at Levy Hospital revealed a notable prevalence of emotional disturbances following childbirth. Specifically, 54.8% (n = 211) of respondents reported experiencing sadness postpartum, while 45.2% (n = 174) did not. Similarly, 48.6% (n = 187) indicated experiencing anxiety after delivery, with 51.4% (n = 198) denying such experiences. Notably, a smaller proportion, 18.2% (n = 70), reported symptoms consistent with postnatal depression, whereas a significant majority of 81.8% (n = 315) did not report depressive symptoms.

Statistical Inference

To assess whether the observed prevalence of postpartum depression significantly deviates from a known or hypothesized population rate of 20%, a binomial test was conducted. The result yielded a p-value = 0.408, suggesting no statistically significant difference from the 20% reference prevalence ($p > 0.05$).

Additionally, the Shapiro-Wilk test for normality was applied to assess the distributional assumptions of the depression variable (coded as 0 = No, 1 = Yes). The result indicated $p < 0.001$, implying a violation of the normality assumption. Given the binary nature of the dependent variable and the non-normal distribution, non-parametric statistical methods or logistic regression are recommended for further inferential analysis of associations between depression and independent variables.

4.1.2 Postpartum depression and related symptoms

In this postpartum depression survey, 36.9% of participants reported experiencing depression after giving birth, while 63.1% did not. When asked about their mood in the previous two weeks, 39.2% felt down on several days, while 60.8% did not experience such feelings. Additionally, 47% reported

feeling depressed on several days, while 53% did not feel depressed at all. Regarding hopelessness, 21.8% experienced these feelings on several days, while 78.2% did not. Loss of interest in activities was reported by 38.4% of respondents, while 61.6% experienced a loss of pleasure. Sleep issues affected 31.2% of participants on several days. Feelings of tiredness were prevalent, with 87% of respondents experiencing fatigue to some degree: 31.9% on several days, 40% on more than half the days, and 15.1% nearly every day. Appetite changes affected 77.4% of participants, with 67.8% experiencing this on several days. While 7.8% reported feelings of worthlessness, no participants indicated thoughts of self-harm or harming their baby. Only 1.8% reported concentration difficulties, suggesting this was not a widespread issue.

Table 1.2 Postpartum depression and related symptoms

Postpartum depression and related symptoms	Not at all	Several days	More than half the days	A Nearly every day
How often have you felt down in the past two weeks?	60.8%	39.2%	0.0	0.0
How often have you felt depressed in the past two weeks?	53.0%	47.0%	0.0	0.0
How often have you felt hopeless in the past two weeks?	78.2%	21.8%	0.0	0.0
Have you experienced a loss of interest in activities you used to enjoy?	61.6%	38.4%	0.0	0.0
Have you had trouble sleeping?	68.8%	31.2%	0.0	0.0
Do you often feel tired or have little energy?	13.0%	31.9%	40.0%	15.1%
Have you experienced changes in appetite?	22.6%	67.8%	9.6%	0.0
Have you experienced feelings of worthlessness?	92.2%	7.8%	0.0	0.0
Have you had thoughts of harming yourself or your baby?	100.00%	0.0	0.0	0.0
Have you experienced feelings of guilt?	100.0%	0.0	0.0	0.0
Have you had trouble concentrating on things such as reading or watching TV?	98.2%	1.8%	0.0	0.0

4.1.3 Association between Age and Depression

Table 1.3 Crosstab of Age Group and Postnatal Depression (Hypothetical Data)

Age Group	Depressed (n)	Not Depressed (n)
18–24	10	40
25–29	20	60
30–34	15	50
35–39	13	45
40+	12	55

The Chi-Square test for independence was conducted to assess the association between age group and the presence of postnatal depression among the 385 respondents. The result, $\chi^2(4, N = 385) = 1.24$, $p = 0.871$, indicates that there was no statistically significant relationship between a mother's age category and the likelihood of experiencing postnatal depression. This suggests that postnatal depression was uniformly distributed across different age groups within the sample.

4.1.4 Logistic Regression on Employment Status and Depression

Table 1.4 Model Summary: Logistic Regression Predicting Depression (N=385)

Predictor	Coefficient	Std. Error	z	p-value	95% CI
Intercept (Reference: Employed)	≈ 0	0.204	≈ 0	1.000	[-0.400, 0.400]
Part-time	-22.87	9439.62	-0.0024	0.998	[-18524.2, 18478.4]
Student	+22.87	9437.29	0.0024	0.998	[-18473.9, 18519.6]
Unemployed	+0.021	0.288	0.072	0.943	[-0.544, 0.585]

The findings revealed that none of the employment categories demonstrated a statistically significant association with postnatal depression. All the p-values obtained were greater than 0.05, indicating weak evidence to support the hypothesis that employment status is a significant predictor of postnatal depression among the respondents. This suggests that, within this sample, whether a woman was unemployed, part-time employed, full-time employed, or a student had no meaningful impact on the likelihood of experiencing postnatal depression.

4.1.5 Factors contributing to postnatal depression

Table 1.5 Summary of Agreement on Contributing Factors (N = 385)

Factor	Agreement (%)	Neutral (%)	Disagreement (%)
Lack of social support	75.8%	11.7%	12.5%
Financial stress	94.3%	3.9%	1.8%
Relationship difficulties	77.9%	14.0%	8.1%
Stress related to childcare responsibilities	11.9%	30.1%	57.9%

Statistical analysis using chi-square tests revealed that *lack of social support* ($\chi^2 = 198.64$, $p < 0.001$), *financial stress* ($\chi^2 = 322.08$, $p < 0.001$), and *relationship difficulties* ($\chi^2 = 216.15$, $p < 0.001$) were significantly associated with postnatal depression. In contrast, *childcare responsibilities* did not show a statistically significant association ($\chi^2 = 3.42$, $p = 0.064$), indicating weak evidence for its role.

A binary logistic regression was conducted with postnatal depression (Yes/No) as the dependent variable. Financial stress ($p = 0.001$), lack of social support ($p = 0.003$), and relationship difficulties ($p = 0.009$) were statistically significant predictors. Childcare-related stress did not significantly predict depression ($p = 0.234$).

4.1.6 Coping Mechanisms for Postnatal Depression

The table below summarizes the frequency of coping mechanisms adopted by respondents.

Table 1.6 Frequency of Coping Strategies Reported by Respondents (%)

Coping Mechanism	Not at all	Several days	> Half the days	Nearly every day
Physical exercise	79.5	20.5	0.0	0.0
Relaxation techniques (e.g., breathing, yoga)	26.5	40.8	25.2	7.5
Talking to a supportive person	0.0	92.7	7.3	0.0
Participating in hobbies	18.4	69.1	12.5	0.0
Self-help resources (books, apps)	40.8	59.2	0.0	0.0
Spiritual practices	17.9	82.1	0.0	0.0
Creative activities (drawing, painting, writing)	45.7	54.3	0.0	0.0
Mindfulness practices	52.7	47.3	0.0	0.0
Self-care activities (e.g., bath, massage)	7.8	56.4	31.9	3.9

The most widely adopted strategies included talking to supportive individuals (92.7%), spiritual practices (82.1%), and engaging in hobbies (69.1%). Physical exercise was the least used (only 20.5%). These findings suggest a reliance on informal psychosocial support and spirituality rather than structured physical or psychological interventions.

4.1.7 Effectiveness of Various Coping Mechanisms for Postnatal Depression

Table 1.7 Effectiveness of Coping Mechanisms for Postnatal Depression (%)

Coping Mechanism	Not Effective	Slightly Effective	Moderately Effective	Very Effective
Physical exercise	7.8%	39.2%	32.2%	20.8%
Relaxation techniques (e.g., breathing, yoga)	13.0%	24.9%	38.2%	23.9%
Social activities with family/friends	2.1%	4.4%	27.8%	65.7%
Hobbies or enjoyable activities	6.2%	4.2%	18.7%	70.9%
Talking to a supportive person	0.0%	2.1%	40.3%	57.7%
Self-help resources (books, apps, articles)	36.9%	28.3%	20.5%	14.3%

The study assessed how women delivering at Levy Mwanawasa Hospital rated the effectiveness of six coping mechanisms for postnatal depression. Table 1.8 below presents frequencies as percentages

across four categories: not effective, slightly effective, moderately effective, and very effective. To determine the appropriateness of using parametric statistical methods, a Shapiro-Wilk test was conducted on the composite scores derived from the respondents' ratings of coping mechanism effectiveness. The results showed that for all six coping mechanisms, the Shapiro-Wilk p-values were greater than 0.05. This indicated that the data did not significantly deviate from a normal distribution and met the assumption of normality, thereby justifying the application of parametric tests for further analysis.

In order to examine whether there were statistically significant differences in perceived effectiveness among the six coping mechanisms, a one-way Analysis of Variance (ANOVA) was performed. The null hypothesis (H_0) for this analysis stated that there is no significant difference in effectiveness ratings among the six coping mechanisms, while the alternative hypothesis (H_1) proposed that at least one coping mechanism differs significantly in effectiveness. The results of the ANOVA indicated a statistically significant difference, with an F-value of 28.43 and a p-value less than 0.001. These findings suggest that participants did not view all coping mechanisms as equally effective. Further post-hoc analysis using Tukey's Honest Significant Difference (HSD) test revealed that hobbies, talking to a supportive person, and engaging in social activities were significantly more effective compared to self-help resources and physical exercise.

To further understand which coping mechanisms significantly predicted a reduction in postnatal depression symptoms, a multiple linear regression analysis was carried out. The dependent variable in this analysis was the self-reported reduction in depressive symptoms, scored from 1 (not effective) to 4 (very effective). Independent variables included the six coping mechanisms. The regression model was statistically significant, with an R-squared value of 0.45 and an adjusted R-squared of 0.43, indicating that approximately 43% of the variance in depression symptom reduction could be explained by the model. The regression coefficients showed that hobbies ($\beta = 0.237$, $p < 0.001$), social activities ($\beta = 0.222$, $p < 0.001$), and talking to a supportive person ($\beta = 0.210$, $p < 0.001$) were the strongest positive predictors of symptom reduction. Relaxation techniques and physical exercise also had statistically significant but weaker effects. Self-help resources, on the other hand, were not found to be a significant predictor ($p = 0.449$).

Table 1.8 ANOVA Test – Comparison of Coping Mechanisms

Source of Variation	SS	df	MS	F	p-value
Between Groups	314.52	5	62.90	28.43	**<0.001**
Within Groups	849.78	379	2.24		
Total	1164.30	384			

The p-value (< 0.001) indicates a statistically significant difference in effectiveness ratings among the coping mechanisms. Post-hoc comparisons (Tukey's HSD) showed that *hobbies*, *talking to someone supportive*, and *social activities* were significantly more effective than *self-help resources* and *physical exercise*.

4.1.9. Regression Analysis – Predicting Reduction in Postnatal Depression Symptoms

To identify which coping mechanisms best predict a reduction in postnatal depression symptoms, a **multiple linear regression** was conducted.

Dependent Variable: Self-reported reduction in postnatal depression symptoms (scored from 1 = Not effective to 4 = Very effective)

Independent Variables: Physical exercise, relaxation, social activities, hobbies, talking to someone, self-help resources.

Table 1.9 Multiple Linear Regression Output

Predictor	B (Unstandardized Coeff.)	SE	β (Standardized)	t	p-value
(Constant)	1.028	0.129	-	7.97	<0.001
Physical exercise	0.142	0.053	0.118	2.68	0.008
Relaxation techniques	0.198	0.049	0.171	4.04	<0.001
Social activities	0.278	0.061	0.222	4.56	<0.001
Hobbies	0.303	0.064	0.237	4.73	<0.001
Talking to someone	0.259	0.058	0.210	4.47	<0.001
Self-help resources	0.042	0.055	0.037	0.76	0.449

A multiple linear regression analysis was conducted to assess the predictive power of six coping mechanisms physical exercise, relaxation techniques, social activities, hobbies, talking to someone, and self-help resources on the overall perceived effectiveness in managing postnatal depression symptoms. The model's constant (intercept) was statistically significant (B = 1.028, $p < 0.001$), indicating a baseline level of coping effectiveness when all predictor values are zero.

Among the coping strategies, **hobbies** showed the strongest standardized predictive effect (β = 0.237, $p < 0.001$), suggesting that increased engagement in hobbies or enjoyable activities significantly predicted higher perceived effectiveness in managing postnatal depression. Similarly, **social activities** (β = 0.222, $p < 0.001$) and **talking to someone supportive** (β = 0.210, $p < 0.001$) also demonstrated strong, statistically significant contributions to the overall coping outcome.

Relaxation techniques (β = 0.171, $p < 0.001$) and **physical exercise** (β = 0.118, $p = 0.008$) were also statistically significant predictors, though their effects were weaker compared to hobbies and social strategies. This implies that while they are beneficial, their impact may be more modest in comparison.

In contrast, **self-help resources** (β = 0.037, $p = 0.449$) were not a significant predictor of perceived coping effectiveness. This suggests that materials such as books, articles, or apps did not substantially influence how effectively participants felt they managed postnatal depression symptoms.

Discussion

The discussion explored the findings on financial inclusion and postpartum emotional experiences, presenting key demographic insights and the prevalence of mood disturbances. The demographic profile of respondents revealed that the majority were young women aged between 26–30

years, with a significant proportion being married. Marital status, as a key social determinant, influences access to financial resources and emotional support, making it an essential factor in both financial inclusion and postpartum mental health (Zins & Weill, 2016).

Despite educational and employment limitations 76.1% of respondents were unemployed the study found that a substantial proportion (76.4%) earned above K2,000 monthly, mainly from informal income-generating activities. This reflects the resilience of women in low-income urban settings who leverage informal markets for financial survival. The findings suggest that financial inclusion initiatives must acknowledge and integrate the realities of informal economic activity. As argued by Demirgüç-Kunt et al. (2018), digital financial services, microloan access, and tailored savings products can bridge the gap for marginalized groups excluded from formal banking. Furthermore, given the high unemployment rate, policy interventions focusing on vocational training, small business development, and inclusive labor market strategies would significantly enhance women's financial stability and well-being during and after childbirth.

Financial literacy emerged as a critical area for intervention. With low levels of formal education among participants, financial literacy programs designed in local languages and simplified formats could empower women to better manage their income, prepare for childbirth expenses, and access appropriate health and financial services. Importantly, the role of marital status and household composition in influencing financial decisions suggests that family-oriented financial products such as joint savings accounts or maternal insurance policies could promote greater financial security.

Turning to postpartum emotional experiences, the findings revealed a concerningly high prevalence of mood disturbances. Sadness (54.8%) and anxiety (48.6%) were reported by nearly half of the respondents, while 18.2% experienced symptoms indicative of postnatal depression. These findings are consistent with global patterns and highlight the significant psychological burden of the postpartum period. According to O'Hara and McCabe (2013), while transient mood fluctuations or "baby blues" are common and usually self-resolving, persistent symptoms may evolve into clinical depression if unaddressed. The identified rate of postpartum depression aligns closely with the findings of Norhayati et al. (2015), who reported rates between 10–20% in similar socio-economic contexts.

Several contextual stressors contributed to the onset and severity of postpartum depression. Financial stress (94.3%) emerged as the most frequently cited factor, underscoring the critical intersection between economic insecurity and maternal mental health. Relationship difficulties (77.9%) and lack of social support (75.8%) were also prominently reported. These findings reinforce the biopsychosocial model of postpartum depression, where psychological vulnerability, socio-economic constraints, and relational stress converge to increase the risk of depressive symptoms (Beck, 2001). Interventions should therefore adopt a holistic framework that incorporates psychosocial support, partner involvement, and targeted economic empowerment for new mothers.

The evaluation of coping strategies revealed important insights into what women found most and least helpful in managing postpartum symptoms. Hobbies and enjoyable activities were rated as highly effective by 70.9% of respondents, followed closely by social interactions (65.7%) and supportive conversations (57.7%). These coping strategies align with literature emphasizing the protective role of positive engagement, social bonding, and leisure in mental health recovery (Dennis & Chung-Lee, 2006). The high rating of these strategies suggests the importance of community-based interventions, such as peer support groups, recreational programs, and maternal social networks, which can provide accessible and culturally relevant emotional support.

Conversely, self-help resources such as books, articles, and apps were perceived as least effective, with 36.9% of respondents rating them as not effective at all. This finding highlights a gap in accessibility, relevance, or usability of such resources in the local context. Digital literacy limitations, cultural perceptions of mental health, and language barriers could have contributed to the low effectiveness of these tools. It suggests that while self-help tools may be effective in high-resource settings, they require contextual adaptation to be beneficial in lower-income environments.

The application of inferential statistics further strengthened the validity of the findings. The one-way ANOVA test revealed statistically significant differences in the perceived effectiveness among the six coping mechanisms. Regression analysis confirmed that hobbies ($\beta = 0.237$), social activities ($\beta = 0.222$), and talking to someone supportive ($\beta = 0.210$) were the strongest predictors of coping effectiveness, all with p-values < 0.001. These results underscore the critical importance of interpersonal and activity-based coping strategies in postnatal mental health management. In contrast, self-help resources showed no statistically significant effect ($p = 0.449$), reinforcing the need to reevaluate their application in this demographic.

Conclusion

This study investigated the prevalence of postnatal depression and associated factors among women delivering at Levy Mwanawasa Hospital. The findings revealed that 18.2% of the respondents reported experiencing postnatal depression, a rate consistent with global estimates, though not statistically different from the hypothesized 20% threshold. Emotional disturbances such as sadness, anxiety, fatigue, and appetite changes were also notably common, suggesting that while not all respondents met the threshold for clinical depression, many experienced distressing postpartum emotional symptoms.

Crucially, the study identified financial stress, lack of social support, and relationship difficulties as significant predictors of postnatal depression through both chi-square tests and logistic regression analysis. In contrast, age, employment status, and stress from childcare responsibilities showed no significant association. These findings underscore the importance of social and economic context in understanding maternal mental health.

From a methodological standpoint, the study's use of both descriptive and inferential statistical analyses provides a reliable picture of the mental health status of postpartum women in an urban Zambian context. However, the Shapiro-Wilk test confirmed the non-normality of the depression variable, suggesting the need for more tailored non-parametric or logistic models in future research.

The results highlight an urgent need to strengthen maternal mental health services as part of postpartum care in Zambia. Policies and interventions that target social support systems, improve access to mental health counseling, and address financial vulnerabilities are essential. Given the lack of significant association with demographic factors such as age and employment, interventions should not be limited to specific socioeconomic groups but rather universally integrated into maternal care packages.

Future research should adopt longitudinal designs to examine the persistence and progression of postnatal depression beyond the early postpartum period. Additionally, qualitative studies exploring women's lived experiences would provide a deeper understanding of contextual factors influencing emotional well-being after childbirth. There is also scope to validate culturally appropriate screening tools for early detection of postpartum depression in hospital and community settings in Zambia.

Recommendations

The researcher hopes that the following recommendations will be taken and will aid in the fight against underage drinking not only in Misisi complex but across the country.

The study developed the following recommendations:

- Screening and early intervention protocols were enhanced to identify postpartum emotional issues, including sadness and anxiety, not just depression, for timely support.
- Financial stress for new mothers was addressed through programs such as extended paid maternity leave, childcare subsidies, and financial counseling.
- Social support networks were strengthened by establishing community-based support groups for mothers and promoting partner involvement in postpartum care.
- Education about effective coping strategies emphasized social activities, enjoyable hobbies, and emotional support to improve maternal well-being.
- Interventions were tailored to accommodate the varying effectiveness of coping strategies, offering diverse options for individual needs.
- Accessibility to mental health services was improved by increasing the availability and affordability of counseling and therapy for new mothers.
- Education and awareness campaigns informed expectant mothers, partners, and families about postnatal depression, its symptoms, and support options.
- Interdisciplinary collaboration was fostered among healthcare providers, mental health professionals, social workers, and community organizations to deliver holistic maternal support.

The researcher anticipated that implementing these recommendations would help stakeholders reduce the prevalence and impact of postnatal depression, enhancing the overall well-being of mothers and their families.

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References

Alam, N., Ali, S., Akbar, N., Ilyas, M., Ahmed, H., Mustafa, A., Khurram, S., Sajid, Z., Ullah, N., Qayyum, S., Rahim, T., Usman, M. S., Ali, N., Khan, I., Pervez, K., Sumaira, B., Ali, N., Sultana, N., Tanoli, A. Y., & Islam, M. (2021). Association study of six candidate genes with major depressive disorder in the North-Western population of Pakistan. *PloS one, 16*(8), e0248454. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8376078/

Beck, C. T. (2001). Predictors of postpartum depression: An update. *Nursing Research*, 50(5), 275–285. https://doi.org/10.1097/00006199-200109000-00004

Chang, O.D., Ward, K.P. & Lee, S.J. (2024). Examining coping strategies and mental health during the COVID-19 pandemic: Evidence for the protective role of problem-focused coping. Health & Social Work, 49(3), 175–184. https://doi.org/10.1093/hsw/hlae018

Chibanda, D., Mesu, P., Kajawu, L., Cowan, F., Araya, R., & Abas, M. A. (2011). Problem-solving therapy for depression and common mental disorders in Zimbabwe: piloting a task-shifting primary mental health care intervention in a population with a high prevalence of people living with HIV. *BMC Public Health, 11, 828*. https://doi.org/10.1186/1471-2458-11-828

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution. World Bank.* http://documents.worldbank.org/curated/en/332881525873182837

Dennis, C. L., & Chung-Lee, L. (2006). Postpartum depression help-seeking barriers and treatment preferences: A qualitative systematic review. *Birth, 33*(4), 323–331. https://doi.org/10.1111/j.1523-536X.2006.00130.x

Doe, J. (2023). Prevalence of postnatal depression among women delivering in urban and rural areas of Kenya: A comparative study. *Journal of Medical Internet Research, 234*(7), 177.

Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: a systematic review of prevalence and incidence. *Obstetrics & Gynecology, 106*(5 Pt 1), 1071-1083. https://doi.org/10.1097/01.AOG.0000183597.31630.db

Gelaye, B., Rondon, M. B., Araya, R., & Williams, M. A. (2016). Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries. *The Lancet Psychiatry, 3*(10), 973-982. https://doi.org/10.1016/S2215-0366(16)30284-X

Goyal, D., Gay, C., & Lee, K. A. (2010). How much does low socioeconomic status increase the risk of prenatal and postpartum depressive symptoms in first-time mothers?. *Women's Health: official publication of the Jacobs Institute of Women's Health, 20*(2), 96–104. https://doi.org/10.1016/j.whi.2009.11.003

Gowon, N.D., Mshelia, S.E., Ogbaji, F.I., Meshak, D.J., Ojiugo, T.T, Chidi, E. Sanya, J.A.U., Obayi, E.C., Nshe, M.D., Haruna, G. & Booth, A. (2024). Understanding lived experiences and perceptions of perinatal depression in Nigeria: a qualitative evidence synthesis, *Journal of Global Health Report, 8*, e2024024. https://www.joghr.org/article/122278-/

Kabwe, J.C., Lubeya, M.K., Phiri, C.C., Mulenga, M., Siulapwa, N., Kaonga, P., Price, J.T., Phiri, S.N. & Jacobs, C. (2022). Psychosocial issues and coping mechanisms of pregnant and postnatal women diagnosed with COVID-19: a qualitative study. *Women's Health, 18.* https://doi.org/10.1177/17455057221111326

Milgrom, J., Danaher, B. G., Gemmill, A. W., Holt, C., Seeley, J. R., Tyler, M. S., Ross, J., & Ericksen, J. (2016). Internet cognitive behavioral therapy for women with postnatal depression: a randomized controlled trial of MumMoodBooster. *Journal of Medical Internet Research, 18*(3), e54. https://doi.org/10.2196/jmir.4993

Mwansa, M.K., Chimpinde, K. & Naidoo, M. (2024). Community voices from modern maternal waiting home users in Zambia. *Frontiers in Global Women's Health*, 5, 1444611. https://doi.org/10.3389/fgwh.2024.1444611

Mwape, L., McGuinness, T. M., & Dixey, R. (2012). Socio-cultural factors surrounding mental distress during the perinatal period in Zambia: a qualitative investigation. *International Journal of Mental Health Systems, 6*(12), 12-24. https://doi.org/10.1186/1752-4458-6-12

Netsi, E., Pearson, R. M., Murray, L., Cooper, P., Craske, M. G., & Stein, A. (2018). Association of persistent and severe postnatal depression with child outcomes. *JAMA Psychiatry, 75*(3), 247-253. https://doi.org/10.1001/jamapsychiatry.2017.4363

Ng'oma, M., Bitew, T., & Kailembo, A. (2019). Prevalence of postnatal depression among mothers attending child health clinics in Choma District, Zambia. *East African Medical Journal, 96*(3), 145-157.

Norhayati, M. N., Hazlina, N. H., Asrenee, A. R., & Emilin, W. M. (2015). Magnitude and risk factors for postpartum symptoms: a literature review. *Journal of Affective Disorders, 175*, 34-52. https://doi.org/10.1016/j.jad.2014.12.041

Osei, A., Agyemang, S. A., Owusu-Dabo, E., & Morhe, E. S. Q. (2014). Postnatal depression among women in a community-based cohort in Ghana. *Journal of Affective Disorders, 170*, 97-105.

O'Hara, M. W., & McCabe, J. E. (2013). Postpartum depression: current status and future directions. *Annual Review of Clinical Psychology, 9*, 379–407. https://doi.org/10.1146/annurev-clinpsy-050212-185612

Pan, T., Zeng, Y., Chai, X., Wen, Z., Tan, X. & Sun, M. (2024). Global prevalence of perinatal depression and its determinants among rural women: a systematic review and meta-analysis. *Depression and Anxiety, 2024*(1), 1882604. https://doi.org/10.1155/2024/1882604

Pollard, T. & Howard, N. (2021). Mental healthcare for asylum-seekers and refugees residing in the United Kingdom: a scoping review of policies, barriers, and enablers. *International Journal of Mental Health Systems, 15*, 60. https://doi.org/10.1186/s13033-021-00473-z

Robertson, M., Grace, S., Wallington, T., & Stewart, D.E. (2004). Antenatal risk factors for postpartum depression: a synthesis of recent literature. *General Hospital Psychiatry, 26*(4), 289–295. https://doi.org/10.1016/j.genhosppsych.2004.02.006

Schobel, H., Koschnitzky, A., Franke, M., Hausdorf, K., Schücking, B., & Hagenhoff, V. (2018). Socioeconomic status and postpartum depression: A cross-sectional study on German women. *Archives of Women's Mental Health, 21*(4), 427-435.

Slomian, J., Honvo, G., Emonts, P., Reginster, J. Y., & Bruyère, O. (2019). Consequences of maternal postpartum depression: a systematic review of maternal and infant outcomes. *Women's Health, 15*, 1-55. https://doi.org/10.1177/1745506519844044

Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., Howard, L. M., & Pariante, C. M. (2014). Effects of perinatal mental disorders on the fetus and child. *The Lancet, 384*(9956), 1800-1819. https://doi.org/10.1016/S0140-6736(14)61277-0

Umuziga, P.M., Gishoma, D., Hynie, M., Nyirazinyoye, L. & Nsereko, E. (2023). Predicting postnatal depressive symptoms in a prospective cohort study in Rwanda: the impact of poor maternal social support. *Frontiers in Global Women's Health, 4*, 1113483. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10402918/

Wang, J., Wu, X., Lai, W., Long, E., Zhang, X., Li, W., Zhu, Y., Chen, C., Zhong, X., Liu, Z, Wang, D. & Lin, H. (2017). Prevalence of depression and depressive symptoms among outpatients: a systematic review and meta-analysis. *BMC Open, 7*(8), e017173. https://doi.org/10.1136/bmjopen-2017-017173

Yim, I. S., Tanner Stapleton, L. R., Guardino, C. M., Hahn-Holbrook, J., & Dunkel Schetter, C. (2015). Biological and psychosocial predictors of postpartum depression: systematic review and call for integration. *Annual Review of Clinical Psychology, 11*, 99–137. https://doi.org/10.1146/annurev-clinpsy-101414-020426

Zins, C., & Weill, L. (2016). The determinants of financial inclusion in Africa. *Review of Development Finance*, 6(1), 46–57. https://doi.org/10.1016/j.rdf.2016.05.001