

COMPARISON OF POSTPARTUM DEPRESSION TREATMENTS IN DIFFERENT COUNTRY INCOME GROUPS: A LITERATURE REVIEW

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ABSTRACT

Postpartum depression remains a major global public health issue, with significant prevalence worldwide, in both low- and high-income countries. Postpartum depression not only affects the mother but also has detrimental effects on the infant. Despite this, it remains a neglected topic, with a lack of treatment services provided, especially in low and lower-middle-income countries. This study aims to compare treatment approaches across high- and low-income countries, identify variations in their approaches, and determine the most effective treatment options for each country's income group, particularly low-income countries. This study's method employs a literature review to inform the survey's outcome, drawing on previous research that each discussed multiple postpartum depression treatments. It was found that there was a difference in each country's income group's approaches, specifically in the use of antidepressants in high-income countries and more common psychological and psychosocial interventions in low-income countries. However, this does not mean that psychosocial methods are lacking; in fact, some research indicates that this approach is more effective for patients. Therefore, low-income countries should implement psychological and psychosocial interventions more commonly to ensure the prevalence of postpartum depression decreases, as well as to prevent any adverse effects it may have on both mothers and infants

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Highlights:

1. This paper highlights the effectiveness of several intervention methods for postpartum depression.
2. This paper highlights the most effective methods in high-income countries and low-income countries.

INTRODUCTION

Despite being one of the leading causes of maternal mortality in several countries, postpartum depression (PPD) remains understudied and under-discussed¹. PPD is a global psychiatric disorder with severe implications and risks not only on maternal health but also infant health, with research showing that it may cause adverse effects on child health and development, as well as potentially having detriments on the relationship between the mother and child². Based on a systematic review of data from 56 countries, its global prevalence is approximately 17.7%³. However, other studies indicate that PPD may be underdiagnosed due to different screening rates or approaches, cultural values, socioeconomic contexts, social support systems, and global perceptions or stigmas related to mental health¹.

Minimal research has been done on its risk factors⁴. However, a systematic review and meta-analysis on its prevalence has been done³. There is still limited literature that compares countries' approaches towards PPD, such as their treatments. As such, this review aims to compare PPD treatments in different country income groups, to see whether or not a country's gross national income (GNI) per capita affects its approach towards PPD, with hopes of increasing PPD awareness as well as finding the most effective treatment for PPD, and seeing what forms of treatment may be effective in improving PPD treatments in low-income countries (LICs) and lower-middle income countries (LMICs).

METHOD

The methodology of this study is a literature review. It obtains information

from several literature sources, including PubMed, BMC Women's Health, Elsevier, and Google Scholar, using relevant keywords such as "postpartum depression", "postpartum depression treatments", "postpartum mental health", and "postpartum mental health treatments" from articles published between 2017 and 2024. Articles were limited to those using the English language and containing full text.

OVERVIEW

Postpartum Depression

PPD is a type of major depressive disorder (MDD) that develops within 12 months following childbirth⁵. According to DSM-5, postpartum depression is considered an inclusion in the term perinatal depression, therefore including depression that occurs from pregnancy to months after childbirth⁶. Although usually likened to "baby blues", postpartum depression generally has longer-lasting and more severe symptoms. Its diagnostic criteria are typically the same as those of other MDDs: depression, loss of appetite, sleep disturbances, anhedonia, suicidal thoughts, mood irritability, and more. As PPD usually occurs after childbirth, it presents with symptoms that have connections with the baby, such as wanting to harm the infant, or overly stressing about the baby's health and safety⁷.

Screening of PPD is usually done by using the Edinburgh Postnatal Depression Scale (EPDS). At the same time, its usual treatments consist of pharmacological drugs safe to use during lactation, that may have been previously effective towards the patient if the patient had exhibited symptoms of depression since before pregnancy or childbirth, as well as

psychological and psychosocial interventions, which are commonly more preferable for breastfeeding women, in the form of support groups, cognitive-behaviour therapy (CBT), intrapersonal psychotherapy, and behavioural activation⁸.

Country Income Groups

The World Bank measures and categorizes country income groups using its World Bank Atlas method. This review utilizes data from the 2025 fiscal year, the most recently updated budgetary year at the time of writing. Low-income countries (LICs) are countries with a GNI per capita of \$1,145 or less, lower-middle income countries (LMICs) are countries with a GNI per capita between \$1,146 and \$4,515, upper-middle income countries (UMICs) are countries with a GNI per capita between \$4,516 and \$14,005, and high-income countries have a GNI per capita of \$14,005.

After conducting extensive research using multiple search engines, a total of 62 relevant journals were identified. Still, only six studies could be analyzed due to incomplete information regarding treatment options and benefits in the remaining journals. These case studies were then analyzed in comparison with other studies from the same country or those using similar treatment methods. It was evaluated in the following countries:

- Ghana (LMIC)

According to the World Bank classification, Ghana is classified as a lower-middle-income country. In a cross-sectional study done at Komfo Anokye Teaching Hospital in Ghana⁹. It was shown that out of 212 respondents, the prevalence of PPD was 7%. The Patient Health Questionnaire (PHQ-9) was used as the screening method in this

study. Among those suffering from PPD, the most common interventions used were psychosocial support (34%), professionally based postpartum home visits (28%), interpersonal psychotherapy (20%), and cognitive therapy (18%). For all treatments except interpersonal psychotherapy, the most common length of intervention was 1-3 months. However, based on the influence on reducing depressive symptoms, only psychosocial support was found to be effective. It is worth noting that in this study, only 7% of the respondents were unemployed, and 4% had no formal education.

- Vietnam (LMIC)

A scoping review in Vietnam¹⁰ Found that there was a lack of mental health services available for women suffering from PPD. Although proper screening, treatments, and follow-up were required for PPD, there are insufficient mental healthcare services. So, most mothers are told to seek help from traditional medicine or fortune tellers.

- Nigeria (LMIC)

A randomised controlled trial study in Nigeria¹¹ compared the effectiveness of high-intensity treatments, which consisted of the usual care and a manualised psychological intervention package, and low-intensity treatments. This study's screening method was the EPDS. These high-intensity treatments consisted of psychological interventions by trained personnel, problem-solving therapies, and education on parenting skills. Both treatments demonstrated high effectiveness in reducing the EPDS levels of mothers, with a 68% remission rate for high-intensity therapies and a 63% remission rate for low-intensity treatments. This study concluded that

psychological interventions were effective treatments for PPD.

- **Hong Kong SAR, China (HIC)**

A randomized controlled trial was done in Hong Kong¹² evaluated the effectiveness of telephone-based CBT, using EPDS as a screening method, this study found telephone-based CBT, which facilitate connection between mothers who may have limited access to healthcare in rural areas and specialists, had a significant reduction of depressive symptoms in comparison to the control group, which had no access to telephone-based CBT but had full access to offline interventions.

- **United States (HIC)**

A cohort study done in Arkansas¹³ that aimed to find the association of postpartum antidepressant prescription fills pre-Medicaid expansion and post-Medicaid expansion showed a significant difference between the population of mothers after childbirth who seek antidepressants and psychotherapy, with the percentage post-Medicaid expansion being 9.3% and 1% respectively, in mothers postpartum within a 61 day to 6 month timeframe.

- **China (UMIC)**

A randomized clinical trial in China¹⁴ sought to find out whether or not administration of esketamine during caesarean delivery prevented postpartum depression. Based on the data gathered from 298 pregnant women, administration of esketamine does provide a significant reduction in depressive symptoms in postpartum women, although these effects do diminish with time.

DISCUSSION

Although there are limited studies about effective treatment methods for postpartum depression specific to a particular country, several conclusions can still be drawn from the available studies. LMICs tend to focus more on psychological and psychosocial interventions, as antidepressant use is significantly higher in HICs and UMICs in comparison to LMICs, which can be attributed to several factors, specifically economic factors¹⁵. Regardless, several studies have found that some psychological and psychosocial interventions may prove to be more effective than antidepressants, such as interpersonal psychotherapy¹⁶. Aside from interpersonal psychotherapy, other forms of psychological treatments that are found to be effective are social support groups¹⁷. In addition to effectiveness, these interventions also have positive impacts on different factors such as anxiety, social support, and other forms of stress¹⁸. Prevention of PPD using psychosocial treatments has also been found to be effective, which may reduce the costs of treatments as well as the more detrimental effects later on from PPD in postpartum mothers¹⁹. The study from Vietnam also highlights the lack of mental health facilities available in LMICs, with an extreme scarcity of mental health workforces and services in LMICs²⁰. Despite this, several studies have found that non-specialists providing psychosocial therapies may prove to be effective in treating PPD patients in both LMICs²¹ and HICs²².

Besides the noticeable differences in approaches due to economic factors, several countries also display their approaches to postpartum conditions, such

as in China, where, despite being a UMIC, Chinese postpartum practices^{23,24}. The population is still doing them. Another unique approach done by Hong Kong was telephone-based CBT, and more studies have also found that telehealth treatments have been found to reduce the EPDS rates and depression symptoms in mothers effectively²⁵. Although it has its shortcomings, telehealth approaches could serve as a valuable innovation for individuals in rural communities and areas with limited mental health facilities, affecting all income groups nationwide.

Strengths and limitations

Explain the strengths and limitations of your study concisely in one paragraph.

CONCLUSION

Based on the research above, we can conclude that country income groups receive different treatments for PPD, and several factors, including economic, cultural, and social factors, influence the treatments available for those suffering from PPD. However, it is found that psychosocial interventions are generally more effective, and despite there being a lack of mental health professionals in LMICs, treatments done by non-specialists do reduce PPD symptoms. Therefore, LICs and LMICs should focus on improving PPD treatments using efficient and cost-effective methods, such as psychosocial interventions, and meticulous planning to prevent any adverse effects that may occur in the mother and the infant.

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CONFLICT OF INTEREST

All authors have no conflict of interest.

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AUTHOR CONTRIBUTION

All authors have contributed to all processes in this research, including preparation, data gathering and analysis, drafting and approval for publication of this manuscript.

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