

Postpartum Depression

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Pregnancy and childbirth represent critical transitional periods in a woman's life [1]. Mental health problems are commonly observed in women during both the prenatal and postpartum periods [2]. Among these, postpartum depression (PPD) is the most prevalent [3]. PPD is characterized by depressive symptoms and syndromes occurring within the first year after childbirth, typically arising within four weeks of delivery [4], and it may persist for six months or longer [5]. Studies have reported that PPD can extend up to two years postpartum. Globally, 8-19% of women experience frequent symptoms of PPD, with prevalence higher in developing countries at 19.8% [6].

PPD often leads to severe consequences. Symptoms include lack of interest, low self-esteem, fatigue, sadness, suicidal thoughts, sleep disturbances, loss of appetite, hostility towards infants, self-blame, and feelings of humiliation lasting at least two weeks [7]. Mothers experiencing PPD also demonstrate fewer regulatory behaviors, increased negative emotionality, and elevated cortisol reactivity [8]. These findings highlight the multifaceted and pervasive nature of PPD and its profound impact on mothers and their families.

Given these insights, my research focuses on the causes of PPD and potential interventions to mitigate its burden. By synthesizing data from various studies, the aim is to develop evidence-based strategies for early detection, support, and management of postpartum mental health challenges.

Main Questions and Their Purposes

1. **How does a new mom feel on an average day with postpartum depression?**

Purpose: Establishes an emotional baseline to design tools or systems that support mothers based on their lived experiences with PPD.

2. **What elements do you think influence a new mom to experience postpartum depression, such as age, family support, or work?**

Purpose: Identifies external factors to understand the breadth of influences on PPD.

3. **What do you believe are some of the most common emotional difficulties that mothers of postpartum depression face?**

Purpose: Highlights specific challenges, such as guilt, loneliness, or anxiety, that may inform the development of targeted solutions.

4. **How do mothers typically express or manage these feelings?**

Purpose: Explores coping mechanisms to guide the design of tools that offer innovative strategies or insights into existing practices.

5. **What are some of the daily activities that become more difficult to do after postpartum depression?**

Purpose: Identifies practical challenges to influence the design of tools aimed at easing mothers' burdens.

6. **In what ways does or doesn't the home environment support or isolate a mother with postpartum depression?**

Purpose: Assesses the role of the home environment in mental health and suggests areas for improvement.

7. **Are there any existing tools or apps available to manage postpartum depression or related challenges that moms actually use?**

Purpose: Evaluates existing tools for efficiency and identifies gaps to inform future designs.

8. **What are some features you would hope to see in a tool or an app if it were designed to support mothers with postpartum depression?**

Purpose: Gathers user-centered insights to create solutions tailored to mothers' needs and preferences.

Follow-Up Questions and Their Purposes

1. **At what times of the day do you think are usually the worst?**

Purpose: Identifies critical moments of distress to provide targeted support.

2. **Why do you think this is so?**

Purpose: Explores potential triggers to contextualize solutions.

3. **Can you think of a specific case when one of these factors you just mentioned would make a mom a little worse off, mentally?**

Purpose: Collects real-life examples to better understand the problem.

4. **Does it seem like specific triggers or situations expand these struggles?**

Purpose: Investigates factors that exacerbate postpartum challenges to guide preventive strategies.

5. **Do you think that they might not show these feelings in real life?**

Purpose: Explores barriers to emotional expression to inform community-based interventions.

6. **How do you think these difficulties will impact her ability to care for herself or her baby?**

Purpose: Assesses the impact of depression on caregiving and self-care.

7. **What do you think could help at those times, or are there any activities that are especially utilized in attempts to self-regulate?**

Purpose: Identifies self-regulation strategies to inspire support tool designs.

8. **With what changes in the home environment might a mother feel differently?**

Purpose: Suggests improvements to the home setting to better support mental health.

9. **What type of support do moms appreciate the most when dealing with this issue?**

Purpose: Identifies preferred types of social support, such as emotional, informational, or physical assistance.

10. **What do you think is necessary to challenge these stigmas or misconceptions?**

Purpose: Identifies strategies to reduce stigma and enhance access to mental health resources.

11. **Which features or qualities do you find most or least helpful in tools or apps?**

Purpose: Refines design ideas by focusing on what mothers value most in supportive technologies.

12. **What kind of design would make an app approachable and feasible to use in everyday life?**

Purpose: Ensures that design concepts align with user preferences and routines for maximum usability.

Interview

Ethical Considerations

I interviewed *two new mothers* to understand their experiences and challenges related to postpartum depression. All participants gave oral consent in order to take part in this study. They were informed about the purpose of the study, the estimated duration, the confidentiality of the data, and their right to withdraw at any time. The oral consent script, which was used to make sure ethical considerations and transparency were met, is detailed in Appendix A.

Appendix A: Oral Consent Script

Hello again, my name is *Mir Fatema Afroz Faria*. This experiment is part of project work in the *CSM-13401 Human-Computer Interaction* course at the University of Helsinki in autumn 2024. The aim of this study is to collect qualitative interview data on the **Postpartum Depression**.

The study is expected to take approximately **20 minutes**. All information acquired will remain anonymous, confidential, and will be stored in the University of Helsinki Moodle system. The participant's identity will not be known by anyone else except the experimenter who conducted the study. Audio recordings will be available to the experimenter only. Please feel free to ask the experimenter any questions you might have before, during, or after participating in the experiment.

Participation in this experiment is entirely voluntary. You may refuse to participate or withdraw at any time.

Consent Questions:

1. Do you give your permission for me to interview you and audio record you?
2. Do you give permission for me to re-contact you to clarify information?
3. Are you happy to take part?

Interview Insights

Transcript of Participant 1:

1. How does a new mom feel on an average day with postpartum depression?

Ans: I heard of postpartum depression from many new moms. It's quite bad; they feel lonely, agitated, stressed, and overwhelmed with all the changes in life when a new baby comes into their lives. The guilt of not being a perfect mother also daunts them.

At what times of the day do you think are usually the worst?

Ans: It usually happens at night when you can't fall asleep.

Why do you think this is so?

Ans: Not sure about the reason, but maybe because of the pressure of the surroundings and also due to stress.

2. What elements do you think influence a new mom to experience postpartum depression, such as age, family support, or work?

Ans: Work can be one of the elements, as taking care of the baby requires a lot of work and attention.

Can you think of a specific case when one of these factors you just mentioned would make a mom a little worse off, mentally?

Ans: If a woman is not attentive, this can lead to serious problems.

3. What do you believe are some of the most common emotional difficulties that mothers of postpartum depression face?

Ans: Feeling alone is the most significant emotional difficulty, even though you might be surrounded by people. Also, the feeling of not being sufficient for your child.

Does it seem like specific triggers or situations expand these struggles?

Ans: When people say you are not a good mother.

4. How do mothers typically express or manage these feelings?

Ans: Seeing a consultant or getting help from their mothers.

Do you think that they might not show these feelings in real life?

Ans: Sharing with others does feel like they won't understand. For example, I feel that others might not understand me, and sharing my feelings could become a burden for them.

5. What are some of the daily activities that become more difficult to do after postpartum depression?

Ans: Not feeling happy enough, always feeling low, and falling asleep becomes difficult.

How do you think these difficulties will impact her ability to care for herself or her baby?

Ans: Lack of sleep leads to drowsiness and more tiredness.

6. Are there any specific times of the day when a new mother feels most overwhelmed?

Ans: When you are not able to do anything on time because your baby is attached to you and needs you all the time.

What do you think could help at those times or are there any activities that are especially utilized in attempts to self-regulate?

Ans: If possible, try to find some "me time."

Can you think of an example of something that did work or did not work?

Ans: When I gave myself a bit more time to eat or do something I loved, it helped a lot with coping.

7. In what ways does or doesn't the home environment support or isolate a mother with postpartum depression?

Ans: The home environment does support a mother with postpartum depression. If the home is clean and tidy, it helps with depression.

With what changes in the home environment might a mother feel differently?

Ans: Having parents with you helps a lot with depression, as they can assist with many things and provide guidance and knowledge about the new life changes that come with a newborn.

8. In your opinion, how important is social support—through friends, family, or community groups—in managing postpartum depression?

Ans: It is very important to have someone, especially parents, with you.

What type of support do moms appreciate the most when dealing with this issue?

Ans: It becomes difficult to do household chores as new moms are so occupied with the newborn.

9. Are there any stigmas or misconceptions that make it difficult for mothers to seek help?

Ans: Mothers are not supposed to have any personal time. Mothers should do everything correctly. Mothers should always sacrifice their lives.

What do you think is necessary to challenge these stigmas or misconceptions?

Ans: Spread more awareness to overcome these stigmas or misconceptions.

10. Are there any existing tools or apps available to manage postpartum depression or related challenges that moms actually use? If so, how effective do you think those might be?

Ans: I am not aware of such apps.

Which features or qualities do you find most or least helpful? **Ans:** I actually don't know.

11. What types of technology (e.g., mobile app, online forum) do you feel mothers would be most comfortable accessing to get support?

Ans: A mobile app would be helpful.

12. What are some features you would hope to see in a tool or an app if it were designed to support mothers with postpartum depression?

Ans: The app should connect mothers who are going through similar experiences.

13. How much time do you think mothers would realistically have to interact with a support app?

Ans: There will be little time for new mothers to use such an app regularly, as caring for a newborn is time-consuming.

14. What kind of design would make an app approachable and feasible to use in everyday life?

Ans: The app should be simple and easy to use.

Interview Insights

Transcript of Participant 2

1. How does a new mom feel on an average day with postpartum depression?

Ans: A new mom with postpartum depression may feel blessed seeing her baby but simultaneously confused and sad due to her physical and emotional struggles. This mix of joy and despair can feel deeply conflicting.

At what times of the day do you think are usually the worst?

Ans: The night time was usually the hardest for me.

Why do you think this is so?

Ans: Night time is hard because you have to feed the baby every two hours, change diapers, and handle constant interruptions. It's a cycle of waking up, feeding, and trying to get back to sleep. The broken sleep makes it exhausting and challenging to recover.

2. What elements do you think influence a new mom to experience postpartum depression, such as age, family support, or work?

Ans: Family support is crucial, especially in a small family with just a husband and wife. The husband must provide support, as without it, managing everything becomes overwhelming. After giving birth, women may feel sad or cry without any reason, and during such times, mental and physical support is essential.

Can you think of a specific case when one of these factors you just mentioned would make a mom a little worse off, mentally?

Ans: Without mental support, a mom's life can become very difficult, as she may feel angry or upset for no apparent reason. Even when everyone speaks politely, she might still feel sad or frustrated. During such times, the person she stays with must understand her emotions and support her.

3. What do you believe are some of the most common emotional difficulties that mothers of postpartum depression face?

Ans: In my experience, after my C-section, I felt a lot of sadness because I couldn't move properly, and any movement was painful. The constant crying of the baby, even without a clear reason, made me feel depressed. Not being able to do things normally or work as I usually would, along with having occasional support and struggling with sleep, all contributed to my mental sadness.

Does it seem like specific triggers or situations expand these struggles?

Ans: It depends on the mother and her situation. For me, whenever I felt bad or sad, seeing my baby's face or watching their little fingers move would make me forget the pain and bring back joy. Sometimes, I still felt sad, but every time I looked at my baby, I felt happy and loved. However, it really depends on the mother and her circumstances.

4. How do mothers typically express or manage these feelings?

Ans: Mothers typically express and manage their feelings in different ways, depending on their personality and support system. For me, I usually talked to my parents every day. As my baby grew and started doing new things, like moving their little lips and fingers, it brought me so much joy. Watching my baby grow helped me a lot, and I enjoyed this new chapter of life.

Do you think that they might not show these feelings in real life?

Ans: The physical and mental pain a mother experiences can be hard for others to fully understand unless they've gone through it themselves. While others might try to empathize, only someone who has been through a similar experience, like a mother or family member, can truly grasp the depth of what you're going through. However, parents, husbands, and close family members often have a unique understanding and can offer the support and care that helps during such times.

5. What are some of the daily activities that become more difficult to do after postpartum depression?

Ans: After postpartum depression, daily activities like caring for the baby, maintaining self-care, and managing household tasks often feel overwhelming. Emotional challenges like socializing become harder, while mental tasks like decision-making and concentrating are also difficult. Sleep disturbances can further complicate recovery.

How do you think these difficulties will impact her ability to care for herself or her baby?

Ans: In my opinion, I didn't feel overly depressed, but I experienced moments of depression when I couldn't manage tasks as I normally would. However, caring for my baby wasn't too difficult for me because it brought me happiness and made me feel good.

6. Are there any specific times of the day when a new mother feels most overwhelmed?

Ans: Waking up after a sleepless night can be exhausting, especially when the baby is fussy or demands immediate attention.

What do you think could help at those times or are there any activities that are especially utilized in attempts to self-regulate?

Ans: To manage overwhelming moments, new mothers can try deep breathing, taking mindful moments to focus on the present, or resting whenever possible. Asking for help from family or friends and creating small, manageable routines can also provide support and reduce stress during difficult times.

Can you think of an example of something that did work or did not work?

Ans: For me, my husband and I used the baby's sleep time to get all the work done because newborns tend to sleep in short intervals or almost the entire day. This way, we could clear tasks during their naps and then focus on spending time with the baby when they were awake.

7. In what ways does or doesn't the home environment support or isolate a mother with postpartum depression?

Ans: In my opinion, I'm not someone who enjoys staying at home for extended periods. If I stay home for more than a week, I feel depressed. Even after my C-section, I made sure to go out after seven days, because staying at home for too long would have made me feel worse. However, I understand that it really depends on the person. While I feel this way, many others prefer staying at home and find comfort in it. Everyone has different needs.

With what changes in the home environment might a mother feel differently?

Ans: A mother might feel differently in the home environment with changes like having more support from family members for chores and baby care, creating a calm and organized space, or fostering positive interactions with loved ones. A quieter, restful atmosphere and access to outdoor space for fresh air can also help uplift her mood and reduce feelings of isolation.

8. In your opinion, how important is social support—through friends, family, or community groups—in managing postpartum depression?

Ans: In my opinion, social support through friends, family, or community groups is incredibly important in managing postpartum depression. Having a strong support system provides emotional reassurance, helps with practical tasks, and reduces feelings of isolation. Knowing that others understand and are there to help can make a significant difference in a mother's recovery and well-being.

What type of support do moms appreciate the most when dealing with this issue?

Ans: Moms dealing with postpartum depression appreciate emotional support, practical help with chores or baby care, and simply having someone there without judgment. Understanding, patience, and help accessing resources like therapy are also highly valued.

9. Are there any stigmas or misconceptions that make it difficult for mothers to seek help?

Ans: Yes, there are several stigmas and misconceptions that make it difficult for mothers to seek help. Some may feel ashamed or guilty, believing that asking for help means they are not a good mother. There's also the misconception that postpartum depression is just "baby blues" and not a serious issue, which can make mothers hesitate to seek professional help. Additionally, cultural expectations about motherhood often pressure women to appear strong and self-sufficient, making it harder for them to admit they're struggling.

What do you think is necessary to challenge these stigmas or misconceptions?

Ans: To challenge these stigmas, it's important to raise awareness about postpartum depression as a serious issue. Open conversations, education on the difference between "baby blues" and postpartum depression, and normalizing seeking help can reduce shame and encourage mothers to get the support they need.

10. Are there any existing tools or apps available to manage postpartum depression or related challenges that moms actually use? If so, how effective do you think those might be?

Ans: Actually, I did not use any apps, but sometimes I watched YouTube videos to search for solutions to problems. Nowadays, if I feel any problem, I use ChatGPT.

Which features or qualities do you find most or least helpful? **Ans:** I find the most helpful features of ChatGPT to be its ability to provide quick, clear information, and offer support for various topics. The interactive nature, where I can ask follow-up questions or get clarifications, is also very useful.

11. What types of technology (e.g., mobile app, online forum) do you feel mothers would be most comfortable accessing to get support?

Ans: I didn't feel the need for an app, so I'm not sure if there are any that can support mothers with postpartum depression. I haven't used any myself, so I don't know much about them.

12. What are some features you would hope to see in a tool or an app if it were designed to support mothers with postpartum depression?

Ans: If an app were designed to support mothers with postpartum depression, I would hope to see features like mood tracking, self-care reminders, and easy access to mental health resources. A supportive community where mothers can connect with others going through similar experiences would also be helpful. Additionally, personalized coping strategies and access to professional counseling or support would be great for tailored support.

13. How much time do you think mothers would realistically have to interact with a support app?

Ans: Mothers might only have a limited amount of time to interact with a support app due to the demands of caring for a baby. Depending on the individual, it could range from just a few minutes during quiet moments, like when the baby naps, to longer sessions when they have more time for self-care. The app should be designed to be flexible, offering short, manageable interactions that can fit into a mother's daily routine.

14. What kind of design would make an app approachable and feasible to use in everyday life?

Ans: An app designed to support mothers with postpartum depression should have a simple, user-friendly design with quick, intuitive navigation. It should offer short, bite-sized activities like mood tracking or self-care reminders that can be done in just a few minutes. Customizable notifications, calming visuals, and offline access would also make it more approachable. Personalization based on the mother's needs and schedule would help make the app easier to use in everyday life.

Presentation of the problem

I chose to use task analysis because it is a methodology in which tasks can be divided into smaller tasks and subtasks, therefore providing an appropriate level of detail for the processes. Task analysis works very well while analyzing existing practices regarding the daily routines and challenges of new mothers who experienced postpartum depression. Task analysis is ideal in this context because it can be generated through observation and interviews; thus, it is also an effective tool in analyzing insights from participants. This structured breakdown helps in pinpointing problem areas and opportunities for targeted solutions. Figure 1 of task analysis is displayed on the following page.

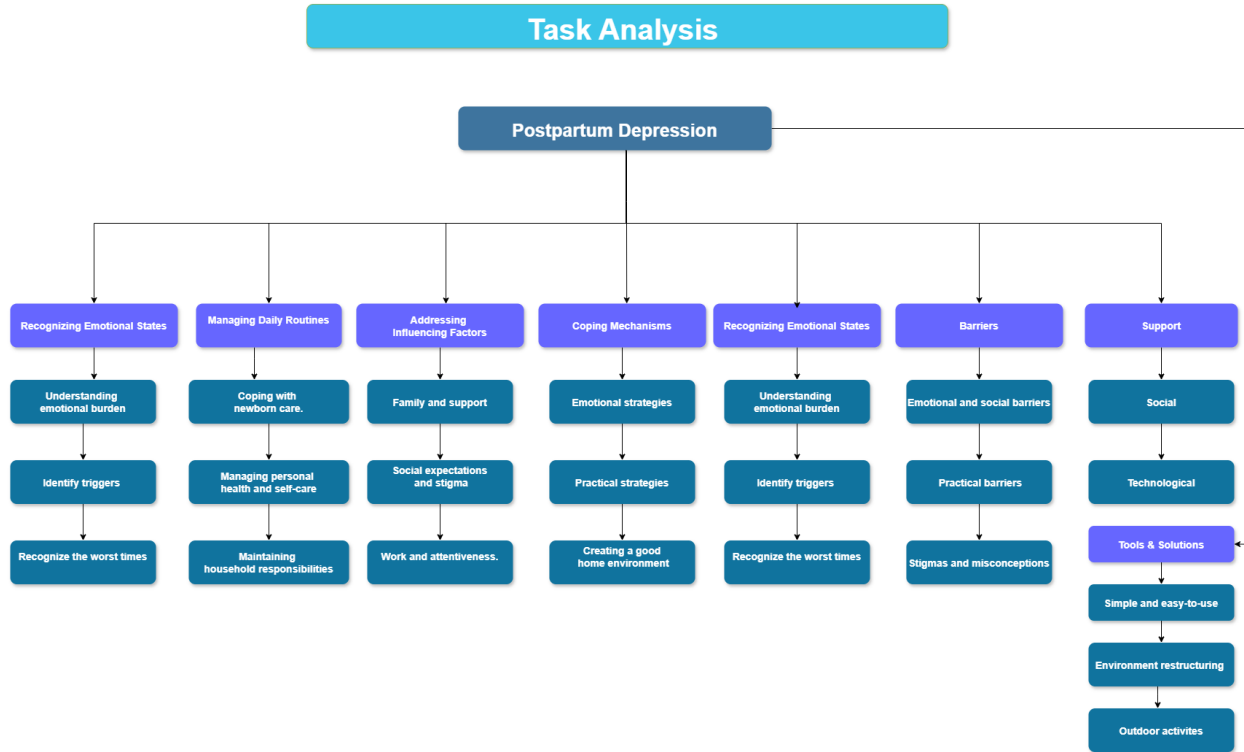


Figure 1: Task Analysis

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