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Confinement Diet, Physical Activity and Well-Being of Mothers with a Preterm Infant: A qualitative study

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Abstract

The confinement period is part of the Asian culture after giving birth. However, it is not fully understood how this practice affects women's health. This study aims to explore confinement diet and physical activity that may influence the psychosocial well-being of mothers. A focus group discussion was conducted on 22 Malay mothers with infants delivered prematurely. Data were analysed thematically. Four main themes were derived from the analysis; 1) healthy diet, 2) food restriction, 3) fitness and strength 4) barriers. Mothers believe that confinement practices are beneficial to their health. Therefore, emphasizing on healthy lifestyle during the confinement period is necessary.

Keywords: breastfeeding; confinement diet; postpartum mothers; well-being

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1.0 Introduction

Preterm birth (defined as before 37 weeks of gestation) has been the critical focus of the World Health Organization (WHO) since 2010 under the Millennium Development Goal (MDG) and Sustainable Development Goal (SDG) indicators (March of Dimes et al., 2012). Approximately 15 million preterm births were reported in 2010, and the numbers are increasing in most countries. Malaysia is in no exception, with an increasing trend of preterm birth incidence (8.1% in 2010; 11.3% in 2012; 13.0% in 2015) (National Obstetrics Registry, 2017). Preterm birth is not only related to adverse health outcomes and growth of the infants but poses an emotional, financial, and societal burden to the parents, family, health system, and country (Sutan et al., 2018). Often, it requires specialized care for a more extended period in the Neonatal Intensive Care Unit (NICU), contributing to the stress and burden among the mothers.

In Malaysia, postpartum care is highly influenced by cultural beliefs and practices (Fadzil et al., 2016). These practices aim to cure and regain the mother's energy and health over a specific length of time. The practices may vary according to the mother's background. Malaysia has a multi-racial population, including Malay, Chinese and Indian and each race has its specific postnatal care practices. As postpartum mothers are believed to be weak, fragile, and vulnerable to disease (Withers et al., 2018), mothers were informed of taboos such as remaining at home and avoiding particular food (Fadzil et al., 2016). Following various kinds of food prohibition and restrictions, the mothers are likely to have inadequate nutrient intake. The practice of being confined to the home and limited physical activity may lower endurance and muscle strength and increase the risk of depression.

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The incidence of postpartum depression is higher in Asian and non-Western (18 to 38%) as compared to Western countries (18 to 19%) (Hahn-Holbrook et al., 2018). The difference in culture between these regions may explain this variation. As Asian mothers observed postpartum confinement, the Western mothers resumed their routine after delivery. Therefore, it is not fully understood how this postpartum confinement affects women's health. Few studies suggested that confinement, which includes special dietary restrictions and preparations, can serve as a protective factor against postnatal depression (Murray et al., 2015; Teo et al., 2018). However, to mothers whose infants required admission to the NICU, it is doubtful whether they can practice this belief, hence the outcome to their mental, health, and social well-being.

Thus, this study aims to explore confinement diet and physical activity that may influence the psychosocial well-being of postpartum mothers. Our objective is to identify how confinement practices among Malay mothers with preterm infants affect their mental health and well-being.

2.0 Literature Review

The incidence of preterm birth in Malaysia from 2010 to 2020 ranged from 7% to 21.9% (Jeganathan & Karalasingam, 2020). Most of the preterm infants in Malaysia were categorized as moderate and late preterm (32 to 37 weeks of gestation, 7.2%, and 7.5%), followed by very preterm (28 to 32 weeks of gestation, 3.6%) and extremely preterm (less than 28 weeks of gestation, 1.0%) (Malaysian National Neonatal Registry, 2017). Although late preterm infants reported a higher survival rate as compared to very preterm infants, most of the infants still required specialized care in NICU (Malaysian National Neonatal Registry, 2017). This unanticipated circumstance compels mothers of the preterm infant to depart from their idealised reality and experience parenting in a world of continual noise, bright lights, and repetitive interventions that disrupt the baby's sleep cycle and frequently result in discomfort or agony (Fróes et al., 2019).

It has been reported worldwide that about 10 to 15% of postpartum mothers are at risk of having postpartum depression (Hahn-Holbrook et al., 2018). On the other hand, mothers with a preterm infant have a higher prevalence, reporting that about 12 to 68% of postpartum mothers experience depression (Suhana Yahya et al., 2020). High levels of stress and anxiety due to infants' appearance and behaviour, and parental role alteration during the infant's admission to NICU had risk mothers significantly to depression (Al Maghaireh et al., 2017; Ong et al., 2019). While the effects of depression on mothers are relatively lethargy, such as sleep disturbances, fatigue, and disrupted emotion (Al Maghaireh et al., 2017; Thomas & Spieker, 2016), untreated cases may have an impact on infants' motor, cognitive, and social development (Slomian et al., 2019). Thus, preserving the psychosocial well-being of mothers with preterm infants through appropriate intervention is essential in assisting the mothers in dealing with difficult situations during their infant's NICU admission.

The implication of the NICU hospitalisation may also interrupt the mothers' diet and lifestyle due to their high-stress levels (Yang et al., 2021). Most postpartum mothers in Malaysia adhere to the confinement diet where certain foods are restricted while some foods are prescribed (Fadzil et al., 2016). Confinement diet is one of the traditional postpartum practices that mothers primarily practice. It was believed that during the postpartum period, the new mothers were in a 'cold' state due to the loss of 'hot' blood during delivery. Thus, adhering to this practice will restore the mother's energy by consuming 'hot' foods and avoiding 'cold' foods to balance the body conditions (Fadzil et al., 2015). However, previous research has shown that restrictions on food diversity intake may result in inadequate nutrient consumption and may also lead to postpartum depression (Azidah et al., 2006; Basir et al., 2019).

In contrast with the Western culture, where postpartum mothers are assumed to become mobile soon after birth, Asian mothers acknowledge the postpartum period as a convalescence period that requires mothers to remain at home and limit their physical activities (Liu et al., 2014). The purpose of the restricted activities is to provide protective measures to the new mother, offer rest and social seclusion, promote recovery and assist by other family members in doing household chores and infant care (Fadzil et al., 2016). However, prolonged physical inactivity may reduce postpartum mothers' aerobic endurance and mental health (Liu et al., 2014). In addition, the strength of postpartum mothers who adhere to the physical restriction at six weeks was lower compared to 70 to 90-year-old Chinese and U.S. women (Liu et al., 2014). This demonstrates that, even though the mothers have just undergone the delivery process, mobilization is necessary to avoid cardiovascular and musculoskeletal deconditioning.

To our limited knowledge, there is no published study to understand confinement practices and well-being, specifically on high-risk mothers. Given these reasons and knowledge gaps found in the literature review, we aim to explore the confinement practices and well-being of mothers in-depth. The results of this study may highlight specific areas as a guideline in the management of well-being among postnatal women.

3.0 Methodology

3.1 Research design

We used a phenomenological qualitative approach. This study design allows exploration and understanding of a given phenomenon. It aligns with our aim to explore and understand confinement practices among a sub-group of the population. As such, our participants are chosen on the basis that they experience the phenomenon of premature delivery and with infants admitted to the NICU. The inclusion criteria include Malay mothers aged 18 to 40 years and within six months of postpartum. Mothers with chronic diseases, mental illness, and physical disabilities were excluded. The study was conducted from September to December 2021 and respondents were recruited until data saturation.

3.2 Procedure

Focus group discussion (FGD) was conducted on 22 mothers, with up to four mothers in each session. Due to the COVID-19 pandemic, all FGD were conducted online, using the Google Meet platform. Written consent was obtained, and participants were assured of their confidentiality. An interview guide consisted of five open-ended questions, and subsequent probing was prepared following standard qualitative interviewing procedures (DeJonckheere & Vaughn, 2019). The discussion area includes the well-being of mothers during infant is admitted to the NICU, their confinement experiences (diet, physical activity, and breastfeeding), and their expectations/suggestions for better well-being after delivery.

Each session took approximately 45 minutes. The session was recorded while the researcher took important notes (field note) during the interview. This triangulation technique was employed to ensure data validity and reliability, whereby we used the field notes to cross-check the consistency of findings across the recording. This study was approved by the Ethics Committee of UiTM (600-TNCPI(5/1/6)).

3.3 Data analysis

To ensure data quality, the audio recorded was listened repeatedly after each interview. Data were transcribed verbatim and analysed using the six steps of the Thematic Analysis based on descriptive phenomenological. The transcribes were read repeatedly for familiarisation and coded into themes and categories. We continue this process until no new theme is discovered. Finally, the discussion was made between two researchers to review and finalized the transcript's findings.

4.0 Findings

4.1 Background of participants

The background of the participants is summarised in Table 1. All participants are married, and most are between 30 to 40 years old. Only three participants delivered extremely preterm infants, and two of them had NICU stays for more than four months.

Table 1. Background of participants (n=22)

Background	Total, n(%)
Age (years)	
18-29	4 (18)
30-40	18 (82)
Week of delivery (weeks)	
<28 (extremely preterm)	3 (14)
28-31 (very preterm)	11 (50)
32-36 (moderate to late preterm)	8 (36)
NICU stay	
<1 month	7 (32)
1-2 months	6 (27)
3-4 months	7 (32)
>4 months	2 (9)

4.2 Confinement practices on mothers with preterm infant

Based on the analysis, we identified four main themes related to confinement practices and well-being (Table 2). Interestingly, all participants relate confinement practices with a positive outcome to their well-being, as indicated by the first three main themes. The last theme emerged regarding barriers to performing a healthy lifestyle, specifically physical activity during confinement.

Table 2. Themes and sub-themes

Main themes	Sub-themes
1. Healthy diet	- Improve mood - Improve breastfeeding
2. Food restriction	- Avoid pain
3. Fitness and strength	- Weight loss - Mental health
4. Barriers	- Knowledge - Confidence

4.2.1 Theme 1: Healthy diet

Mothers indicated that the confinement diet is healthier and provides sufficient energy and nutrients for recovery, as indicated by participants (P) 4 and 7.

"Eat according to healthy plate method consist of carbohydrate, protein and vegetables to give me more energy" (P4)

"I feel motivated to eat healthy and balanced meals to ensure I'm healthy to take care of my baby once he discharged from hospital" (P7)

"Adequate food intake that is healthy and balance help in my recovery process after delivery as I feel more energetic and healthier during confinement" (P8)

Besides, a confinement diet may also boost their mood in continuing the breastfeeding journey.

"By taking healthy and balance meals to make me healthier and able to boost my mood during confinement without my baby beside me" (P12)

"Good and complete meals always give happiness to me during my confinement journey" (P13)

"I practice healthy eating to ensure enough breastmilk and give my baby nutritious milk as mothers breastmilk quality mostly influenced by their diet" (P6)

"I practice balance meal to ensure my breastmilk supply is enough for my baby in NICU" (P10)

4.2.2 Theme 2: Food restriction

Several mothers revealed restrictions in particular food, especially 'cold' food, that is believed to avoid health consequences such as pain and "wind." Food restriction is usually passed from the older generations to the new mothers.

"I experienced body pain and chills after eating pumpkin and avoid eating it after that. Since that incident, I have been more careful in choosing food to eat" (P15)

"My meals prepared by my mother and she beliefs certain food can lead to body pain. So certain food was excluded from my confinement diet such as potato, pumpkin, and cabbage" (P15)

Several mothers also avoid oily and processed food that believes to delay the recovery process and harm the body.

"My mother-in-law advise me to avoid cold and oily food during confinement to prevent backaches and body pain" (P5)

"My meals mostly steamed and boiled because oily food does not good to eat during confinement" (P16)

"I avoid oily food during confinement to ensure good recovery process during confinement" (P13)

4.2.3 Theme 3: Fitness and strength

Mothers indicated that performing physical activity during the confinement period benefits their physical and mental health, specifically in reducing weight and improving well-being.

"Exercise is good for my mental well-being" (P16)

"I started light physical activity on the third week of confinement to help strengthen my body and to lose weight" (P9)

"Regular physical activity gives positive effects on my psychosocial well-being and makes me happy" (P18)

"Exercise improves my body function and quality of life" (P11)

"I am losing weight much faster after delivery after started with simple exercise as told by my doctor" (P9)

4.2.4 Theme 4: Barriers

Although mothers agree that physical activity may increase fitness, reduce weight, and increase happiness, the challenges of adhering to physical activity recommendation is notable. Mothers are unsure when it is safe to start exercise after delivery and are afraid to do physical activity due to their surgical wounds and lack of time to do physical activity.

"I practice regular exercise five to seven times per week before pregnancy and now after delivery not yet started doing any exercise as I am not sure when is the safest time to start exercising again" (P12)

"I delivered my baby through an emergency caesarean and have a major wound on my abdomen. So, I am not confident to do exercise during my confinement" (P3)

"As a first-time mother, I still learn how to adapt and handle my baby, and as result, I do not have time to do exercise" (P10)

"Afraid to do any exercise because I am still feeling the pain during delivery and does not have much time to do exercise" (P22)

5.0 Discussion

Our results revealed that mothers found confinement practices healthier and benefit their health and well-being. This agrees with Fadzil et al. (2016) and Mohd Yusoff et al. (2018), who indicated that Asian mothers adhered to traditional confinement practices to fasten their recovery process. Failure to adhere to these traditional confinement practices results in health complications for both mother and infant. Few studies also reported that confinement practices, including restrictions on several foods, were related to good mental health (Murray et al., 2015; Teo et al., 2018).

Among popular traditional confinement practices among Malays include limiting carbohydrate intake, restricting certain fruits and vegetables, avoiding going out, limiting physical activity, and practising body massage (Mohd Yusoff et al., 2018). While it was postulated to be important for mothers' health, such practices were also related to increased depression among mothers (Azidah et al., 2006).

Observing strict traditional practices may risk mothers to inadequate nutrition, hence affecting breast milk production and well-being. However, our findings indicated that mothers did not adhere to all traditional beliefs but more to modern practices. Mothers believed in a healthy and balanced diet as part of their confinement diet and did not restrict their daily activity. As these mothers require frequent visits to NICU, they are mostly not confined at home. Contradictory, mothers still believe that they are obliged to the confinement.

Referring to the Western population, they are accustomed to the technocentric cultures in which technology is utilised in monitoring the well-being of the new mothers and the infants is the primary focus throughout the initial postpartum period. If there are no medical complications, the new mothers are discharged and brief to have regular postpartum care about the activity, diet, infant feeding, and follow-up appointments (American College of Obstetricians and Gynecologists, 2018). The mothers also were asked to resume total self-care at home and were typically returned to semi-normal routines by two weeks postpartum. However, Western mothers may not have restrictions on food intake and physical activity compared to Asian mothers. The previous study shows that postpartum mothers in the Western population generally have general stability in diet quality, energy, and macronutrient intake during the six months of postpartum (Lebrun et al., 2019). In addition, a diet with a diversity of nutrients such as vitamin B from vegetables and fruits with marine-derived omega-3 polyunsaturated fatty acids would reduce the risk of depression (Jiang et al., 2018). Nonetheless, the mothers in this study showed that they consumed a well-balanced diet despite having certain dietary restrictions and perceived that this diet helped them enhance their mental health.

Besides, having an active physical lifestyle during the postpartum period may contribute to emotional stability and improve physical fitness (Pritchett et al., 2017). A meta-analysis revealed that a balanced maternal diet that includes a variety of food groups and an active physical lifestyle is a safe approach to boosting psychosocial well-being and decreasing postpartum depression (Opie et al., 2020; Poyatos-León et al., 2017). However, our findings revealed a lack of confidence and knowledge among mothers to perform physical activity after delivery. This is in agreement with the study by Saligheh et al. (2016), which reported that mothers with a lack of motivation and confidence in participating in the exercise are among the barriers to being active during the postpartum phase. In addition, a less priority decision made to exercise, compared to the priority to look after baby, other children and taking care of husbands/partners had predisposed mothers to have more time constraints to exercise (Saligheh et al., 2016). Similarly, Edie et al., (2021) stated that lack of support from family members and lack of information by the health professional in regards to doing an appropriate exercise during the postpartum period was a barrier to exercise participation. In our finding, several mothers mentioned that they were uncertain when is the appropriate time to exercise and what kind of exercise should they engage in during postpartum. Hence, these findings suggest that healthcare professionals should provide awareness regarding postpartum physical activity to provide meaningful education to this special population.

6.0 Conclusion and Recommendations

In conclusion, this study found that mothers with preterm infants' view confinement as a positive aspect that can enhance health. A healthy lifestyle during confinement is paramount to improving the well-being of mothers. Despite that, barriers to performing a physical activity are notable due to low knowledge and self-confidence and this agrees with previous studies. Therefore, we recommend the healthcare practitioner and researcher to design an educational module and strategies to change the traditional perspective of confinement, specifically on healthy food consumption and increased physical activity during the confinement period. The limitation of this study is focusing on a single ethnicity in Malaysia. It is suggested to explore other ethnic practices as well.

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Paper Contribution to Related Field of Study

This study highlights that the researcher and healthcare responsibility is to educate mothers on healthy practices during confinement. Module development and continuing education are recommended.

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