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Assessing the association between fatigue and functional status during postpartum☆,☆☆

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ABSTRACT

Objective: Fatigue and decreased functional status are common health concerns during postpartum. Although studied separately in the past, this study assessed levels and explored the relationship between these two variables.
Methods: A cross-sectional correlational study was conducted with a convenience sample of 315 women to measure levels and assess the association between fatigue and functional status during postpartum.
Results: Moderate levels of fatigue and functional status were found. Fatigue levels and functional status were significantly higher in multiparas compared to primiparas, and fatigue was significantly higher in women who had cesarean births compared to vaginal births. Additionally, no significant correlation was found between fatigue and functional status during postpartum in this study.
Conclusion: The lack of a statistically significant association between fatigue and functional status warrants further research since limited studies have been conducted. Findings of this study may assist healthcare providers in planning and implementing holistic assessment and care for women in postpartum.

Introduction

During postpartum, which extends six weeks after birth, there is an increased risk of an array of physical and psychological health concerns that include fatigue, sleep disturbances, anxiety, and depression that may adversely affect general health, roles, and responsibilities of mothers [1–5]. Despite several publications on fatigue [2,3,6,7] and functional status [8,9] during postpartum that were investigated separately, limited studies have measured these variables in a single study with samples from middle-income countries. Moreover, little is known about the association between fatigue and functional status during postpartum.

Fatigue, as one of the most common health concerns in postpartum, is defined as an overwhelming, sustained sense of exhaustion and decreased capacity for physical and mental work at a usual level [10]. Fatigue is a complex multifaceted phenomenon that entails physical, psychological and social dimensions, which may extend up to a year after birth [1,3,6,7,11]. Fatigue was found to be higher in women who had cesarean deliveries compared to vaginal births [4]. However, mixed results were found linking parity with postpartum fatigue. In a meta-analysis study, parity was not found to be a predictor of postpartum fatigue [2], while higher fatigue among primiparas was reported [12]. Furthermore, fatigue was found to adversely influence women's functional status levels during postpartum [4,7,13].

Functional status was originally defined by Fawcett, Tulman, and Myers [14] as a multidimensional concept encompassing the mother's readiness to assume infant-care responsibilities as well as self-care, household, social and community, and occupational activities. Fawcett and colleagues developed the Inventory of Functional Status After Childbirth (IFSAC) as a tool that specifically measures functional status of mothers during postpartum [8,14,15]. Studies on functional status revealed that full recovery of functional status after childbirth extends beyond the typical six-week postpartum period [9,14–17]. Moreover, researchers reported statistically significant differences between women in postpartum in terms of parity, in which primiparas had better functional status compared to multiparas [14,15,17]. Conversely, other researchers [9,16] reported higher total functional status scores in multiparas compared to primiparas. No differences in functional status

☆ This study was conducted in full accordance with the ethical principles of the World Medical Association Declaration of Helsinki (2008).
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were found between women who had vaginal births compared to women who had cesarean deliveries [9,14,15]. However, researchers found that mothers who had vaginal births had higher total functional scores compared to women with cesarean deliveries [16].

Fatigue and decreased functional status influence a mother's ability to take care of herself, her infant, and other responsibilities. Fatigue, as a dynamic phenomenon during postpartum, has been shown to be affected by new maternal roles and responsibilities [7,15]. A new mother usually resumes her daily routine combined with childcare and daily life responsibilities in a relatively short period of time that leaves little room for rest and recuperation, thus leading to more fatigue. Furthermore, fatigue was found to be a very common problem for both mothers and fathers in postpartum, and has been linked to poor parenting, increased parenting stress, and reduced coping with daily tasks [7,11].

Generally, there is a paucity of research studies examining both fatigue and functional status of women during postpartum in one study. Moreover, although fatigue and functional status during postpartum have been researched as separate variables for the past 30 years, inconsistencies in findings regarding the associations between demographic variables (e.g. parity, type of delivery), fatigue, and functional status warrant further investigation, since there are limited studies that have been published on this topic.

This study was based on Roy's Adaptation Model [18]. Roy assumed that the person is a bio-psycho-social being that is continuously interacting with a changing environment, and that adaptation is the process in which thinking and feeling persons use conscious awareness and choice to create human and environmental integration. Roy proposed four interrelated adaptive modes, which include physiologic function, self-concept, interdependence and role function (Fig. 1). In this study, physiologic function mode was represented by fatigue and role function mode was represented by functional status. The association between these two adaptive modes (fatigue and functional status) was examined (Fig. 2). The aims of this study were to assess the levels of fatigue and functional status of Jordanian women during postpartum, assess the association between these two variables, and investigate the association between demographics variables, fatigue, and functional status.

Methods

Design and sample

A cross-sectional, descriptive correlational design was used with a convenience sample of women at various stages of postpartum. To insure an adequate sample size, an estimation to meet the criteria of a power of .80, $\alpha = .05$ and a medium effect size of .50 yielded a required sample of 256 women [19]. The final sample consisted of 315 women. The inclusion criteria of the sample included being 18 years or older; having a healthy newborn; and being free of physical or mental illnesses.

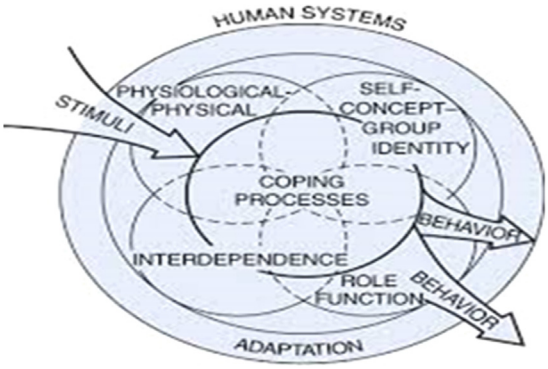

Fig. 1. Roy adaptation model.

Settings

Data collection was conducted at five public maternal-child health centers and one maternity clinic in a major public hospital located in the two largest cities in Jordan. Maternal-child health centers and maternity clinics were chosen as target settings for women seeking primary healthcare services (e.g. postpartum checkups and infant immunizations).

Instruments

Fatigue was measured by the Fatigue Symptom Checklist (FSC) which was developed by Yoshitake in 1971 to measure perceived fatigue levels of individuals in industry. The FSC consists of 30 items ranked on a scale of 1 (being not at all) to 4 (being very much) and measures symptoms of mental, physical and overall fatigue. The FSC was modified and subsequently tested on a large sample of women in postpartum [13,20]. The range of possible scores is 30–120, where higher scores indicate higher levels of fatigue. The scale demonstrated strong internal consistency $\alpha = .85$ at six weeks postpartum using the Kuder-Richardson formula. Content validity of the FSC was reported to be 0.96 [20].

The Inventory of Functional Status After Childbirth (IFSAC), which consists of 36 items rated on a 4-point Likert scale, measured maternal functional status during postpartum. The IFSAC was developed by Fawcett, Tulman, & Myers [14] and has five subscales that assess self-care, baby care, household responsibilities, work, and social and community activities. Internal consistency reliability and test-retest coefficients in the original study by Fawcett and colleagues ranged from 0.56 for the self-care subscale to 0.92 for the baby-care subscale, while researchers in subsequent studies reported ranges from 0.58 (work) to 0.85 (household) and 0.46 (self-care) to 0.87 (household) [15,21]. In addition to the FSC and IFSAC, a demographics questionnaire was used to measure variables such as age, parity, educational level, type of delivery, and gender of last offspring.

Ethical considerations

Permissions to conduct the study were obtained from the School of Nursing and university IRB committee, ethical committees from the Jordanian Ministry of Health, and from health center/maternity clinic directors. Participants were asked for verbal consent, which was determined by agreeing to complete the questionnaires. Participants were assured that refusing participation in the study would not affect their care in the centers/clinic, and that they have the right to withdraw anytime during their participation in the study without penalty. Participants were assured of their anonymity by using coded questionnaires and were also assured of the confidential handling of research data. Additionally, permissions to use the study instruments were obtained from the original authors, as possible.

Data collection

Before commencing the study, the FSC and IFSAC were translated from English to Arabic and back-translated by two bilingual experts and two maternity nursing academics to form final Arabic versions that are appropriate for the Jordanian culture and are acceptable for use with Jordanian samples. Content validity of Arabic versions of the instruments was established by a panel of three experts in the field of maternity health nursing.

Jordanian women coming for postpartum checkups or immunizations for their children were approached by the researchers at the MCH centers or maternity clinic and invited to participate in the study. The purpose of the study was explained to women and completion of the study questionnaires took place in a designated room in the centers/clinic, in collaboration with the healthcare staff.