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Comparison of Fatigue Levels of Postratum Women According to the Birth Method

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Abstract

Background: The purpose of this descriptive and comparative study conducted at the Nene Hatun Maternity Hospital was to determine the fatigue levels of postpartum women who had vaginal birth and caesaren section, after 24 hours of childbirth.
Methods: Visual Analogue Scale for Fatigue "VAS-F" was used to determine the fatigue levels of postpartum women.
Results: It was determined that half of the postpartum women in both groups had a moderate-level fatigue. Mean score of the postpartum women with vaginal birth for fatigue was 59.5±25.2 and mean score of those, who gave caesaren section, for the fatigue was 71.2±22.8.
Conclusion: According to the birth methods, the fatigue levels of the postpartum women who had vaginal birth were lower compared to those giving caesaren section, their energies were higher than the postpartum women who gave caesaren section.

Keywords: Fatigue, Vaginal birth, Cesarean, VAS-F.

Introduction

The postpartum period is a six-week period when all systems, especially the reproductive organs revert back to the pre-pregnancy state (Taşkın, 2011). Postpartum period is a process of physiological and psychological change for every woman. During this process, several systems of the woman undergo changes (Erdem, 2002; Taşkın, 2011). Depending on these changes that occur during the postpartum period, the woman may have some complaints occasionally (Atkinson & Baxley, 1994; Carty & Christine, 1996; Pungh et al., 1999). One of the most common complaints experienced during the postpartum period is fatigue. Fatigue might cause to impair woman's general health and emerge some problems.

Fatigue was accepted as a nursing diagnosis by the North American Nursing Diagnosis Association (NANDA) in 1988. NANDA defined the fatigue as; "experiencing a constant feeling of exhaustion that never gets over by resting and

decreases the physical and mental working capacity" (Thompson et al., 1989; Carpenito, 1999). Fatigue is a complaint known by everyone (Aaronson, 1999; Morrison, 2001; Tierney et al., 2002; Beutler, 2001). Many people think that the fatigue is a temporary problem, which generally disappears by taking a rest (Tierney et al., 2002). However, the symptom of fatigue cause the individual to have some serious psychological problems, such as tension, anxiety, fear, sentimentality, restlessness, insomnia, depression and self-depreciation. Besides, as well as causing inadequacy in houseworks, infant care and fulfilling the family's requirements, to decrease social and sexual activities or even not to take pleasure from life, the fatigue adversely affects the thinking, problem-solving and recall abilities of the individual (Gardner, 1991; Carpenito, 1999; Morrison, 2001; Fu, 2001; Candansayar, 2003).

There are numerous factors affecting the fatigue during the postpartum period. These factors include mother's age, educational level, hospitalization duration, depression, increasing metabolic needs, effects of hormones, anemia, thyroid dysfunction, cardiomyopathy, mother's nutritional status, nausea-vomiting, habit of alcohol-smoking and birth method. Furthermore, familial changes, infant care, sleep status, domestic works and going back to the professional life are among other factors affecting the fatigue (Reeves, 1991; Gardner, 1991; Pungh & Milligan, 1993; Lier, 1993; Atkinson & Baxley, 1994; Thompson et al., 2002; Tierney et al., 2002; Troy & Dalgas-Pelish, 2003). Fatigue takes an important place among the important complaints experienced during the postpartum period (Carty & Christine, 1996; Pungh et al., 1999). The study conducted by Carty et al revealed that 75% of the women felt excessive fatigue in the first week and 47% in the first month (Carty & Bradley, 1996). In his study, Mc Queen stated that 42% of women experienced fatigue in 2 weeks following the birth and this rate increased up to 59% within 8 weeks. The rate of fatigue increased to 54% in postpartum 18 months (Mc Queen, 2003).

Fatigue may also cause potential problems in the postpartum period. The studies revealed that fatigue could be an important symptom of medical or psychiatric diseases (anemia, infection, thyroid disorders, affective disorders, cardiomyopathy) during the postpartum period (Atkinson & Baxley, 1994). Moreover, postpartum fatigue might also disable the women to sustain their personal and social activities and fulfill their responsibilities (Lee et al., 1999).

Fatigue affects negatively not only the performances and life qualities of women, but also life quality of their families (Troy, 2003).

The fatigue experienced by women, possessing a crucial role in the society and family, during the postpartum period may influence their own care, and care of other individuals in the family, especially the infants and children, as well. For these reasons, it is important for midwives and nurses, who play an active role in women's care and follow-up during the postpartum period, to emphasize the issue of fatigue in terms of the protection and maintenance of maternal and infant health.

Care aimed at preventing fatigue in the postpartum period includes hospital care and home care. It is required to consider the birth method for care to be offered at the hospital right after childbirth. Depending on the fact that the mother consumes too much energy and are unable to be nourished during vaginal birth, women feel fatigue during the hours after childbirth (Taşkın, 2011). Due to the effect of the general anesthesia, women who give caesaren section feel greater fatigue during the hours after childbirth and need to have a rest compared to women who have vaginal birth (Mayberry et al., 1999; Thompson et al., 2002).

Midwives and nurses can enable the mothers to cope with fatigue and increase their coping skills. It is required to determine the levels of fatigue, which is experienced during the postpartum periods, by taking the birth methods into consideration in order to decrease or remove the fatigue that affects mother, family and consequently the society.

Purpose: The purpose of this study was to comparison of fatigue levels of postpartum women according to the birth method, after 24 hours of childbirth.

Methods

Setting: The descriptive and comparative study was conducted with healthy postpartum women, who gave vaginal birth and caesaren section and

had healthy infants between November 2010 and May 2011, at the Nene Hatun Maternity Hospital.

Sample: No sample group selection was performed in the study and it was completed with 383 postpartum women, who rested for 24 hours and accepted to participate in the study between the specified dates. *"Personal Information Form"* and *"Visual Analogue Scale for Fatigue",* which involve the demographic and obstetric characteristics of the postpartum women, were used to collect data of the study. Data collection forms were performed once after birth's 24 hours.

Personal Information Form: It has totally 10 questions, which determine the socio-demographic and obstetric characteristics, fatigue states and fatigue levels of the postpartum women according to their statements.

Visual Analogue Scale for Fatigue: Visual Analogue Scale for Fatigue was used for the purpose of determining the fatigue state during the postpartum period. VAS-F measures the energy and fatigue level. Being developed by Lee et al (1990), the scale was adapted into Turkish by Yurtsever (1999) and its validity and reliability studies were performed. VAS-F includes 18 items. While 13 items of VAS-F involve the subscale of fatigue, 5 items are with respect to the subscale of energy.

VAS-F has the most positive statements on one end and the most negative statements on the other, and there are texts that hold the lines of 10 cm between two statements. While the items of the subscale "fatigue" are **from the most positive to the most negative,** the items of the subscale "energy" are **from the most negative to the most positive. High score** of the subscale "fatigue" and **low score** of the subscale "energy" show that the severity of fatigue is high.

Since the scoring interval of VAS-F is not explicitly indicated, it is thought to provide a more sensitive measurement compared to the scales with a scoring interval. Besides, the mentioned scale is preferred as it is easy-to use, short and comprehensible.

In the previous studies Cronbach's alpha for the subscale "fatigue" were .96 and .91, and for the subscale "energy" were .95 and .94 (Lee at al., 1990).Yurtsever and Bedük (2003) reported that Cronbach's alpha for the VAS-F fatigue subscale was .90 and VAS-F fatigue subscale was .74. In this study, Cronbach's alpha for VAS-F fatigue subscale in the postpartum period was 0.81, and Cronbach's alpha for VAS-F energy subscale was 0.67.

The data were collected by the researchers from the postpartum women, who had caesaren section (n=191) and vaginal birth (n=192) at the Nene Hatun Maternity Hospital, after 24 hours of childbirth using the face-to-face interview technique in their rooms. Before the collection of the data, the postpartum women were informed about how to fill in the scale.

Before starting the study, the ethics committee approval, and written permission of the relevant institution were taken. Giving information to the postpartum women, who participated in the study, about the study, they were reminded that they would be free to participate in the study, and their information would be confidential; and then their verbal consents were received.

Data Analysis: The SPSS 11.0 software program was used to conduct statistical analysis of the data. Mean, percentage, variance analysis and t test were used for the assessment of the data.

Ethical Considerations: Before commencing the study, we obtained ethical approval from Ataturk University Faculty of Health Sciences Ethics Committee, in addition to the written permission of the hospital where the study would be conducted, and the verbal consent of the participants. All participants were informed about the purpose of the study, and that the collected information would be used solely for scientific purposes, would be kept confidential and not shared with others than the researchers.

Results

Table 1 illustrates the comparison of the postpartum women with vaginal birth and caesaren section in terms of their descriptive characteristics. Upon examination of Table 1, it was determined that 88.5% of the postpartum women who gave vaginal birth felt fatigue and half of them felt a moderate-level fatigue; 92.7% of the postpartum women who had caesaren section felt fatigue and fatigue level of half of them was moderate. Comparing these two groups in terms of descriptive characteristics, the difference was not statistically significant and the groups had similarities in terms of variables ($p>0.05$) (Table 1).

Table 1. Comparison of the Postpartum Women in Terms of Their Descriptive Characteristics

Characteristics	Vaginal Birth (n=192)		Cesarean Birth (n=191)		TOTAL (n=383)		Test and p value
	n	%	n	%	n	%	
Age group (year)							
17-21 age	41	21.4	25	13.1	66	17.2	X^2=0.20
22-26 age	72	37.5	77	40.3	149	38.9	df=3
27-31 age	43	22.4	48	25.1	91	23.8	p> 0.05
≥ 32 age	36	18.8	41	21.5	77	20.1	
Education level							
Primary school	113	58.9	100	52.4	213	55.6	X^2=0.80
Secondary school	46	24.0	44	23.0	90	23.5	df=3
High school	30	15.6	35	18.3	65	17.0	p> 0.05
University	3	1.5	12	6.3	15	3.9	
Employment condition							X^2=0.16
Employed	15	7.8	23	12.0	38	9.9	df=1
Unemployed	177	92.2	168	88.0	345	90.1	p> 0.05
Social security							X^2=0.54
Yes	178	92.7	180	94.2	358	93.5	df=1
No	14	7.3	11	5.8	25	6.5	p> 0.05
Income*							X^2=0.11
Low	63	32.8	66	34.6	129	33.7	df=2
Middle	126	65.6	115	60.2	241	62.9	p> 0.05
High	3	1.6	10	5.2	13	3.4	
Number of pregnancies							X^2=0.35
1	70	36.5	72	37.7	142	37.1	df=2
2	80	41.7	88	46.1	168	43.9	p> 0.05
≥ 3	42	21.8	31	16.2	73	19.0	
The interval of pregnancy	(n=122)		(n=119)		(n=241)		
12 months and less	14	11.6	12	10.1	26	10.8	X^2=0.93
13-24 months	17	14.0	17	14.3	34	14.2	df=2
25 months and over	91	74.4	90	75.6	181	75.0	p> 0.05
Number of living children							
1	74	38.5	73	38.2	147	38.4	X^2=0.18
2	60	31.3	74	38.8	134	35.0	df=2
3 and over	58	30.2	44	23.0	102	26.6	p> 0.05
Condition fatigue							X^2=0.16
Felt fatigue	170	88.5	177	92.7	347	90.6	df=1
Felt not fatigue	22	11.5	14	7.3	36	9.4	p> 0.05
The severity of fatigue *	(n=170)		(n=177)		(n=347)		
Mild	37	21.8	28	15.8	65	18.7	X^2=0.28
Moderate	85	50.0	89	50.3	174	50.1	df=2
Severe	48	28.2	60	33.9	108	31.1	p> 0.05

* Characteristics are validated according to the Postpartum Women' own statements.

Table 2. Comparison of the Postpartum Women's Mean VAS-F Scores in Terms of Their Birth Method

Sub-Scales	BIRTH METHOD		Test and p value
	Vaginal Birth $\overline{X}$ ± SS	Caesaren Section $\overline{X}$ ± SS	
Fatigue	59.5±25.2	71.2±22.8	df=381, t=4.7, **p<0.05**
Energy	22.7±8.7	19.1±9.2	df=381, t=3.8, **p<0.05**

Table 2 illustrates mean VAS-F scores of the postpartum women in terms of their birth method. Examining the relevant table, it was specified that the difference between their mean VAS-F scores is statistically significant in terms of their birth method ($p<0.05$). While mean score of the postpartum women with vaginal birth for the subscale fatigue was 59.5±25.2, their mean score for the subscale energy was 22.7±8.7; and while mean score of the postpartum women having caesaren section for the subscale fatigue was 71.2±22.8, their mean score for the subscale energy was 19.1±9.2.

Discussion

The findings of this study, conducted in order to determine the fatigue levels of the postpartum women who had vaginal birth and caesaren section, were discussed with the findings of the relevant literature.

This study revealed that 88.5% of the postpartum women with vaginal birth and 92.7% of the postpartum women who had caesaren section felt fatigue and severity of fatigue felt by half of the postpartum women in both groups was moderate (Table 1). The study conducted by Gardner (1991) reported that the fatigue experienced by mothers on the postpartum day 2 was greater compared to other postpartum periods, and on the other hand, in his study, Helbert (1994) determined that mothers felt fatigue right after childbirth. In the study conducted by Carty et al (1996), it was specified that 75% of mothers experienced a moderate-level fatigue in the postpartum first week. In their study, Gay et al (2004) examined the fatigue states of 72 couples during the last month of pregnancy and postpartum first month, found their fatigue level to be high after birth and determined that their fatigue increased during the postpartum period, compared to pregnancy period. In their study, Taylor and Johnson (2010) revealed that women experienced a moderate-level fatigue within postpartum first 6 weeks. The results of the relevant studies are in line with the results of this study. In the study conducted by Meral (2004), it was specified that the postpartum women mostly felt a severe fatigue during the evening hours; in their study, Lee et al (2007) determined that the postpartum women who had caesaren section experienced severer morning fatigue compared to those with vaginal birth and consequently, they needed more sleep during the day; Rychnovsky and Hunter (2009)'s study reported that the postpartum women had a high level of fatigue after childbirth (50.72±13.52).

Comparing mean VAS-F scores of postpartum women in terms of their birth method, mean score of postpartum women with vaginal birth for the subscale fatigue were lower in comparison with those who had caesaren section and their mean score for the subscale energy was higher. The difference between their mean VAS-F scores in terms of birth method was statistically significant ($p<0.05$) (Table 2). There are studies that have similar results with results of this study. In their study, Thamson et al (2002) pointed out that women who had caesaren section were more exhausted than those with vaginal birth. In the

study conducted by Troy and Dalgas-Pelish (2003), they found that woman who gave vaginal birth had the lowest level of morning fatigue during postpartum (2-4 weeks) period. In their study, Lee et al (2007) determined that women who gave caesaren section had higher morning fatigue and lower evening fatigue compared to those who gave vaginal birth. In the study conducted by Torkan et al (2009), they revealed that the life quality of women who gave vaginal birth was higher in comparison with those who had caesaren section. Considering the fact that fatigue is among factors affecting the life quality, it could be asserted that fatigue levels of women who give vaginal birth are lower compared to women who give caesaren section.

Conclusions obtained from this study, conducted to determine the fatigue levels of postpartum women who had vaginal birth and caesaren section, are as follows;

- Descriptive characteristics of postpartum women who had vaginal birth and caesaren section were similar and were not statistically significant ($p>0.05$),
- 88.5% of the postpartum women with vaginal birth and 92.7% of postpartum women who had caesaren section felt fatigue and half of the postpartum women in both groups had a moderate-level fatigue,
- Birth methods of the postpartum women affected their mean VAS-F scores; the fatigue levels of postpartum women with vaginal birth were lower than that of those who had caesaren section and their mean scores for energy were higher. According to the birth methods of the postpartum women, the difference between their mean VAS-F scores was statistically significant ($p<0.05$).

The following matters could be recommended in line with the study results;

- Since all of the postpartum women experience fatigue after childbirth, midwives/nurses should diagnose fatigue and perform the required interventions.
- postpartum women who have vaginal birth and caesaren section should be taught the methods of coping with fatigue.
- postpartum women should be supported in daily activities.
- Future studies could be designed on postpartum fatigue with a larger sample size in different postpartum periods.

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