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PREPARTUM AND POSTPARTUM ACUTE FATIGUE AND THE INFLUENCING FACTORS

Fadiga aguda no pré e pós-parto e fatores determinantes

Artigo original

RESUMO

Este trabalho teve como objetivo avaliar e comparar a gravidade dos níveis de fadiga aguda em mulheres durante os períodos de pré-parto e o pós-parto, definindo as características e modificações associadas a gravidez relacionadas com a fadiga e conhecer o impacto da fadiga em algumas atividades diárias. Utilizou-se o método transversal no Hospital de Mulheres e Crianças de Sarakaya, Turquia. Um total de 128 mulheres grávidas em processo de trabalho de parto a termo foram incluídas neste estudo. Os dados foram coletados utilizando um questionário elaborado pelos pesquisadores contendo o Inventário de Fadiga Reduzido (*Brief Fatigue Inventory* - AFI), bem como as questões sócio-demográficas. Para a análise estatística foi utilizado o teste *t*-Student pareado, análises de correlação e de variância. Os resultados obtidos demonstraram uma média de AFI no pré e pós parto de $5,77 \pm 1,97$ e $6,49 \pm 1,48$ respectivamente ($p < 0,001$). Houve diferenças significativas no humor, na relação interpessoal e nos escores de gozo de vida ($p = 0,005$; $p = 0,033$; $p = 0,000$, respectivamente). Por outro lado, em relação a atividades comprometidas pela fadiga, a habilidade de andar e realização de rotinas diárias não tiveram diferenças em níveis significativos. Conclui-se que no período pós-parto a mulher é significativamente mais submetida a estresse e conseqüentemente a síndrome de fadiga aguda foi mais intensa quando comparada com o período pré-parto.

Descritores: Pós-parto; fadiga; Trabalho de parto; Período pós-parto; Parto;

ABSTRACT

The aim of this study was to examine and to compare the severity of the acute fatigue levels in women during the prepartum and the postpartum periods, to define patients' characteristics and pregnancy associated changes related to acute fatigue and to learn about the impact of pre- and postpartum fatigue on some daily activities. This cross-sectional study was carried out in the Sakarya Women and Children's Hospital, Turkey. 128 pregnant women who were expected to deliver in due time were included into the study. The data was collected using a questionnaire prepared by the researchers containing the "Brief Fatigue Inventory" as well as the sociodemographic questions. For the statistical analysis, matched t-test, correlations and variance analyses were used. The obtained results showed a mean prepartum and postpartum Acute Fatigue Inventory (AFI) scores of 5.77 ± 1.97 and 6.49 ± 1.48 , respectively ($p < 0.001$). Significant pre- and postpartum differences were observed regarding the mood, interpersonal relation and enjoyment of living scores ($p = 0.005$; $p = 0.033$; $p = 0.000$, respectively). On the other hand, the differences between the pre- and the postpartum scores regarding the fatigue-affected general activity, walking ability and performance in daily routines did not reach to significant levels ($p > 0.05$). We conclude that in the postpartum period, women were significantly more distressed and consequently, acute fatigue syndrome was more severe compared to prepartum period.

Descriptors: Postpartum ; fatigue; Labor; Obstetric; Parturition; Postpartum period.

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INTRODUCTION

Fatigue is a subjective term describing the feeling of perpetual tiredness affected by the 24-hour biorhythm. Several studies have shown that acute fatigue occurs in definite hours during the day and after definite activities, generally lasts for a short period and disappears after a good night's sleep. The discomfort level caused by the fatigue changes with respect to its intensity and duration. Acute fatigue has a protective role resulting in avoidance of harmful activities. On the other hand, when it is chronic, excessive and continuous, it becomes restrictive⁽¹⁾.

Fatigue is affected by various naturally occurring preparatory factors including production of metabolites, changes in the energy levels and in the energy producing enzymes, activity/rest pattern, sleep/wake pattern, social status, lifestyle, psychological state, environmental factors, diseases and their severity and methods of treatment⁽¹⁾. Pregnancy and labor bring about changes in the lifestyle of women and some new biological and psychological experiences take place during these periods. Psychological changes naturally accompany the physiological and hormonal changes seen during a normal pregnancy. In the first trimester, various bodily symptoms such as fatigue, nausea and dizziness and emotional changes take place. The second trimester generally is better tolerated in comparison with the previous trimester and emotional status improves. Because the problems related to the ongoing pregnancy are not being experienced as severe during this period, woman's feeling of confidence increases. However, because the delivery date approaches, some anxieties may emerge during the last trimester. These are generally related to the course of the labor and the health of the baby^(2,3,4). Previous retrospective epidemiological studies have shown that the postpartum period is psychologically three to four times more risky than the pregnancy. During the postpartum period, some psychiatric problems, such as postpartum depression and postpartum psychosis may appear^(2,3). Rapid hormonal changes, the physical strain of the delivery and the emotional changes it creates, lack of adequate information on labor and infant-care, and fatigue may cause postpartum blues, with a prevalence rate of 50-80%^(5,6,7,8).

Acute fatigue syndrome is described as fatigue presenting nonpersistently and lasting for less than 6 months. Fatigue lasting over that period is categorized as chronic⁽⁹⁾.

In order to be able to cope with fatigue, it is first recommended to treat any anemia or hypothyroid disorder, to learn about the infant's sleep pattern, to make sure that

the mother gets enough sleep and rest, to initiate exercise/walking. Regular feeding is important for the baby⁽⁴⁾.

The aim of this study was to examine and to compare the severity of the acute fatigue levels in women during the prepartum and the postpartum periods, to define patients' characteristics and pregnancy associated changes related to acute fatigue and to learn about the impact of pre- and postpartum fatigue on some daily activities

METHODS

This cross-sectional study was carried out in Sakarya Women and Children's Hospital, between September 2001 and February 2002. Among pregnant women referring to the hospital, 128 were included into the study. Women who did not accept to participate, who were difficult to communicate or who had a chronic disease such as diabetes, hypertension, asthma, chronic heart disease, anemia or hepatitis were excluded from the study. In order to evaluate the Acute Fatigue Syndrome (AFS), the "Brief Fatigue Inventory", developed by Anderson Cancer Center, and a patient information form prepared by the researchers were used. The "Brief Fatigue Inventory" had been already tested by Çınar S⁽¹⁰⁾ in terms of its language validity and by Azak⁽¹¹⁾ in terms of its content validity among lymphoma patients; the Cronbach alpha value had been found as 0.98 ($p=0.001$). In the AFI form there are nine Likert-type questions each with eleven different levels of answers, ranging from 0 to 10; "zero" meaning 'no fatigue' and "ten" meaning 'the most severe fatigue ever experienced'. The AFI form contains the scores of "the fatigue having been experienced over the last 24 hours" and the scores of the physical and emotional symptoms that may emerge depending on the fatigue. Each question was evaluated individually and an average fatigue score was calculated as well by dividing the cumulative score by the number of items. The patient form contained questions on the sociodemographical characteristics as well as the medical history of the patient.

The patient information form and the AFI were answered two times, before and after the delivery.

RESULTS

The average age of the participants was 24.25 ± 5.27 (range, 15-39). The mean prepartum AFI score was 5.77 ± 1.97 and the mean postpartum AFI score was 6.49 ± 1.48 ; the difference between pre- and postpartum AFI scores was statistically significant ($t=3.779$, $p<0.001$).

The prepartum and postpartum mean AFI scores are shown in **Table I**.

Table I: Differences between the prepartum and postpartum mean AFI scores (N=128).

Fatigue scores	AFI			
	Prepartum*	Postpartum*	p	t
Present fatigue	5.99 ± 3.06	6.52 ± 2.33	p = 0.107	t = 1.625
General fatigue	5.57 ± 3.07	7.34 ± 2.16	p = 0.000	t = 5.980
The worst fatigue	6.53 ± 3.17	7.94 ± 2.16	p = 0.000	t = 4.723

* Average ± SD

While no significant difference was found between the prepartum and postpartum “present fatigue scores” ($p = 0.107$), there was a significant difference between the two groups regarding the “continuous fatigue” and “the worst fatigue” scores ($p = 0.000$ and $p = 0.000$, respectively)

according to AFI. “Continuous fatigue” and “the worst fatigue” scores were found to be higher in the postpartum period.

The scores of various prepartum and postpartum activities believed to be affected by fatigue were shown in **Table II**.

Table II: The comparison of mean AFI scores of prepartum and postpartum activities and psychological states (N=128)

Physical activities and emotional status	AFI			
	Prepartum*	Postpartum*	t	p
General Activity	5.56 ± 2.72	5.73 ± 2.41	0.597	0.552
Mood	5.73 ± 2.85	6.58 ± 2.38	2.877	0.005
Walking ability	5.80 ± 2.61	5.81 ± 2.78	0.046	0.964
Performing daily routines	5.45 ± 2.86	5.36 ± 2.60	0.245	0.807
Interpersonal relationships	5.37 ± 3.19	6.05 ± 2.56	2.153	0.033
Enjoyment of living	5.97 ± 3.33	7.07 ± 2.73	3.598	0.000

* Average ± SD

While no significant difference was found between the prepartum and postpartum scores for “general activity”, “walking ability” and “performing daily routines” ($p = 0.552$; $p = 0.964$; $p = 0.807$ respectively), there were significant differences regarding the emotional status such as “the mood”, “interpersonal relationship” and “enjoyment

of living” ($p = 0.005$; $p = 0.033$; $p = 0.005$ respectively). The emotional state was found to be more negatively affected in the postpartum period.

The demographical findings and their relationships with the prepartum and postpartum average AFI scores are shown in **Table III**.

Table III: The comparison of the prepartum and postpartum mean AFI scores for some sociodemographical characteristics and pregnancy related conditions(N:128)

Sociodemographical characteristics and pregnancy related conditions	AFI			
	prepartum		postpartum	
	r	p	r	p
Age	-0.028	0.754	-0.028	0.757
Education	0.086	0.336	0.101	0.255
Experiencing problems during pregnancy *	- 0.197	0.025	- 0.071	0.426
Having regular pregnancy follow-up visits (in the physician's office)	- 0.101	0.258	0.238	0.007
Number of pregnancies	- 0.066	0.461	- 0.058	0.512
Weight-gain	- 0.008	0.929	0.118	0.185

* anemia, hypertension, edema, etc.

No significant correlation between the prepartum and postpartum AFI scores and the age, educational status, number of pregnancies and weight gain were observed ($p > 0.05$).

Although there was no correlation between experiencing problems during the pregnancy and the mean postpartum AFI scores ($p = 0.426$), a weak negative correlation was observed between having problems during the pregnancy and the prepartum AFI scores ($p = 0.025$). Moreover, there was a strong positive correlation between having regular follow-up visits and the mean postpartum AFI score ($p = 0.007$). No significant correlation existed between regular pregnancy follow-up visits and the mean prepartum AFI scores ($p = 0.258$).

No significant correlation was found between the mean postpartum AFI and the sleeping time ($r = 0.087$; $p = 0.328$).

No relationship was found between the postpartum AFI and the type of the delivery (i.e. spontaneous vaginal delivery, cesarean section or else; $r = 0.052$; $p > 0.05$), infant's gender ($r = 0.053$; $p > 0.05$), or the feeding method (breastfeeding or bottle feeding) ($r = 0.136$; $p > 0.05$).

DISCUSSION

In the present study, the average AFI scores were found as 5.77 ± 1.97 in prepartum and as 6.49 ± 1.48 in postpartum periods, and the difference was statistically significant ($p < 0.0001$). While no significant difference was found between the prepartum and postpartum periods regarding the "present fatigue" scores, the "continuous fatigue" and "the worst fatigue" scores were higher after giving birth. While the reasons of the prepartum fatigue are the pressure of the enlarging uterus, the movements of the fetus, hormonal changes and changes in the sleeping pattern, the reasons for the postpartum fatigue may include the energy losses during the delivery, physical exhaustion, pain and intense stress experienced during the labor and difficulties in meeting the baby's needs. The fact that the mother has to meet both her own and her infant's needs after the delivery increases the level of fatigue.

Although pregnancy and labor seem to be natural life events, they may become strong stress factors for women. The interaction of hormonal, personal and environmental factors influences the mood and may increase the tendency to psychiatric diseases⁽²⁾. Thus, many researchers consider the pregnancy as a critical or a crisis period. In some studies of serious psychiatric disorders, such as depression or psychosis during pregnancy, it has been found that the incidence of these disorders decreases or remains the

same during pregnancy⁽²⁾. However, other researchers who had focused on relatively minor psychiatric disorders have stated that the incidences of the symptoms related to depression, anxiety and unstable emotional states increase during pregnancy. Postpartum blues, postpartum depression and postpartum psychosis are psychiatric states specific to this period⁽²⁾. A mother experiencing postpartum blues cannot meet her infant's needs in her fatigued and exhausted state⁽⁹⁾. Fatigue is a state experienced both in prepartum and postpartum periods.

In our study, while no significant difference was found between the prepartum and postpartum mean scores regarding general activities, walking ability and performing daily routines, significant differences were found regarding the mood, the interpersonal relationships and the enjoyment of living. The emotional state was found to be affected relatively more severely by postpartum fatigue.

Kline et al. observed in their study that most of the mothers didn't feel ready to the physical and psychological changes of the pregnancy and delivery⁽³⁾. They found that the mothers had not been sufficiently informed by health care personnel about health issues, especially regarding the postpartum period, and that they needed to be enlightened about the postpartum fatigue and postpartum depression.

The pregnancy period is perhaps the period of life during which more rest and sleep are required. On the other hand, especially insomnia occurring during the last weeks of the pregnancy may cause fatigue.

No significant correlation has been found between the prepartum and postpartum AFI scores and the age, educational status, the number of pregnancies and weight gain. A weak negative correlation existed between the prepartum AFI scores and experiencing problems during the pregnancy. This result probably can be explained by the fact that mothers experiencing problems during the pregnancy seek more help from their families, friends, relatives and the health care personnel. The need for rest increases in proportion with the number of problems experienced during the pregnancy. A strong positive correlation was found between having regular follow-up visit during the pregnancy and the postpartum AFI scores.

No significant correlation has been found between the postpartum AFI score and the kind of the delivery, the gender of the infant and the feeding method of the infant ($p > 0.05$). On previous researches, it had been established that type of the delivery, the gender of the infant, and the feeding way of the infant have no effects on the acute fatigue which may take place following delivery. Fatigue frequently emerges during or after a major disease, and during the treatment and in many cases such as cancer, multiple sclerosis and psychiatric disorders^(1,9).

CONCLUSION AND SUGGESTIONS

The postpartum AFI scores were found to be higher than the prepartum AFI scores. The emotional states such as postpartum mood and enjoyment of living, interpersonal relationships are more affected from fatigue. In the postpartum period, the people in the vicinity of the mother should try to make her feel comfortable and confident, should help her in baby care, and have a supportive approach towards the mother by reassuring her that she can provide a good care for her infant. Otherwise, she may experience other problems as well as fatigue.

When the literature was reviewed, it has been seen that the prepartum and postpartum studies had primarily focused on obstetric complications (mortality, infectious and surgical morbidities, and pre-eclampsia) and the process of health care, such as length of hospital stay, and there had been no study regarding prepartum and postpartum AFI.

Future researches in defining fatigue status during pregnancy and postpartum period may help in finding women with a high fatigue score. Further evaluations of these women may help to uncover predilection to and to take preventive measures against the postpartum depression.

Based on the findings of this study, it is advisable to give more psychosocial support to pregnant women to deal with fatigue. Follow up of women with a high postpartum fatigue score will give the opportunity to provide professional help if needed.

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