Original Article

Anxiety, Depression and Coping with Stress Styles of Pregnant Women with Preterm Labor Risk

Yasemin Aydin Kartal, PhD
Assistant Professor, Department of Midwifery, Faculty of Health Sciences, University of Health Sciences, Istanbul, Turkey

Umran Yesiltepe Oskay, PhD
Associate Professor, Florence Nightingale Nursing Faculty, Istanbul University, Istanbul, Turkey

Correspondence: Yasemin Aydin Kartal, Assistant Professor, Department of Midwifery, Faculty of Health Sciences, University of Health Sciences, Istanbul, Turkey E-mail: yaseminaydin@sakarya.edu.tr

Abstract

Purpose: This study was conducted in order to determine anxiety, depression level and stress coping methods of pregnant women who have preterm labor risk.
Method: Study, which was conducted in definitive and cross-sectional design, had its sample between 01 December 2012- 30 December 2013 dates, 255 pregnant women who stay in a public hospital as a result of preterm labor risk diagnosis. Research data was gathered with Individual Identification Form, Beck Anxiety Inventory (BAI), Edinburgh Postnatal Depression Scale (EPDS) and Scale of Coping with Stress (SCS).
Findings: It was determined that total point average of BAI of pregnant is 21,71±8,27 and 35.1 % of them are going through high level anxiety. 69,8% of pregnant are in risk of depression, and it was seen that factors such as age and pregnancy, affecting depression risk levels of pregnant women. When pregnant women's Scale of Coping with Stress sub dimensions and some variables relationship, confident approach, optimistic approach to themselves sub dimension point averages were found meaningfully high in pregnant women who are 35 years old and older, in contrast in pregnant women who are 34 years old and younger, unconfident approach to themselves sub dimension point average was found meaningfully high.
Result: As a result, it was determined that 35 years old and older multipara women whose pregnancy planned, use active coping methods, which is a sub dimension of SCS scale, more than others and in the pregnant women who have high education level, it was determined their depression level was meaningfully low.

Key Words: Preterm Labor, Pregnancy, Anxiety, Depression, Style of Coping with Stress.

Introduction

Pregnancy is a natural life event for women, and besides it a term that, bio-psychosocial changes happen and risk of experiencing factors which may cause anxiety and stress, are high (Eskici et al., 2012). Pregnancy and motherhood term also is a process that predisposition of women to psychiatric diseases such as depression, anxiety disorder, may increase (Andersson et al., 2003). It was stated with studies that, in the pregnancy, anxiety and stress increase pregnancy and birth complications and cause low birth weight, preterm labor and intrauterine growth deficiency (Derbent &Turhan, 2009; Fransson, 2011; Straub et al., 2012; Staneva et al., 2015). Despite of developments in medicine and technology, preterm labor protects its actuality in modern obstetric and comes first at the problems which cause perinatal morbidity and mortality. At the same time, it creates emotional and economic burden for the family. Preterm labor prevalence was stated in USA 12-13 % , in EU and other developed countries 5-9 % (Jesse et al., 2003). In our country, studies related to preterm labor prevalence are limited and in a epidemiologic study which was conducted in Konya on 300 pregnant women, determined the preterm labor prevalence as 17.3 % (Ege et al., 2009).

Anxiety and depression are important risk factors in preterm labor. Emotional stress and especially depression and anxiety were related with increase in birth complications, negative effects on newborn health, and in addition, pregnancy with anxiety, related with appearance of behavioral

and emotional problems in child (O'connor et al., 2002; Berle et al., 2005). In a study which was conducted by Lewellyn and friends, it was stated that anxiety and depressive symptoms in pregnancy are related with postpartum depression after pregnancy and depressive symptoms were seen in pregnant women with a rate of %70 and more (Lewellyn et al., 1997).

Anxiety and depression in pregnancy, is an important situation because of the reason that it affects the wellness of mother and fetus and triggers postpartum depression, it must be early diagnosed and treated (Ayvaz et al., 2006; Calik & Aktas, 2011). This study was conducted in order to determine frequency of anxiety and depression and coping with stress methods in pregnant women who have preterm birth risk. Furthermore, creation of awareness about anxiety and depression may come out in pregnant women with preterm birth risk and contribution to the development of coping methods of pregnant women, were aimed.

Material And Method

Study was conducted in definitive and cross sectional design and its research universe formed by pregnant women who had preterm labor risk and stay in a public hospital's perinatology service in Istanbul, between 01 December 2012 and 30 December 2013. According to relevant institution statistics data, pregnant women rate who diagnosed with preterm birth risk and treated, was determined 25%. According to sample calculation which was made with 95% alpha reliability level and 80% beta reliability (power) level, 255 pregnant women formed the study universe.

Inclusion criteria for study were formed by volunteered pregnant women who are in the 20.-37. Week of pregnancy, have healthy fetus, 18 years old and older, literate and do not have communication problems and mental inability, after information was given about the study. Pregnant women who have psychiatric disease and goes through treatment, or received infertility treatment for pregnancy or have chronic medical history, gestational diabetes, preeclampsia and eclampsia complaints and pregnant women who have multiple pregnancy and fetal anomalies, were not accepted for the study.

In the collection of research data; Individual Identification Form which was developed in accordance with literature, Beck Anxiety Inventory (BAI), Edinburgh Postnatal Depression Scale (EPDS) and Scale of Coping with Stress (SCS) were used.

Data Collection Tools

Individual Identification Form: consists of 23 questions that search information related to individual's socio-demographic and obstetric characteristics, social support systems and planning state of pregnancy.

Beck Anxiety Inventory: It is a self evaluate scale that in use for to determine the anxiety symptoms level and volume and consists of 21 items. Validity and reliability study for Turkish version was done by Ulusoy et al. Every item takes point between 0-3 and between total 0-63, scoring is made. Total points of test were evaluated as 0-17 low level anxiety, 18-24 medium level and 25 points and above high level anxiety (Eren et al. 2012; Ulusoy et al. 1999). In this study, internal consistency coefficient cronbach alpha value of Beck Anxiety Inventory was found 0,736.

Edinburgh Postnatal Depression Scale: It is a report scale that consists of 10 items and in type of four-point likert. Answers that consist of 4 options are scored between 0-3 points and the highest point that one can get from the scale is 30. Turkish version of EPDS was made by Engin Deniz. Break point of EPDS was calculated as 12, women who have 12 and more scale points were accepted as risk group (Kılınç &Torun, 2011). In this study, internal consistency coefficient cronbach alpha value of EPDS was found as 0,710.

Scale of Coping with Stress: Scale was developed by Folkman and Lazarus, and its 30 item Turkish version was done by Sahin and Durak (1995). Scale measures two main coping with stress style.

The styles are "Problem oriented/Active" and "Emotion Oriented/passive" styles. "Resorting for social support(RSS)", "optimistic approach(OA)" and "confident approach to herself(CAH)" sub dimensions show active styles and "Desperate Approach(DA)" and "Submissive approach(SA)" sub dimensions show passive styles. High point from sub dimensions shows which approach the individual use more. In the study, cronbach alpha internal consistency coefficients were found as 0,72 for O.A; 0,70 for C.A.H; 0,67for D.A.; 0,63 for S.A. and 0,62 for R.S.S.

Statistical Analysis

When the gathered data from study were evaluated, SPSS 16.0 program was used for statistical analysis. Study data were evaluated with definitive statistical methods (average, standard deviation) and with Mann Whitney U test, Kruskal Wallis Testin comparison between groups. Correlation pearson between Beck Anxiety Scale and Coping with Stress scale with Edinburgh Postnatal Depression scale was evaluated with two sided correlation analysis.

Ethical Aspect

In order to conduct the study, decision of ethics committee and institution permission were taken. Verbal consents of pregnant women were taken with explaining the purpose of the study by researcher.

Limitations of Research

Only limitation of the study is conduction with the pregnant women who applied only one public hospital and diagnosed with preterm labor risk. Because of this reason, these findings cannot be generalized to pregnant women who have preterm labor risk in Turkey.

Results

It was determined that the age average of pregnant women is 30.17±6.21, 67.1 % of them are primary and secondary education graduates and body mass index average is 30,78±4,18. When the obstetric characteristics of pregnant women were examined; it was determined that 28.4 % of them were having first pregnancy, 19.1% have pregnancy loss history and 21.8% of them had problem in their previous pregnancies (Table 1).

Gestation week average of volunteered pregnant women is 30,17±6,21 and 80.4 % of them planned pregnancy and most of them done regular antenatal control, were determined (96.4%).

When findings related to anxiety level of pregnant women was examined, it was determined that total point average of Beck Anxiety Scale as 21.71±8.27, 35.1% of pregnant women who were accepted for the study, have high level, 31.6 % experience medium level anxiety (Table 2). Findings related to pregnant women's depression level were evaluated according to Edinburgh Postnatal Depression Scale, and it was determined that 69.8 % of them have depression risk (Table 2).

Coping with Stress styles scale sub dimensions of women who were taken under the study scope, the ones which are mostly used, are (1.96±0.60) resorting for social support approach and optimistic approach (1.92±0.57). It was determined that to cope with stress, 60.9 % of pregnant women chat with relatives and friends, 36.9 % listen music, 29.3 % do hand arts and embroidery and 27.1 % read books.

Beck anxiety scale point averages of women who have preterm labor risk and had problems in previous pregnancies were determined as meaningfully high (Table 3, $p>0.05$). Depression risk levels of pregnant women was evaluated with Edinburgh Postnatal Depression Scale, and meaningful relationship between parity and education levels and Edinburgh Postnatal Depression Scale total point averages.

When coping with Stress Scale sub dimensions and some variables relationship was examined, in the pregnant women who is 35 and older, confident approach to herself, optimistic approach sub dimension point averages were determined meaningfully high. Optimistic approach sub dimension in multiparity pregnant women were found meaningfully high in comparison with nulliparity women.

No meaningful difference was determined between education level, work status, socio-economical status and problems in previous pregnancies of pregnant women and sub dimensions of coping with stress scale. In the women who planned their pregnancy, optimistic approach sub dimension point average was found meaningfully high, in contrast, in the women who did not plan their pregnancy, unconfident approach sub dimension point average was found meaningfully high.

Meaningful relationship between Beck Anxiety Scale total points and Scale of Coping with stress optimistic approach, desperate approach, submissive approach and resorting for social support sub dimensions was not determined and meaningful negative relationship with confident approach was determined (Table 4).

Table 1: Socio-demographic and Obstetric Characteristics of Pregnant Women (n=225)

	Mean± SD	Min-Max
Maternal Age	30.17±6.21	18-39
Body Mass Index	30.78±4.18	21.40-40.20
Gestational age	30.17±6.21	18-36
Gravida	2.33±1.19	1-6
Parity	0.96±0.93	0-4
Abortion	0.22±0.47	0-2
	n	**%**
Education		
Primary-Secondary	151	67.1
Education Higher Education	74	32.9
Working Status of Women		
Employed	83	36.9
Unemployed	142	63.1
Income		
Low	55	24.2
Moderate	161	71.6
High	9	4.0
Smoking		
Yes	17	7.6
No	208	92.4
Planned pregnancy		
Yes	181	80.4
No	44	19.6
Previous problem birth		
Yes	49	21.8
No	176	78.2

Table 2: Pregnant Women's Edinburgh Postnatal Depression Scale, Scale of Coping with Stress and Beck Anxiety Scale Point Averages(n:225)

	Mean ± SD	**Min-Max**
Edinburgh Postnatal Depression Scale Average Point	13.74±3.99	5-25
	n	**%**
Edinburgh Postnatal Depression Scale Cut-Off Point		
<12 puan	68	30.2
≥12 puan	157	69.8
	Mean ± SD	**Min-Max**
Beck Anxiety Scale Point Average	21.71±8.27	4-56
	n	**%**
Beck Anxiety Scale		
Low Anxiety	75	33.3
Moderate Anxiety	71	31.6
High Anxiety	79	35.1
	Mean ± SD	**Min-Max**
Scale of Coping with Stress Point Average	8.54±1.51	1.45-14.25
Scale of Coping with Stress Sub Dimensions	**Mean ± SD**	**Min-Max**
Confident Approach to Herself	1.83±0.59	0.29-3
Optimistic Approach	1.92±0.57	0-3.80
Desperate Approach	1.24±0.47	0.25-2.38
Submissive Approach	1.57±0.50	0-3
Resorting For Social Support	1.96±0.60	0-3.25

Table 3. The Comparison of the EPDS, SCS and BAI Point Averages According to The Pregnant Women's Demographic and Obstetric Characteristics (n:225)

		SCS Confident Approach to Herself	SCS Optimistic Approach	SCS Desperate Approach	SCS Submissive Approach	SCS Resorting For Social Support	BAI Average Score	EPDS Average Score
		Mean ± SD	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Maternal Age	**≤34 (n=184)**	1.76±0.56	1.88±0.59	1.27±0.47	1.58±0.50	1.94±0.59	21.88±8.25	13.73±3.90
	≥35 (n=41)	2.18±0.60	2.10±0.45	1.11±0.43	1.49±0.53	2.04±0.63	20.95±8.44	13.02±3.87
		u: -3.841 **p: .000**	u: -2.633 **p: .008**	u: -2.072 **p: .038**	u: -1.592 p: .111	u: -1.550 p: .583	u:-1.838 p:.402	u:-1.107 p:.269
Education	**Primary-Secondary Education(n=151)**	1.84±0.57	1.93±0.57	1.24±0.47	1.59±0.52	2.00±0.60	21.90±8.53	14.55±3.67
	Higher Education(n=74)	1.82±0.62	1.92±0.57	1.23±0.46	1.52±0.47	1.88±0.59	21.33±7.77	11.72±3.65
		u: -.209 p: .835	u: -.512 p: .609	u: -.493 p: .622	u: -.847 p: .397	u: -1.178 p: .239	u:-.045 p:.964	u:-5.222 **p:.000**
Previous problem birth	**No (n=176)**	1.86±0.56	1.94±0.57	1.26±0.47	1.57±0.58	1.94±0.58	21.41±7.17	13.52±3.82
	Yes (n=49)	1.74±0.68	1.88±0.56	1.16±0.46	1.55±0.50	2.03±0.65	26.36±10.18	13.91±4.19
		u: -1.243 p: .214	u: -.013 p: .990	u: -1.411 p: .158	u: -.130 p: .897	u: -.785 p: .432	u:-3.762 **p:.000**	u:-.443 p:.658

U: Mann Whitney U test

Table 3. The Comparison of the EPDS, SCS and BAI Point Averages According to The Pregnant Women's Demographic and Obstetric Characteristics (n:225)

		SCS Confident Approach to Herself	SCS Optimistic Approach	SCS Desperate Approach	SCS Submissive Approach	SCS Resorting For Social Support	BAI Average Score	EPDS Average Score
		Mean ± SD	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Parity	**Nulliparity(n=64)**	1.71±0.65	1.80±0.60	1.27±0.49	1.60±0.56	1.89±0.67	20.34±6.50	14.71±4.18
	Multiparity(n=161)	1.88±0.56	1.97±0.55	1.22±0.46	1.55±0.48	1.99±0.57	22.25±8.84	13.36±3.85
		u:-1.41 p:6.157	u: -2.023 **p:.043**	u: -.814 p: .416	u: -.546 p: .585	u: -.913 p: .361	u:-1.452 p:.147	u:-2.326 **p:.020**
Planned pregnancy	**Yes (n=181)**	1.80±0.58	2.04±0.51	1.11±0.40	1.58±0.51	1.96±0.59	21.56±7.97	13.83 ±3.96
	No(n=44)	1.96±0.62	1.90±0.58	1.27±0.48	1.52±0.47	1.97±0.67	22.06±9.47	13.30±4.13
		u:1.710 p:.087	u:1.970 **p:.049**	u:-1.989 **p:.047**	u:-.699 p:.484	u:-.123 p:.902	u:-.453 p:.650	u:-1.001 p:.317
Income	**Low(n:55)**	1.78±0.64	1.95±0.51	1.21±0.44	1.61±0.50	2.13±0.63	21.32±7.52	13.98±4.04
	Moderate (n:161)	1.85±0.57	1.88±0.59	1.26±0.47	1.56±0.48	1.90±0.59	22.01±8.50	13.44±3.71
	High (n:9)	1.77±0.68	2.24±0.46	0.95±0.48	1.29±0.78	1.94±0.34	18.55±8.74sosy	14.33±6.02
		KW: 0.565 p: .754	KW: 4.997 p: .082	KW: 2.977 p: .226	KW: 1.791 p: .408	KW: 5.629 p: .060	KW :0.811 p:.667	KW: 1.393 p:.498
Working Status of Women	**Employed (n=83)**	1.75±0.58	1.89±0.54	1.23±0.50	1.59±0.53	1.99±0.61	22.71±8.19	13.80 ±4.35
	Unemployed (n=142)	1.88±0.59	1.94±0.59	1.24±0.45	1.55±0.49	1.94±0.59	21.12±8.30	13.71±3.77
		u: -1.951 p: .051	u: -.775 p: .438	u: -.667 p: .505	u: -.586 p: .558	u: -.770 p: .441	u:-1.280 p:.201	u:-.014 p:.989

KW: Kruskal Wallis Test, U: Mann Whitney U test

Table 4: Relationship between EPDS, BAI and SCS sub dimension points

		SCALE OF COPING WITH STRESS SUB DIMENSION				
		CAH	**OA**	**DA**	**SA**	**RSS**
EPDS Average Point	**r**	-.042	-.073	.116	.015	.013
	p	.527	.273	0.82	.818	.846
BAI Average Point	**r**	-.139*	-.064	.049	.020	.016
	p	**.037**	.343	.464	.769	.811

*Correlation is significant at the 0.05 level (2-tailed). r: Pearson correlation coefficient (2-tailed)

Discussion

In this study, anxiety and depression levels of pregnant women who have preterm labor risk and coping with stress styles relationships were examined. In our findings, high anxiety levels and depression risk in the most of pregnant women with preterm labor risk were determined. In the literature, studies with same results are seen (Orr & Miller, 1995; Copper et al., 1996; Dayan et al., 2006; Sen & Sirin, 2013). According to these studies, it is stated that increase in the incidence of preterm labor and anxiety and depression have a relationship (Sen&Sirin, 2013). However, in the study of Dayan and friends, it was stated that, in the women who have high trait-status anxiety and depression points, preterm labor risk are seen more. (Dayan et al., 2006). Also in our study, it was determined that 66,7% of second and third trimester pregnant women with preterm birth risk, experienced medium or high level of anxiety (Lee et al., 2007). Our findings support the literature.

In the literature, despite of the many conducted studies on postpartum depression, researches related to pregnancy depression are limited (Brenda et al., 2009; Muzik et al., 2009). When the studies that search the depression prevalence were examined, it was stated 20 % in USA, 25 % in Canada and 30% in Finland (Da Costa et al., 2000; Marcus et al., 2003).

As a result of depression, norepinefrin and cortisol levels increasing, therefore, blood flow to uterus is decreasing and this situation forms very serious obstetric and neonatal problems on pregnant and fetus. Thus, in an observation study in America, preterm prevalence incidence was increased by 13 % and prevalence incidence of birth low weight baby was increased by 15 % in women who experience depression in pregnancy in comparison with non depressed pregnant women (Diego et al., 2009). Also in our study, 68,9 % of pregnant women with preterm labor risk have high depression risk and these can be associated with these results.

Different results as regards to the relationship between depression levels of pregnant women with preterm labor risk and socio-demographic variables, in literature exist. In the study of Akbas and friends, it was stated that pregnant women with higher education level have lower depression points, and in the study of Sahin and Kilicarslan (2010), between education level and depression, no meaningful relationship was found (Akbas et al., 2008; Sahin & Kılıcarslan, 2010). In the study of Gozuyesil and friends, it was stated that depression points of university graduate pregnant women were found lower than other pregnant women (Gozuyesil et al., 2008). Also in our study, similarly, depression risk points of pregnant women with higher education levels were found meaningfully low. It was thought that different results in the literature can be originated from methodology and cultural differences.

In addition to pregnancy's important place in women life, because of the physiological and psychological changes, it is evaluated as a developmental crisis or critic term, pregnant women's determination of coping with stress is important (Dağlar & Nur, 2014). In our study, it was determined that in order to cope with stress,

pregnant women with preterm labor risk mostly use resorting for social support and optimistic approach sub dimensions. Moreover, it was determined that as anxiety levels of pregnant women with preterm labor risk increase, they use confident approach to herself from active approaches less. In the study of Sahin and Durak, similarly negative correlation between anxiety level and confident approach was stated (Sahin & Durak, 1995). In this context, it can be said that anxiety level is a determinant factor which affects active coping mechanism.

In the 35 years old and older pregnant women, it was determined that they use confident approach and optimistic approach from coping with stress scale sub dimensions more, in contrast desperate approach was determined more in 34 years old and younger pregnant women. As different from our study, in the study of Bernazzi and friends on 213 pregnant women, they stated that older pregnant women use active (C.A.H, O.A, R.S.S) approaches less (Bernazzi et al., 1997). In the study of Yıılmaz and Beji, it was stated that coping with stress styles do not differ with age groups (Yilmaz & Beji, 2010). This situation made think us that it may be originated because of the increase in depression and anxiety levels as a result of nature of pregnancy. In our study, it was determined that older pregnant women use active approaches meaningfully more.

Past pregnancy story of pregnant (miscarry or abortion) and emotional and physical problems that they experience are risk factors for pregnancy depression (Muzik et al., 2009). Thus, in our study, depression risk of pregnant women who had problem in previous pregnancies was meaningfully high. Therefore, we can say that negative experiences in past pregnancies increase the depression risk of pregnant women.

Pregnancy in the wanted time and readiness for pregnancy are important factors that affect coping with stress. Hence, having baby at a proper time for themselves and family, increases the connection between mother and baby and in parallel with this, it forms a positive power in coping with stress. Also in our study, it was determined that women with planned pregnancy use optimistic approach meaningfully more and in contrast, women use unconfident approach from passive approach styles meaningfully more in unplanned pregnancies.

When the SCS sub dimensions were examined according to pregnancy number, optimistic approach points of multiparous women were determined meaningfully high. It was thought that this may arise from positive birth experiences that they experienced. In addition, meaningfully high depression risk in nulliparous women, supports this result.

Eventually, it was determined that 35 years and older multiparous pregnant women with planned pregnancy use active approaches from SCS scale sub dimensions more. In addition, when anxiety levels of pregnant women increase, less usage of SCS problem oriented approaches determined.

Anxiety levels of pregnant women who had problems in previous pregnancies and depression risks of 34 years and younger nulliparous pregnant women were determined statistically high. In the direction of these results, all health professionals need to be sensitive about the adaptation of active approach styles in coping with stress of nulliparous, young pregnant women with unplanned pregnancy in Turkey and they must evaluated carefully. In this context, psychosocial evaluation in the antenatal controls will benefit the diagnosis and prevention of psychological disorders such as anxiety and depression, in the early term. Hence, if the depression diagnosed in the pregnancy and treated effectively, an important step in prevention of postpartum depression will done.

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