The Physical and Psychological Problems of Hospitalized High-Risk Pregnant Women in Partial Bed Rest

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Abstract

Objective: The pregnant women who have high risk are prescribed partial/complete bed rest in hospital/home by health professionals. Hospitalized pregnant could have different physical and psychological problems which are related to bed rest. This descriptive study was conducted to determine the problems.

Methods: The sample group consisted of high-risk pregnant who had completed 16th gestational week, had partial bed rest in hospital for at least 5 days and were accepted to participate in the study (n=52). An information form, "Antepartum Symptom Report" and "Antepartum Hospital Stressors Inventory" (AHSI) were used for collection of the data. The data were evaluated with the tests of Cronbach (α) consistency coefficients, percentage, mean and correlation distribution.

Results: The pregnant women have lived mild mood changes, moderate tenseness and severe reflux in bed rest period. The pregnant have mostly experimented these stressors according to AHSI: "Thinking about my baby's health" and "Wondering how long I'll be in hospital". The psychological symptoms are related to physical symptoms, obstetric story and age.

Conclusion: Hospitalized high-risk pregnant women have some problems. The pregnant, who have planned pregnancies, have experi enced more severe nightmares and sensitiveness than the pregnant who have unplanned pregnancies ($p<0.001$). Level of tenseness and sensitiveness are associated with number of children ($p<0.05$). The nurses, who work in the perinatology services, have to know the problems related to bed rest in order to prevent mother's and baby's health.

Keywords: High-risk pregnancy, bed rest, nursing.

Kısmi yatak istirahati ile hastanede yatan yüksek riskli gebelerin yaşadığı fiziksel ve psikolojik borunlar

Amaç: Yüksek riskli gebeliklerde, gebeye öncelikle evde veya hastanede, kesin ya da kısmi yatak istirahatına geçmesi önerilir. Fakat özellikle hastanede yatan gebeler, yatak istirahatına bağlı olarak bazı fiziksel ve psikolojik sorunlar yaşamaktadırlar ve çalışmamız, bu sorunları belirlemek amacıyla tanımlayıcı olarak planlanmıştır.

Yöntem: Araştırmamızın örneklemini, 16. gebelik haftasını doldurmuş, en az 5 gündür hastanede kısmi yatak istirahatında bulunan ve çalışmaya katılmayı kabul eden 52 yüksek riskli gebe oluşturmuştur. Verilerin toplanmasında bir hasta tanılama formu, geçerlik-güvenirlik çalışmaları yapılmış "Antepartum Semptom Kontrol Listesi" ve "Antepartum Hastane Stresörleri Ölçeği" kullanılmıştır. Verilerin değerlendirilmesinde Cronbach (α) güvenirlik katsayısı hesaplaması, yüzdelik (%), ortalama (x) ve korelasyon hesaplamaları kullanılmıştır.

Bulgular: Gebeler, hastanede yatmaya bağlı olarak hafif düzeyde mizaç değişikliği, orta düzeyde gerginlik-sinirlilik ve şiddetli düzeyde reflü yaşamışlardır. Antepartum Hastane Stresörleri Ölçeği'ne göre gebelere en çok stres yaşatan konular "Bebeğimin sağlığını düşünme" ve "Hastanede ne kadar kalacağımı düşünme" olmuştur. Yaşanan psikolojik semptomların fiziksel semptomlarla, obstetrik özelliklerle ve yaşla ilişkisi olduğu belirlenmiştir.

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Sonuç: Hastanede yatak istirahatında olan yüksek riskli gebeler, bazı fiziksel ve psikolojik sorunlar yaşamaktadırlar. Planlı gebeliklerde hastaneye yatma, kabus görme ve daha duygusal olma durumlarıyla ileri derecede anlamlı ilişki göstermiştir ($p<0.001$). Yaşayan çocuk sayısı arttıkça gerginlik-sinirlilik ve daha duygusal olma durumlarında artış gözlenmiştir ($p<0.05$). Perinatoloji hemşirelerinin, hastanede yatan riskli gebelerin yaşaması olası sorunlar hakkında bilgi sahibi olması ve gerekli önlemleri alması, maternal ve fetal sağlığın sürdürülmesi açısından önemlidir.

Anahtar Sözcükler: Yüksek riskli gebelik, yatak istirahatı, hemşirelik.

Introduction

High-risk pregnancy is defined as "a physiologic and psyhcosocial state endangering the life and health of the mother, fetus or neonate, and increasing the risk of morbidity and mortality".[1,2] Complications that make a pregnant included in the "high-risk pregnancy" group are several: Anomalies of placenta, incompetent cervix, preeclampsia, preterm labor threat, systemic diseases (diabetes, anemia, infection etc.), Rh incompatibility, intrauterine growth retardation, cervical insufficiency and multiparity.[1-5]

In majority of high-risk pregnancies, pregnant woman is firstly recommended to take a bed rest at home or hospital. Bed rest is frequently recommended for risky pregnancies between 20-36 weeks' gestation. In the U.S., each year nearly 700,000 pregnant women with high risk are sent to bed.[1,3,6,7] Benefits of bed rest for high-risk pregnancies are that resting regulates uterus perfusion and fetal circulation; it reduces the pressure on cervix and provides an opportunity to take a rest to the pregnant.[1,3,8,9]

Despite such benefits, pregnant women who are at bed rest also experience some physiologic and psychosocial side effects. Degree of side effects varies according to the type and duration of the bed rest. The most common physiologic complications of bed rest are as follows: fluid and electrolyte imbalance, reduction in the stroke volume, slow pulse, muscle atrophy, loss of calcium, glucose intolerance, weight loss, increased coagulation factors, reflux, constipation, headache and delayed postpartum rehabilitation.[1,3,9] And, psychosocial problems related with bed rest are listed as follows: anxiety, low self-esteem, self-blaming, frustration, conflict, sentimentality, crisis, uncertainity, loss of control, boredom and concerns about fetus.[1,3,4,10-12]

Main causes of psychosocial problems observed in pregnant women with risk include separation from family due to hospitalization, being uncomfortable with hospital atmosphere and other patients, and economic concerns. Any increase in the degree and duration of bed rest would increase the level of problems experienced.[1,3,4,10,16]

Information about the type and duration of bed rest recommended for high-risk pregnancies is unclear.[1,16] A national study carried out in the U.S. by Maloni et al. showed that types and duration of bed rest advised by obstetricians in risky conditions vary greatly.[7]

There are three types of bed rest: Type 1: Light bed rest (light housework, part-time working, short-distance walking, two-hours resting within day), Type 2: Moderate bed rest (leaving job, need for assistance for housework, restricted exercise including walking, resting at most part of the day), Type 3: Complete bed rest (staying at bed all day long, eating at bed, only bathroom privileges). Types of bed rest ordered in Turkish hospitals are Type 2 (also known as partial bed rest) and Type 3 (also known as strict bed rest).[1,3] Bed rests recommended by Sachar et. al. for high-risk pregnancies are also classified as "Light", "Moderate" and "Heavy". In this study, the investigators scored the activities during the rest and identified the bed rest range for a high-risk pregnant woman.[17]

In any woman who has a pregnancy-related risk, her own health and child's health are under threat. As already demonstrated by many studies, the psychosocial status of physically high-risk pregnant women is also at risk, and increased anxiety causes development of various complications related with pregnancy and labor (pregnancy related vomitting, pregnancy toxemia, recurrent miscarriage, dystocia, preterm labor etc.).[2,4,513,14]

Nurses taking care of high-risk pregnants at bed rest should be acknowledged about the physical and psychological problems that women can experience related with the bed rest at pregnancy and apply nursing practices that will prevent or at least minimize such problems. Based on this, we planned to identify and define the physiologic and physical problems that high-risk pregnant women at partial bed rest may experience.

Methods

The field of our study included high-risk pregnant women hospitalized at the Department of Obstetrics and Gynecology of a Social Insurance Institution (SII) hospital in İstanbul between December 2003 and April 2004, and our sampling consisted of 52 pregnant women with high-risk who had completed their 16 weeks' gestation, and hospitalized for partial bed rest at least for a period of five days and accepted to participate in the study. The clinic, location of the study, admits mean 15-20 high-risk pregnancies per month. We've reached to all of the pregnant women who had been admitted to the clinic during our study period and who were complying with our criteria.

For data collection, "Patient Information Form", "Antepartum Symptom Control List" and "Antepartum Hospital Stressors Inventory (AHSI)" were used. Patient Information Form consists of 16 questions to collect data about the demographic, obstetric and gynecologic status of the pregnant women. Antepartum Symptom Control List is a Likert-type form (grading scale), comprising 46 items used for identifying the physical and psychological symptoms of pregnants at bed rest, which was developed by Maloni in 1993. The Cronbach's alpha coefficient was α0.79 (35 cases) in the Maloni study; it was found 0.94 (60 cases) in the study by Oskay who translated the form into Turkish and realized its validitation; and it was found 0.88 (52 cases) in our study. Antepartum Hospital Stressors Inventory is also a Likert-type scale (grading scale), which was first developed by White &Richie in 1981, and then improved by Maloni in order to evaluate the sources of stress for hospitalized high-risk pregnant women. The stressors were gathered in 7 sub-groups in the scale such as "Separation", "Environment", "Health status", "Communicaton with Health Providers", "Self-image", "Emotional status" and "Family Status". The stress resulting from those stressors were classified as "No stress=0", "Slightly stressed =1", "Stressed =2", "Very stressed=3" and "Extremely stressed=4" depending on their severity. If the stressor is not related, the patient selects "Not applicable for me". The Cronbach's coefficient was found at an interval of 0.61 – 0.93 by White &Richie, of _0.63 –0.93 by Maloni et. al., and of 0.65- 0.83 by Oskay who translated the scale into Turkish and performed its validation. The alpha range was found between 0.62 to 0.87 in our study. For the assessment of data, Cronbach alpha coefficient calculation, calculations of percentage (%), mean (x), standard deviation (±SD) and correlation were used.

Results

An analysis of demographic and obstetric characteristics of the pregnant women hospitalized due to partial bed rest showed that 30.79% were aged between 19 and 23 years; 92.30% were not working; 69.24% were graduated from elementary school; 71.6% were willingly conceived; and 71.15% had no other child yet (Table 1). It was shown that during the hospitalization period, the pregnant women received best support from their husbands (80.76%), they mostly communicated with their roommates (86.53%), and they mostly chatted with their roommates during their leisure time (92.30%) (Table 2). At the end of the study, it was found out that 53.84% of pregnant women would have preferred to take their bed rest at home (Table 3).

The most commonly experienced psycological findings associated with hospitalization for pregnant women were mild attitude change (38.46%), moderate tension-nervousness (46.15%), severe boredom (23.08%), moderate nightmare (%28.84) and moderate emotionality (23.08%) (Table 4).

And the most commonly experienced physical findings associated with hospitalization for pregnant women were severe reflux (38.46%), mild pubic pain (48.08%), moderate back pain (38.46%), mild leg pain (44.23%), moderate dry lips (38.46%), mild skin tenderness (46.15%), mild pelvic/pubic pain/ache (53.85%), mild cramp at legs (46.15%), moderate headache (46.15%), mod-

Table 1. Demographic and obstetric characteristics of the participants.

	Feature	n	%	Total
Age	19-23	16	30.79	52
	24-28	12	23.07	
	29-33	12	23.07	
	34 and over	12	23.07	
Occupational Status	Works	4	7.70	52
	Doesn't work	48	92.30	
Educational Status	Literate	4	7.69	52
	Elementary scholl	36	69.24	
	High scholl	9	17.31	
	University	3	5.76	
Status of Pregnancy Willingness	Willing	37	71.16	52
	Unwilling	15	28.84	
Number of Pregnancy	1	32	61.53	52
	2	14	26.94	
Numer of Deliveries	3 and over	6	11.53	52
	0	36	69.23	
	1	6	11.53	
	2 and over	10	19.24	
Miscarriage/Currettage Status	Yes	19	36.54	52
	No	33	63.46	
	0	37	71.15	
Number of living Children	1	7	13.46	
	2 and over	8	15.39	52

Table 2. Features related with bed rest of participants.

	Features	n	%	Total
Previous Hospitalization for this Pregnancy	Yes	10	19.24	
	No	42	80.76	52
Previous Bet Rest at Home for this Pregnancy	Yes	24	46.16	52
	No	28	53.84	
Status of Attendant	Yes	11	21.16	52
	No	41	78.84	
Supporting Persons*	Partner	42	80.76	*
	Parents	34	65.38	
	Children	0	0.00	
	Friends/Neighbour	6	11.53	
Persons Mostly Communicated in the Hospital*	Physician	7	13.46	*
	Nurse	33	63.46	
	Roommate	45	86.53	
Leisure Time Activities*	Handwork	6	11.53	*
	TV/Müzik	4	7.69	
	Reading			
	Chat with room	8	15.38	
	mates	48	92.30	

* More than one response.

erate sleeplessness after waking up (38.46%), mild involuntary drowsiness at day time (55.76%) and mild dizziness (59.61%) (Table 5).

According to the Antepartum Hospital Stressors Inventory, the most common stressors for pregnant women were as follows: "anxious about the baby's well-being" (3.61 points over 4), "anxious about hospitalization period" (3.30 points), "separation from my family" (3.27 points), "concerns about the care of children at home" (3.25 points), "lack of information about my status" (3.18 points), "concerns about labor" (3.16 points), "feeling sad" (3.06 points) and "feeling bored" (3.03 points) (Table 6).

It was also found out that as age advanced and parity increased, concentration was reduced in the high-risk pregnant women participated in our study; again, tension-nervousness was increased as age advanced; women who willingly conceived were more tense, more emitonal and had nightmares compared to those who were unwillingly conceived; and tension and emotionality were increased as the number of living children increased (Table 7).

It was also found out that findings for tension-nervousness and being more emotional of "Separation" sub-group in the Antepartum Hospital Stressors Inventory scale, findings for sensorial changes and having nightmares of "Environment" subgroup, findings for tension-nervousness of "Health" subgroup, findings for boredom of "Communication with Health Providers" subgroup and "Self-image" subgroup, findings for attitude change and being more emotional of "Emotional status" subgroup and findings for tension-nervousness of "Family status" subgroup were all related. Significant relations were found between the physical findings and psychological findings experienced by the high-risk pregnant women participated in our study. Reflux was significantly related with tension and boredom; nausea with lack of concentration; pubic pain with tension and being more emotional; pelvic pain/ache with being more emotional; earache, headache and sight problems with lack of cencentration; sleeplessness after waking up with attitude change and having nightmares; waking up unrefreshed and dizziness with tension; drowsiness at daytime with tension; tiredness with lack of concentration and sensorial changes, and finally stuffiness with tension (Table 9).

Table 3. Distribution of the responses to the question "Would you prefer taking bed rest at home?"

	Response	n	%	Total	%
RESPONSE	o better take care of my children	14	50.00	28	53.84
	To take a showe	8	28.58		
Yes	I feel irritated at hospital	3	10.71	24	46.16
	My house is very close to the	1	3.57		
	Hospital is annoying	2	7.14		
	I feel safe at hospita	16	66.66		
No	I've been taken better care of	6	25.00	52	100
	I feel more rested at hospital	2	8.34		
Total					

Table 4. Distribution of bed rest associated psychological symptoms experienced by pregnant women.

	Absent		Mild		Moderate		Severe	
Psychological Symptoms	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Difficulty in concentrating	26	50.00	14	26.92	12	23.08	0	0.00
Attitude change	24	46.15	20	38.46	8	15.39	0	0.00
Tension-nervousness	11	21.16	17	32.69	24	46.15	0	0.00
Boredom	8	15.39	15	28.84	17	32.69	12	23.08
Sensorial changes	44	84.61	2	3.84	0	0.00	6	11.55
Nightmares	34	65.40	3	5.76	15	28.84	0	0.00
Being more emotional	37	71.16	3	5.76	12	23.08	0	0.00

Table 5. Distribution of bed rest associated physical symptoms experienced by pregnant women.

	Absent		Mild		Moderate		Severe	
Physical Symptoms	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Indigestion	25	48.08	15	28.84	7	13.46	5	9.62
Reflux	4	7.69	16	30.77	12	23.08	20	38.46
Nausea	21	40.38	9	17.30	13	25.02	9	17.30
Loss of apetite	27	51.92	4	7.69	14	26.92	7	13.46
Pubic pain	3	5.76	25	48.08	16	30.77	8	15.39
Other abdominal problems	40	76.92	12	23.08	0	0.00	0	0.00
Hip pain	29	55.78	20	38.46	3	5.76	0	0.00
Back pain	12	23.08	12	23.08	20	38.46	8	15.39
Leg pain	13	25.02	23	44.23	4	7.69	12	23.08
Pain in the external ear	41	78.85	8	15.39	3	5.76	0	0.00
Low back pain	37	71.15	0	0.00	9	17.30	6	11.55
Rash/erythema	39	75.00	13	25.00	0	0.00	0	0.00
Dry skin	26	50.00	7	13.46	11	21.15	8	15.39
Dry lip	4	7.69	16	30.77	20	38.46	12	23.08
Skin tenderness	12	23.08	24	46.15	12	23.08	4	7.69
Heel pain	43	82.71	4	7.69	3	5.76	2	3.84
Calf pain	29	55.76	9	17.30	8	15.39	6	11.55
Knee tenderness	45	86.56	3	5.76	2	3.84	2	3.84
Pelvic/pubic pain/ache	4	7.69	28	53.85	16	30.77	4	7.69
Cramp at legs	12	23.08	24	46.15	12	23.08	4	7.69
Earache	40	76.92	8	15.39	4	7.69	0	0.00
Headeache	4	7.6	12	23.0	24	46.15	12	23.0

Table 5. (continued) Distribution of bed rest associated physical symptoms experienced by pregnant women.

	Absent		Mild		Moderate		Severe	
Physical Symptoms	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Sight problems	37	71.15	0	0.00	9	17.30	6	11.55
Difficulty in sleeping	14	26.92	12	23.08	13	25.00	13	25.00
Waking up to go to bathroom	11	21.16	15	28.84	14	26.92	12	23.08
Waking up at night	25	48.09	13	25.00	5	9.61	9	17.30
Sleeplessness after waking up	13	25.00	12	23.08	20	38.46	7	13.46
Unrefreshed waking up	16	30.78	16	30.76	9	17.30	11	21.16
Involuntary drowsiness at daytime	9	17.30	29	55.76	8	15.39	6	11.55
Shortness of breath due to exercise/extreme activities	15	28.84	17	32.70	10	19.23	10	19.23
Dizziness	19	36.55	31	59.61	2	3.84	0	0.00
Faintness	33	63.45	0	0.00	19	36.55	0	0.00
Exhaustion	12	23.08	22	42.30	11	21.16	7	13.46
Constipation	23	44.23	18	34.61	6	11.55	5	9.61
Stuffiness	24	46.15	27	51.92	1	1.93	0	0.00
Edema	25	48.09	13	25.00	5	9.61	9	17.30
Hemorrhoid	26	50.00	11	21.16	12	23.08	3	5.76

Table 6. Distribution of stress scores for pregnant women at bed rest.

Antepartum Hospital Stressors Inventory	**n***	**X**	**±SD**
Seperation	52	2.43	0.97
6. Sleeping alone	52	2.30	1.11
7. Being away from my job	4	2.00	0.00
10. Being away from home	52	2.53	0.13
19. Being away from my husband	52	2.76	0.88
22. Being away from habitual works	52	1.92	0.43
32. Being away from my friends	52	2.23	0.98
47. Being away from my family	52	3.27	1.25
Environment	52	2.19	0.95
16. Sleeping in an unknown bed	52	2.48	0.64
20. Lack of privacy	52	2.92	1.01
25. Boredom of being idle	52	2.56	0.78
26. Eating hospital meals	52	1.92	0.20
28. Hearing pulses from the monitor	52	1.61	0.15
35. Noise disturbance of hospital staff	52	2.97	1.09
38. Dependence on hospital staff for room cleaning	52	1.53	0.44
39. Noise disturbance in the hospital	52	2.38	0.95
40. Sharing the room with other patients	52	1.38	0.44
Health Status	52	2.72	0.66
3. Medication	52	2.88	0.79
4. Anxious about my own health	52	2.23	0.47
9. Tests	52	2.38	1.03
14. Anxious about my baby's well-being	52	3.61	1.26
27. Concerns about duration of hospitalization	52	3.30	1.17
36. Concerns about the well-being of other patients	52	2.15	0.54
44. Concerns about test results	52	2.44	0.48
48. Being tired of staying in bed	52	2.79	0.88
Communication with Health Providers	52	2.08	0.69
5. Trying to understand the explanations of test results	52	1.84	0.56
12. Trying to understand the medical terminology	52	2.39	0.89
13. Too much information about my status	52	1.84	0.34
33. Lack of information about my status	52	3.18	1.63
41. Hasty attitudes of nursing staff	52	1.69	0.87
45. Talking about myself to health professionals whom I don't know	52	1.0	0.5
49. Diverse and varying opinions of health professionals	37	2.55	0.74

Table 6. (continued) Distribution of stress scores for pregnant women at bed rest.

Antepartum Hospital Stressors Inventory	n*	X	±SD
Self-image	52	1.97	0.69
1. Being less active than usual	52	2.46	0.38
2. Not being at home to make arrangements for the baby	52	1.61	0.45
8. Concerns about being a mother	52	1.78	0.76
11. Questioning by other patients and visitors	52	1.46	0.49
17. Dependency on others	52	1.79	0.62
31. Wearing pyjgamas/nightgown all the time	52	1.57	0.67
42. Concerns about labor	52	3.16	1.34
Emotional Status	52	2.54	0.92
15. Feeling sad	52	3.06	1.06
21. Fearfull	52	2.81	0.77
24. Distressful	52	3.03	1.30
30. Angry	52	1.23	0.61
46. Lonely	52	2.61	0.76
Family Status	52	1.97	0.33
18. Thinking of my partner who overtook my responsibilities	52	2.07	0.82
23. Concerns about the care of children at home	15	3.25	1.16
34. Concerns about the hospital charges	52	0.61	0.11

* n, "Bana uygun değil" seçeneğini cevaplayan kişiler çıkartılarak hesaplanmıştır.

Table 7. Correlation between the age and obstetric characteristics of pregnant women and the psychological smptoms experienced.

	Psychological Symptoms													
Features of Pregnants	**Difficulty in concen-trating**		**Attitude change**		**Tension-Nervousness**		**Boredom**		**Sensorial changes**		**Nightmares**		**Being more emotional**	
Age	r=.37	p<0.05	r=.18	p>0.05	r=.43	p<0.05	r=.08	p>0.05	r=.15	p>0.05	r=.03	p>0.05	r=.17	p>0.05
Planned Pregnancies	r=.09	p>0.05	r=.22	p>0.05	r=.51	p<0.05	r=.11	p>0.05	r=.26	p>0.05	r=.73	p<0.001	r=.80	p<0.0001
Unintended Pregnancy	r=.07	p>0.05	r=.02	p>0.05	r=.10	p>0.05	r=.09	p>0.05	r=.08	p>0.05	r=.03	p>0.05	r=.13	p>0.05
Parity	r=.34	p<0.05	r=.24	p>0.05	r=.21	p>0.05	r=.26	p>0.05	r=.07	p>0.05	r=.06	p>0.05	r=.22	p>0.05
Miscarriage/Curretage Status	r=.00	p>0.05	r=.03	p>0.05	r=.06	p>0.05	r=.01	p>0.05	r=.00	p>0.05	r=.09	p>0.05	r=.19	p>0.05
Number of Living Children	r=.24	p>0.05	r=.21	p>0.05	r=.39	p<0.05	r=.19	p>0.05	r=.13	p>0.05	r=.11	p>0.05	r=.52	p<0.05

Table 8. Correlation between the mean stress scores of pregnant women and the psychological symptoms experienced.

	Psychological Symptoms													
Anteparum Hospital Stressors Inventory	**Difficulty in concen-trating**		**Attitude change**		**Tension-Nervousness**		**Boredom**		**Sensorial changes**		**Nightmares**		**Being more emotional**	
Separation	r=.26	p>0.05	r=.19	p>0.05	r=.66	p<0.01	r=.28	p>0.05	r=.12	p>0.05	r=.28	p>0.05	r=.75	p<0.001
Environment	r=.24	p>0.05	r=.23	p>0.05	r=.18	p>0.05	r=.19	p>0.05	r=.39	p<0.05	r=.37	p<0.05	r=.27	p>0.05
Health Status	r=.28	p>0.05	r=.27	p>0.05	r=.73	p<0.001	r=.23	p>0.05	r=.21	p>0.05	r=.27	p>0.05	r=.26	p>0.05
Communication with Health Providers	r=.18	p>0.05	r=.22	p>0.05	r=.25	p>0.05	r=.41	p<0.05	r=.14	p>0.05	r=.17	p>0.05	r=.16	p>0.05
Self-image	r=.11	p>0.05	r=.13	p>0.05	r=.15	p>0.05	r=.44	p<0.05	r=.12	p>0.05	r=.13	p>0.05	r=.27	p>0.05
Emotional Status	r=.21	p>0.05	r=.53	p<0.05	r=.22	p>0.05	r=.20	p>0.05	r=.23	p>0.05	r=.21	p>0.05	r=.68	p<0.01
Family Status	r=.23	p>0.05	r=.21	p>0.05	r=.64	p<0.01	r=.24	p>0.05	r=.16	p>0.05	r=.22	p>0.05	r=.28	p>0.05

Table 9. Correlation between the physical and psychological symptoms of pregnant women.

	Psychological Symptoms																			
Physical Symptoms	**Difficulty in concentrating**		**Attitude change**		**Tension-Nervousness**		**Boredom**		**Sensorial changes**		**Nightmares**		**Being more emotional**	
Indigestion	r=.02	p>0.05	r=.14	p>0.05	r=.19	p>0.05	r=.13	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Reflux	r=.13	p>0.05	r=.16	p>0.05	r=.43	p<0.05	r=.55	p<0.05	r=.02	p>0.05	r=.00	p>0.05	r=.19	p>0.05
Nausea	r=.74	p<0.001	r=.11	p>0.05	r=.27	p>0.05	r=.26	p>0.05	r=.06	p>0.05	r=.11	p>0.05	r=.18	p>0.05
Loss of apetite	r=.15	p>0.05	r=.24	p>0.05	r=.28	p>0.05	r=.27	p>0.05	r=.03	p>0.05	r=.09	p>0.05	r=.21	p>0.05
Pubic pain	r=.19	p>0.05	r=.15	p>0.05	r=.65	p<0.01	r=.22	p>0.05	r=.01	p>0.05	r=.18	p>0.05	r=.41	p<0.05
Other abdominal problems	r=.06	p>0.05	r=.03	p>0.05	r=.17	p>0.05	r=.11	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Hip pain	r=.00	p>0.05	r=.00	p>0.05	r=.14	p>0.05	r=.13	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Back pain	r=.03	p>0.05	r=.00	p>0.05	r=.19	p>0.05	r=.14	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Leg pain	r=.00	p>0.05	r=.00	p>0.05	r=.16	p>0.05	r=.13	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Pain in the external ear	r=.21	p>0.05	r=.17	p>0.05	r=.12	p>0.05	r=.19	p>0.05	r=.05	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Low back pain	r=.00	p>0.05	r=.01	p>0.05	r=.16	p>0.05	r=.21	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Rash/erythema	r=.00	p>0.05	r=.00	p>0.05	r=.03	p>0.05	r=.12	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Dry skin	r=.00	p>0.05	r=.00	p>0.05	r=.20	p>0.05	r=.11	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Dry lip	r=.00	p>0.05	r=.00	p>0.05	r=.15	p>0.05	r=.08	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Skin tenderness	r=.00	p>0.05	r=.03	p>0.05	r=.10	p>0.05	r=.15	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Heel pain	r=.00	p>0.05	r=.00	p>0.05	r=.04	p>0.05	r=.09	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Calf pain	r=.00	p>0.05	r=.00	p>0.05	r=.06	p>0.05	r=.11	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Knee tenderness	r=.00	p>0.05	r=.00	p>0.05	r=.03	p>0.05	r=.10	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Pelvic/pubic pain/ache	r=.22	p>0.05	r=.16	p>0.05	r=.23	p>0.05	r=.17	p>0.05	r=.01	p>0.05	r=.17	p>0.05	r=.39	p<0.05
Cramp at legs	r=.01	p>0.05	r=.07	p>0.05	r=.08	p>0.05	r=.06	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Earache	r=.48	p<0.05	r=.22	p>0.05	r=.18	p>0.05	r=.17	p>0.05	r=.03	p>0.05	r=.09	p>0.05	r=.16	p>0.05
Headache	r=.55	p<0.05	r=.27	p>0.05	r=.28	p>0.05	r=.26	p>0.05	r=.02	p>0.05	r=.23	p>0.05	r=.20	p>0.05
Sight problems	r=.46	p<0.05	r=.28	p>0.05	r=.21	p>0.05	r=.27	p>0.05	r=.07	p>0.05	r=.16	p>0.05	r=.19	p>0.05
Difficulty in sleeping	r=.11	p>0.05	r=.18	p>0.05	r=.23	p>0.05	r=.25	p>0.05	r=.00	p>0.05	r=.10	p>0.05	r=.12	p>0.05
Waking up to go to bathroom	r=.07	p>0.05	r=.04	p>0.05	r=.09	p>0.05	r=.10	p>0.05	r=.00	p>0.05	r=.02	p>0.05	r=.00	p>0.05
Waking up at night	r=.18	p>0.05	r=.19	p>0.05	r=.20	p>0.05	r=.20	p>0.05	r=.00	p>0.05	r=.11	p>0.05	r=.03	p>0.05
Sleeplessness after waking up	r=.22	p>0.05	r=.36	p<0.05	r=.24	p>0.05	r=.26	p>0.05	r=.00	p>0.05	r=.38	p<0.05	r=.02	p>0.05
Unrefreshed waking up	r=.38	p<0.05	r=.26	p>0.05	r=.24	p>0.05	r=.48	p<0.05	r=.02	p>0.05	r=.13	p>0.05	r=.06	p>0.05
Involuntary drowsiness at daytime	r=.16	p>0.05	r=.20	p>0.05	r=.53	p<0.05	r=.24	p>0.05	r=.01	p>0.05	r=.08	p>0.05	r=.09	p>0.05
Shortness of breath due to exercise/extreme activities	r=.09	p>0.05	r=.04	p>0.05	r=.11	p>0.05	r=.13	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.13	p>0.05
Dizziness	r=.39	p<0.05	r=.26	p>0.05	r=.19	p>0.05	r=.52	p<0.05	r=.03	p>0.05	r=.20	p>0.05	r=.22	p>0.05
Faintness	r=.03	p>0.05	r=.09	p>0.05	r=.17	p>0.05	r=.13	p>0.05	r=.05	p>0.05	r=.12	p>0.05	r=.24	p>0.05
Exhaustion	r=.35	p<0.05	r=.27	p>0.05	r=.21	p>0.05	r=.20	p>0.05	r=.35	p<0.05	r=.19	p>0.05	r=.16	p>0.05
Constipation	r=.11	p>0.05	r=.06	p>0.05	r=.20	p>0.05	r=.19	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05
Stuffiness	r=.10	p>0.05	r=.02	p>0.05	r=.32	p<0.05	r=.12	p>0.05	r=.07	p>0.05	r=.00	p>0.05	r=.03	p>0.05
Edema	r=.12	p>0.05	r=.10	p>0.05	r=.24	p>0.05	r=.21	p>0.05	r=.04	p>0.05	r=.11	p>0.05	r=.18	p>0.05
Haemorrhoid	r=.02	p>0.05	r=.08	p>0.05	r=.22	p>0.05	r=.18	p>0.05	r=.00	p>0.05	r=.00	p>0.05	r=.00	p>0.05

Discussion

Major part of our demographic data is parallel to the demographic data of the study carried out by Oskay1 on 60 pregnant women at partial and complete bed rest. According to our data, the pregnant women were mostly supported by their partners (80.76%) and parents (65.38%) during the hospitalization period. Similarly, in the study by Oskay 1 most of the support was provided by partners (91.7%), close relatives (61.7%) and parents (55.0%). The results of an interview carried out by Gupton, Heaman and Aschroft 11 'with 24 high-risk pregnant women at bed rest showed that parents and friends are most common support providers. In a study by Maloni, Brezinski-Tomasi and Johnson12 on 89 high-risk hospitalized pregnant women, the pregnant women and their partners were evaluated together, and it was found out that most common sources of support were parents and close relatives. In a study carried out by Schroeder15 on 12 high-risk pregnant women, it was also shown that pregnant women are mostly supported by their parents and close relatives during the hospitalization period. Our data is also in compliance with the literature.

Our participants mostly communicated with their roommates during the hospitalization period (86.53%). It was also reported by Oskay 1 that pregnant women communicated with their roommates at most (83.3%). Our participants spent most of their leisure time by chatting (92.3%); rate for reading was very low (15.38%). It is also the case in the Oskay1 study that pregnant women spent most of their time by chatting (85%), but rate for reading was pretty high (75.0%). Lower reading rates in our study may result from the fact that majority of our participants were graduated from elementary school.

Of all pregnant women participated in our study, 53.84% indicated that they would have preferred to take bed rest at home whereas in the Oskay study[1], 53.3% of pregnant women expressed that they would prefer to stay at hospital for bed rest. In our study, the pregnant women, who indicated that they would have preferred to take bed rest at home, explained that they would prefer it in order to be able take care of their children, take a bath and not to feel bored and irritated.

Presence and severity of bed-rest-associated physical (reflux, pelvi/back/leg pain, dry lip, skin tenderness, headache, stuffiness, sleep disorders, etc.) and psychological (attitude change, tension-nervousness, boredom, etc.) symptoms in the pregnant women participated in our study are parallel with the study carried out by Oskay and Şahin3. Nine out of 10 high-risk pregnant women participated in this study indicated that they mostly experienced “boredom” among psychological symptoms, and eight out of 10 pregnant women indicated that they mostly experienced “sleep disorder” among all physical symptoms. McGain and Deatrick[10] studying the hospitalization-associated-psychological problems experienced by 21 high-risk pregnant women showed that the pregnant women remarkably experienced “anxiety”, “attitude change” and “boredom”. Psychological problems identified by Gupton, Heaman and Aschroft[11] in risky pregnancies are as follows: Boredom, sense of loss of control and being a prisoner, uncertainity, being tired of waiting and concerns regarding fetus’s well being. In Schroeder’s[15] study, it was reported that pregnant women who were at bed rest in the hospital underwent serious physical and psychological changes. The results of our study are supportive to the literature in that respect.

The most common stressors for the high-risk pregnant women participated in our study were “anxious about my baby’s well-being", "concerns about hospitalization period", "Being away from my family", "Concerns about the care of children at home", "Lack of information about my status", "Concern about labor" and "Feeling sad". Findings of “Being away from my family”, “Lack of information about my status” and “Feeling sad” were similar to the study carried out by Oskay.[1] The hospital stressors identified by Gupton, Heaman and Aschroft[11] in high-risk pregnant women were "Feeling irritated", "Anxious about my baby’s well-being", "Concerns about care of children at home" and "Being away from my family". The results of a study by Heaman and Gupton[13] on 24 hospitalized risk pregnancies have shown that the most important stressors were "Being away from by family", "Lack of privacy" and "Uncomfortable hospital conditions". The major stressor identified by Martin-Arafeh et al.[14] and Maloni[16] is also "Being away from my family". Our results are in parallel to the literature.

Depending on our data, as age advanced, difficulty in concentrating and tension-nervousness increased in the pregnant women at bed rest ($p<0.05$). There was a significant relation between planned pregnancies and tension-nervousness ($p<0.05$). Again, a significant relation was found between planned pregnancies and nightmares ($p<0.01$) and being more emotional ($p<0.0001$). As parity increased, concentration problems increased ($p<0.05$). As number of living children increased, tension-nervousness and being more emotinal became more intense ($p<0.05$). Those results were supported by the fact that pregnant women with one or more children preferred to take bed rest at home rather than at hospital. Pregnant women with children are concerned about their children at home as well as the risks of their current pregnancy and they experience psychological problems.

We have found a significant relation between the stressors and the psychological symptoms the pregnant women experienced. The most strong relationships were found between the stress caused by leaving home and being more emotional ($p<0.001$), and stress caused by health status and tension-nervousness ($p<0.001$). Emergence of psychological problems due to being away from home and fetus’s health being under threat during pregnancy is a comprehensible situation.

From physical symptoms experienced by pregnant women, nausea was very significantly related with concentration problem ($p<0.001$). Pelvic pain and tension-nervousness were significantly related ($p<0.01$). Such physical and psychological problems are considered to be associated with pregnant woman’s fear of fetus loss. We have found that psychological problems experienced by high-risk pregnant women participated in our study were related with age, obstetric characteristics and physical problems experienced. Pregnant women experience some physical and psychological problems due to the bed rest at hospital, and physical problems are significantly related with psychological problems. Age and obstetric histories of the

pregnant women have an impact on the structure and level of the psychological problems. Studies have shown that efficient nursing care significantly reduced the physical problems of high-risk pregnant women at bed rest. Oskay[1] emphasized that professional support is required to eliminate the psychological problems. However, our data showed that there was a significant relation between physical problems and psychological problems, which amplifies the significance of nursing care that would be given for elimination of physical problems.

Conclusion

In our study aiming to identify the bed rest associated physical and psychological problems of the high-risk pregnant women at partial bed rest, it has been found out that physical symptoms of the pregnant women were at mild and moderate levels, and they mostly experienced reflux, pelvic/back/leg pains, headache, dry lip and sleep disorders. Psychological problems were usually at moderate levels, and they mostly experienced boredom, tension-nervousness, nightmares and being more emotional. The most common stressors of pregnancy were "Anxious about my baby's well-being", "Concerns about hospitalization period" and "Being away from my family". It was also shown that psychological symptoms are related with age, obstetric characteristics and physical symptoms.

All nurses working at perinatology services should be informed about the bed rest associated physical and psychological problems that we identified and they should be alarmed about the precursor indications. It is very important to support their knowledge about risky pregnancies and side effects of the bed rest by continous training programmes. Evidence-based information and practices are changing and developing day by day. Nursing approaches including various options are needed.

Monitoring high-risk pregnant women at home is vital in achieving healthy pregnancy outcomes as major part of bed rests is also held at home. Efficiency of perinatology nurses at home-care functions, and giving training and consultation to the pregnant women would be of great help. Based on this, preparation of monitoring procedures about pregnancy home care, instructing the pregnant and her family, organizing programmes addressing the patient follow-up methods by phone, and early planning and application of measures to be taken have become essential for executing a contemporary nursing care to provide the pregnant women, who takes bed rest at home, with a safe delivery and a healthy neonate.

References

1. Oskay, Ü.Y. Hastanede yatak istirahatindeki yüksek riskli gebelerde ortaya çıkan sorunların giderilmesinde hemşirenin rolünün belirlenmesi. İ.Ü.S.B.E. Hemşirelik Anabilim Dalı doktora tezi, İstanbul, 2001. (Dan. A. Coşkun).
2. Ergeneli MH, Durukan T. Riskli Gebe İzlemi ve Doğumu. In: Kişnişçi H ve ark. (Ed.). Temel Kadın Hastalıkları ve Doğum Bilgisi. Ankara, Güneş Kitabevi; 1996; p: 319-31.
3. Oskay ÜY, Şahin NH. Hastanede yatak istirahatindeki yüksek riskli gebelerde ortaya çıkan stresörler. *Hemşirelik Forumu Dergisi* 2003; 6: 33-9.
4. Gilbert ES, Harmon JS. Yüksek Riskli Gebelik ve Doğum El Kitabı. Çev. Ed. L.Taşkın. Ankara, Palme Yayıncılık; 2002; 123-31.
5. Coşkun A. Yüksek riskli gebelerin tanılanmasında hemşirenin sorumlulukları. *Hemşirelik Bülteni* 1995; 9: 31-9.
6. Maloni JA, Alexander GR, Schluchter MD, Shah DM. Antepartum bed rest: Maternal weight change and infant birth weight. *Biol Res Nurs* 2004; 5: 177-186.
7. Maloni JA, Cohen AW, Kane JH. Prescription of activity restriction to treat high-risk pregnancies. *J Women Health* 1998; 7: 351-8.
8. Arısan K. Propedötik Kadın-Doğum. İstanbul, Nobel Tıp Kitapevleri; 1997; 368-9.
9. Maloni JA, Change, B, Zhang C, Cohen AW, Betts D. Physical and psychosocial side effects of antepartum hospital bed-rest. *Nurs Res* 1993; 42: 197-203.
10. McCain GC, Deatrick JA. The experience of high-risk pregnancy. *J Obstet Gynecol Neon Nurs* 1994; 23: 421-7.
11. Gupton A, Heaman M, Ashcroft T. Bed rest from the perspective of the high-risk pregnant woman. *J Obstet Gynecol Neon Nurs* 1997; 26: 423-30.
12. Maloni JA, Brezinski-Tomasi JE, Johnson LA. Antepartum bed rest: effect upon the family. *J Obstet Gynecol Neon Nurs* 2001; 30: 165-173.
13. Heaman M, Gupton A. Perceptions of bed rest by women with high-risk pregnancies: A comparison between home and hospital. *Birth* 1998; 25: 252-8.
14. Martin-Arafeh JM, Watson CL, Baird SM. Promoting family-centered care in high risk pregnancy. *J Perinat Neonatal Nurs* 1999; 13: 27-42.
15. Schroeder CA. Women's experience of bed rest in high-risk pregnancy. *Image J Nurs Sch* 1996; 28: 253-8.
16. Maloni JA. Bed-rest and high-risk pregnancy. Differentiating the effects of diagnosis, setting and treatment. *Nurs Clin North Am* 1996; 31: 313-25.
17. Sachar RK, Verma J, Singh A, Singh WP, Soni RK, Sehgal R. Relationship between maternal rest during pregnancy and birth weight. *Indian J Matern Child Health* 1991; 2: 43-5.