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Evaluation of the relationship between occupational balance and quality of life in pregnant and non-pregnant women

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Abstract

Background Occupational balance plays a crucial role in maintaining overall well-being and quality of life, particularly during pregnancy, a period marked by significant physiological, psychological, and social changes. This study aims to evaluate the relationship between occupational balance and quality of life in pregnant and non-pregnant women.

Methods This analytical cross-sectional study was conducted in a foundation university hospital with 220 participants, 110 pregnant women in different trimesters of pregnancy (case group) and 110 non-pregnant women (control group). Participants were selected through a purposive sampling method from among volunteers who applied to the pregnancy clinic and hospital for various reasons. Data collection instruments included the Personal Information Form, the Occupational-Role Balance Questionnaire-11 Turkish Version (OBQ11-T), and the SF-12 Quality of Life Scale. Statistical analyses were performed using SPSS 20.0, employing t-tests, chi-square tests, Pearson correlation, and regression analysis to determine relationships between variables. Statistical significance was considered at $p < 0.05$.

Results No statistically significant differences were found between the groups regarding age, education, employment, and income status. The mean OBQ11-T score was higher in the case group (28.77 ± 6.54) than in the control group (26.30 ± 6.43) ($p = 0.005$). SF-12 Physical Component Summary (PCS) scores were significantly higher in the case group (53.95 ± 9.34) compared to the control group (45.44 ± 10.89) ($p = 0.000$), while the Mental Component Summary (MCS) scores showed no significant difference. A weak but positive correlation was identified between OBQ11-T and the PCS subdimension of SF-12 in both groups (case: $r = 0.229$, $p = 0.016$; control: $r = 0.209$, $p = 0.028$). Regression analysis revealed that OBQ11-T scores were a significant predictor of SF-12 PCS scores ($\beta = 0.229$, $R = 0.229$; $R^2 = 0.052$; $p = 0.016$). Regression analysis indicated that occupational balance accounted for 5% of the variance in PCS scores. This finding reveals that as the level of occupational balance increases, participants' perceptions of quality of life related to physical health also increase slightly.

Conclusion Women in both groups demonstrated above-average occupational balance scores, and a weak but positive relationship was observed between occupational balance and the physical component of quality of life.

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Therefore, it may be useful to develop strategies to protect and maintain occupational balance, especially in order to support quality of life related to physical health.

Keywords Occupational balance, Quality of life, Pregnancy, SF-12, OBQ11-T

Introduction

Pregnancy is a unique and transformative phase in a woman's life, characterized by significant physiological, psychological, and social changes [1]. These changes can profoundly influence a woman's ability to maintain a balanced and satisfying engagement across various domains of life, including work, rest, sleep, daily responsibilities, and leisure activities—collectively referred to occupational balance [2].

The concept of occupation includes a set of meaningful and purposeful activities that contribute to an individual's quality of life and provide a sense of value [3]. Occupational balance, a subjective and multidimensional construct, reflects an individual's capacity to effectively balance different roles, tasks, and activities in life [4]. These encompass various domains such as work, education, family responsibilities, social interactions, leisure pursuits, and self-care, integrating physical, mental, and social components [4, 5]. Achieving a harmonious integration of these activities allows individuals to meet both social and personal demands, contributing to a more fulfilling and meaningful life. This balance plays a critical role in enhancing stress management, fostering emotional well-being, and improving overall quality of life [6, 7].

The physical and hormonal changes experienced during pregnancy often result in reduced energy levels, leading to a decrease in daily activities and work performance [2, 8]. Furthermore, the transition to motherhood, often described as a profound journey of change, is accompanied by psychological challenges such as emotional swings, anxiety, and stress. This complicates women's ability to focus on work and other responsibilities in daily life, thus negatively affecting their functionality and motivation to participate in these areas [1, 2]. In addition to the physical difficulties associated with pregnancy, research highlights the impact of psychosocial challenges, including mental health issues, family dynamics, social life, and work environment, on a woman's ability to navigate this period healthily [9, 10]. In addition, the transition to motherhood involves a comprehensive transformation not only physiologically but also in psychological, social and sexual dimensions. During this period, hormonal changes, differences in body image and emotional fluctuations can affect women's sexual lives [1]. Since sexuality is closely related to relationship satisfaction and psychological well-being, changes in this area can also affect the couple relationship and parenting roles [11, 12]. Occupational balance during pregnancy is closely linked to overall quality of life. The World Health Organization (WHO) defines quality of life as the "individual's perception of their position in life within the cultural context in which they live and about their goals, expectations, standards, and concerns" [13]. For pregnant women, quality of life is shaped by intrapsychic (individual), interpersonal, and cultural factors [14]. It should be noted that family, workplace support and social awareness provide an important background for the development of individual and social strategies necessary for a healthy pregnancy [15–17]. Pregnant women who successfully establish a healthy balance between work and personal life generally experience lower stress levels and a higher quality of life [18]. Support from partners, family, and friends is critical in achieving occupational balance and enhancing quality of life during pregnancy [19]. However, the relationship between occupational balance and quality of life is influenced by individual differences, cultural factors, and environmental conditions [20]. Developing strategies and policies at individual, social, and institutional levels to improve occupational balance and quality of life during pregnancy is therefore essential.

The aim of this study was to compare quality of life and occupational balance between two groups of pregnant and non-pregnant women.

Materials and methods

Study design and settings

This study is analytical cross-sectional type. The study follows a case-control design. This study was conducted on pregnant women who visited the pregnancy outpatient clinic of a foundation university hospital in Ankara between April 1, 2024, and August 1, 2024, including women who visited the same hospital for any reason.

Study population and sample

A priori power analysis was performed using the G Power 3.1.9.4 program to calculate the sample size for the study. With a confidence interval of $\alpha = 0.05$, a test power (1-β) of 0.90, and an effect size (d) of 0.50, the sample size was calculated as 110 individuals per group, resulting in a total sample size of 220 participants [21]. Participants were selected using a purposive sampling method. This study was approved by the Lokman Hekim University Scientific Research Ethics Committee (Approval Number: 2024/110). All procedures were conducted in accordance with the ethical standards of the institutional research committee and the Declaration of Helsinki.

Informed consent was obtained from all participants prior to their inclusion in the study.

Inclusion criteria

The inclusion criteria for the case group were being 18 years of age or older, being literate, not having any mental, physical, sensory, or language disability that would prevent communication, and having a healthy pregnancy without complications in any trimester. The inclusion criteria for the control group were being 18 years of age or older, not being pregnant, being in good general health, and not having any mental or physical disability that would impair communication skills.

Note All participants provided informed consent prior to inclusion, in accordance with ethical standards.

Exclusion criteria

Individuals diagnosed with a risky pregnancy, women in menopause, those with chronic diseases, those with a history of psychiatric diagnosis, those with alcohol or substance addiction, those with a history of neurological disease, and those who had experienced a major life event in the last six months were excluded from the study.

Data collection methods

In this study, data were collected using a face-to-face survey method. Each interview lasted 10–15 min. After the participants were informed about the study and their voluntary consent was obtained, they filled out the data collection tools individually in a suitable outpatient clinic room. The data collection process was carried out with participants who applied to the pregnancy outpatient clinic of a foundation university hospital in Ankara province in 2024 and met the appropriate criteria. The study data were collected using the following tools: Personal Information Form, The Occupational-Role Balance Questionnaire-11 Turkish Version (OBQ11-T), and the SF-12 Quality of Life Scale.

Personal information form The form was developed by the researchers based on the literature to assess characteristics such as age, educational status, number of pregnancies, gestational week, and employment status [22–24].

The occupational-role balance questionnaire-11 turkish version (OBQ11-T) The OBQ11-T was initially developed as a self-rated scale to measure objective well-being across different dimensions [5, 25]. In 2020, the questionnaire was revised, resulting in an 11-item version [26]. The Turkish validity and reliability study of this revised version was conducted by Günal et al. (2020). The scale consists of 11 items, each rated on a four-point Likert scale ranging from 0 (strongly disagree) to 3 (strongly agree). The total score, obtained by summing all items, ranges from 0 to 33, with higher scores indicating a greater level of occupational balance [25]. The Cronbach's alpha value for the Turkish version was reported as 0.78 [25]. In this study, Cronbach's alpha value was recalculated as 0.83.

The SF-12 quality of life scale The SF-12 Quality of Life Scale is a shortened version of the SF-36 Quality of Life Scale, developed to assess overall quality of life [27]. It is applicable to individuals across various age groups and medical conditions, measuring quality of life over the previous four weeks. The Turkish reliability and validity study of the SF-12 was conducted by Soylu and Kütük [28]. The SF-12, created with 12 items selected from the eight subdimensions of the SF-36, assesses two primary dimensions: the Physical Component Summary (PCS) score and the Mental Component Summary (MCS) score. The scale evaluates functional status, general health perception, and individual well-being. The questions addressing physical and emotional states are organized in two formats: some are dichotomous "yes-no" questions, while others are presented as Likert-type scales with 3 to 6 response options. The scoring system of the SF-12 differs from the T-scoring method used in the SF-36. Physical and mental standardization values are calculated separately based on responses, and summary scores are derived as follows: The Physical Component Summary (PCS) is obtained by adding 56.57706 to the sum of the physical standardization values. The Mental Component Summary (MCS) is obtained by adding 60.75781 to the sum of the mental standardization values. Higher scores on both components indicate better health status. In this study, SF-12 score calculations were performed in accordance with the scoring guide provided by the developers of the scale. In the Turkish validation study, the Cronbach's alpha reliability coefficient was reported as 0.73 for the physical subscale and 0.72 for the mental subscale [28]. In the current study, the overall Cronbach's alpha value of the SF-12 was calculated as 0.75.

Data were collected using a face-to-face interview between April 1 and August 1, 2024. Participants who volunteered to participate in the study and met the inclusion criteria completed the questionnaire forms in a designated room within the outpatient clinic to ensure privacy and comfort. Each participant required approximately 10 min to complete the forms.

Data analysis

The data were analyzed using the SPSS 20.0 statistical package program. Descriptive statistics for categorical data were presented as numbers (n) and percentages (%), while numerical variables were summarized using mean and standard deviation (SD). The data was analyzed using

SPSS 20.0. Skewness and Kurtosis values within the range of ± 1 were used to test normality, as suggested by Hair Jr et al. (2021), [29]. The results indicated that the data conformed to a normal distribution. The Chi-square test was used to compare percentage data, while the independent samples t-test was applied to compare means in parametric data. Regression analysis and Pearson correlation analysis were performed to examine relationships between variables. Statistical significance was considered at $p < 0.05$. Subgroup analyses were conducted based on sociodemographic variables (age, education level, employment status, etc.) that have been previously associated with occupational balance and quality of life in pregnancy-related literature.

Results

It was determined that 54.5% of the pregnant women in the case group were between the ages of 20–29 years, 46.4% were university graduates, 52.7% were unemployed, 62.7% had a moderate-income level, 35.5% had one previous pregnancy, 30.9% were in the second trimester, and 35.5% were experiencing their second pregnancy (Table 1).

In the control group, 52.7% of the women were between the ages of 30–39 years, 53.6% were university graduates, 60% were employed, 42.7% had one previous pregnancy, and 100% were not pregnant (Table 1).

No statistically significant differences were observed between the case and control groups in terms of age,

Table 1 Comparison of the control variables and obstetric characteristics of the women in the case and control groups

Variable	Case Group		Control Group		*Statistic
	n	%	*n*	%	*p*-value
Age					
20–29 years	60	54.5	52	47.3	$x^2 = 1.164$
30–39 years	50	45.5	58	52.7	$p = 0.281$
Education Level					
Primary School	5	4.5	4	3.6	$x^2 = 9.380$
High School	11	23.6	12	14.5	$p = 0.052$
Associate Degree	19	17.3	11	10.0	
Bachelor's Degree	51	46.4	59	53.6	
Postgraduate	9	8.2	20	18.2	
Employment Status					
Working	52	47.3	66	60	$x^2 = 3.583$
Not Working	58	52.7	44	40	$p = 0.058$
Income Level					
Poor	18	16.4	31	28.2	
Moderate	69	62.7	59	53.6	$x^2 = 3.583$
Good	23	20.9	20	18.2	$p = 0.058$
Number of Previous Pregnancies					
No Previous Pregnancy	22	20	0	0	
1 Pregnancy	39	35.5	47	42.7	$x^2 = 46.353$
2 Pregnancies	32	29.1	18	16.4	$p = 0.000$
3 Pregnancies	17	15.5	28	25.5	
4 Pregnancies	0	0	17	15.5	
Currently Pregnant					
Yes	110	100	0	0	$x^2 = 220.000$
No	0	0	110	100	$p = 0.000$
Trimester of Pregnancy					
Not Pregnant	0	0	110	100	
1st Trimester	14	12.7	0	0	
2nd Trimester	34	30.9	0	0	$x^2 = 220.000$
3rd Trimester	62	56.4	0	0	$p = 0.000$
Current Pregnancy Order					
Not Pregnant	0	0	110	100	
1st Pregnancy	22	20	0	0	$x^2 = 200.00$
2nd Pregnancy	39	35.5	0	0	$p = 0.000$
3rd Pregnancy	32	29.1	0	0	
4th Pregnancy	17	15.5	0	0	
Total	110	100.0	110	100.0	

educational status, employment status, and income level. However, a statistically significant difference was identified in the variables of number of previous pregnancies, pregnancy status, trimester of pregnancy, and number of pregnancies in the current pregnancy ($p < 0.05$) (Table 1). This difference is due to the fact that the case and control groups of the study were created according to pregnancy status and is a methodologically expected result.

In the study, it was observed that the difference between the mean total scores of OBQ11-T and the PCS and MCS subscales of the SF-12 Quality of Life Scale in the case group was not statistically significant when analyzed based on the variables of age, education, income level, employment status, number of previous pregnancies, trimester of pregnancy, and total number of pregnancies including the current pregnancy (Table 2). The

Table 2 Comparison of OBQ11-T, SF-12 quality of life scale PCS and MCS subscale total score means based on control variables and obstetric characteristics of women in the case and control groups

	Case Group			Control Group		
	OBQ11-T	**PCS**	**MCS**	**OBQ11-T**	**FSB**	**MSB**
	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$	$\bar{x} \pm SD$
Age						
20–29	28.03 ± 6.91	52.7 ± 10.4	36.7 ± 19.1	26.6 ± 6.5	45.0 ± 10.8	41.1 ± 15.7
30–39	29.61 ± 6.01	55.3 ± 7.5	40.2 ± 14.8	26.0 ± 6.3	45.7 ± 11.1	43.4 ± 15.3
Statistic/*p*-value (*t/p)	1.303/0.195	1.479/0.142	1.049/0.297	0.513/0.609	0.308/0.759	0.793/0.429
Education Level						
Primary School	32.2 ± 2.9	57.3 ± 5.0	42.2 ± 5.7	23.5 ± 2.6	46.0 ± 14.8	40.4 ± 14.8
High School	28.4 ± 7.5	53.5 ± 10.7	32.0 ± 26.3	31.3 ± 8.4	44.7 ± 11.9	40.8 ± 11.1
Associate Degree	27.1 ± 5.7	56.0 ± 8.5	43.2 ± 10.8	24.7 ± 5.2	49.5 ± 12.6	43.1 ± 21.4
Bachelor's Degree	29.0 ± 6.9	53.3 ± 8.7	38.0 ± 14.3	25.4 ± 5.5	44.5 ± 10.5	44.9 ± 13.7
Postgraduate	29.0 ± 3.5	52.4 ± 12.1	45.4 ± 9.5	26.2 ± 6.6	46.0 ± 10.3	35.9 ± 18.6
Statistic/*p*-value (F/p)**	0.710/0.587	0.526/0.717	1.725/0.150	3.352/0.013	0.505/0.732	1.338/0.261
Employment Status						
Working	27.7 ± 6.4	53.6 ± 9.5	39.6 ± 16.9	25.0 ± 6.4	46.4 ± 10.6	43.1 ± 15.3
Not Working	29.6 ± 6.5	54.2 ± 9.2	37.1 ± 17.7	28.1 ± 6.0	43.9 ± 11.4	41.1 ± 15.8
Statistic/*p*-value (t/p)	-1.503/0.136	−0.311/756	−0.746/0.456	-2.493/0.014	-1.192/0.236	0.669/0.505
Income Level						
Poor	28.9 ± 7.3	53.2 ± 11.0	32.4 ± 24.9	24.5 ± 6.08	48.5 ± 10.3	43.7 ± 12.9
Moderate	28.2 ± 6.6	54.5 ± 9.2	38.8 ± 15.2	27.0 ± 6.7	44.7 ± 11.2	40.9 ± 15.6
Good	30.1 ± 5.4	52.8 ± 8.4	41.4 ± 15.8	26.8 ± 6.0	42.7 ± 10.4	44.3 ± 18.8
Statistic/*p*-value (F/p)	0.747/0.479	1.437/0.242	0.358/0.700	1.618/0.203	1.989/0.142	0.548/0.579
Number of Previous Pregnancies						
No Previous Pregnancy	29.1 ± 7.5	54.1 ± 8.4	37.4 ± 21.2	-	-	-
1 Pregnancy	28.2 ± 6.0	52.5 ± 11.8	37.9 ± 14.5	26.4 ± 6.1	44.2 ± 10.7	42.8 ± 13.7
2 Pregnancies	27.5 ± 6.5	56.9 ± 6.3	39.6 ± 15.1	24.8 ± 6.2	48.3 ± 11.8	40.1 ± 17.3
3 Pregnancies	31.8 ± 5.8	51.5 ± 7.7	37.8 ± 22.3	28.0 ± 7.5	45.3 ± 11.4	40.6 ± 19.7
4 Pregnancies				24.6 ± 5.0	45.7 ± 10.3	46.2 ± 9.5
Statistic/*p*-value (F/p)	1.783/0.155	1.803/0.151	0.085/0.968	1423/246	0.623/0.602	0.606/0.613
Trimester of Pregnancy						
1st Trimester	31.5 ± 7.7	37.5 ± 18.8	50.9 ± 9.3		-	-
2nd Trimester	28.5 ± 4.5	41.7 ± 13.1	54.1 ± 8.6		-	-
3rd Trimester	28.2 ± 7.1	36.6 ± 18.9	54.5 ± 9.7		-	-
Statistic/*p*-value (F/p)	1.433/0.243	0.837/0.436	0.988/0.376		-	-
Current Pregnancy Order						
Not Pregnant	29.1 ± 7.5	54.1 ± 8.4	37.4 ± 21.2		-	-
1st Pregnancy	28.2 ± 6.0	52.5 ± 11.8	37.9 ± 14.5		-	-
2nd Pregnancy	27.5 ± 6.5	56.9 ± 6.3	39.6 ± 15.1		-	-
3rd Pregnancy	31.8 ± 5.8	51.5 ± 7.7	37.8 ± 22.3		-	-
4th Pregnancy					-	-
Statistic/*p*-value (F/p)	1.783/0.155	1.803/0.151	0.085/0.968			

OBQ11-T: The Occupational-Role Balance Questionnaire-11 Turkish Version PCS: Physical Component Summary, MCS: Mental Component Summary, x2 testi, $p < 0.05$, *t: Independent samples t-test; **F: ANOVA test = Mean. SD = Standard Deviation

Table 3 Comparison of the mean total scores of OBQ11-T and the subscales (PCS, MCS) of the SF-12 quality of life scale among women in the case and control groups

	Case Group	Control Group	Test	Significance
	$\bar{x} \pm SD$	$\bar{x} \pm SD$	*t	*p*
OBQ11-T	28.77 ± 6.54	26.30 ± 6.43	2.822	0.005
PCS	53.95 ± 9.34	45.44 ± 10.89	-6.192	**0.000**
MCS	38.32 ± 17.33	42.34 ± 15.51	1.815	0.071

OBQ11-T: The Occupational-Role Balance Questionnaire-11, PCS: Physical Component Summary, MCS: Mental Component Summary, *t = Independent samples t-test; $\bar{x}$ = Mean SD = Standard Deviation; $p < 0.005$

Table 4 The relationship between the mean total scores of OBQ11-T and SF-12 quality of life scale Sub-dimensions (Physical and mental health Components) among women in the case and control groups

Case Group		OBQ11-T	PCS	MCS
OBQ11-T		1		
PCS	***p****	0.229*	1	
	r	0.016		
MCS	***p****	0.051	0.172	1
	r	0.594	0.073	
Control Group		**OBQ11-T**	**PCS**	**MCS**
OBQ11-T		1		
	p*			
PCS	**r**	0.209*	1	
	p*	0.028		
MCS	**r**	0.184	0.256**	1
	p*	0.055	0.007	

OBQ11-T: The Occupational-Role Balance Questionnaire-11, PCS: Physical Component Summary, MCS: Mental Component Summary, Pearson Korelasyon Test; * $p < 0.05$ Correlation is significant at the 0.05 level (2-tailed) ** $p < 0.01$ Correlation is significant at the 0.01 level (2-tailed)

variables in question are basic sociodemographic and obstetric characteristics that are reported in the literature to be related to both occupational balance and quality of life. Therefore, they were taken into account in the analyses in order to control for possible effects. The difference in the mean total scores of OBQ11-T for women in the control group was statistically significant based on their education and employment status. The difference between the mean total OBQ11-T scores of women in the control group was found to be statistically significant with $p = 0.013$ according to education level and $p = 0.014$ according to employment status. However, the differences in the mean scores of the PCS and MCS subscales of the SF-12 Quality of Life Scale were not statistically significant.

When comparing the case and control groups, the difference between the mean scores of the PCS and the MCS subscale of the OBQ11-T and the SF-12 Quality of Life Scale was found to be statistically significant ($p < 0.05$), while the difference in the MCS subscale scores alone was not statistically significant (Table 3).

In the study, a weak positive correlation was found between the OBQ11-T and the PCS subdimension of the SF-12 Quality of Life Scale ($r = 0.229$, $p = 0.016$), while no correlation was observed with the MCS sub-dimension ($r = 0.051$, $p = 0.594$). Additionally, no correlation was detected between the FSD and MSD sub-dimensions of the SF-12 Quality of Life Scale ($r = 0.172$, $p = 0.073$) (Table 4).

In the control group, there was a weak positive correlation between OBQ11-T and the PCS sub-dimension ($r = 0.209$, $p = 0.028$), whereas no correlation was found with the MCS sub-dimension ($r = 0.184$, $p = 0.055$). However, a weak positive correlation was identified between the PCS and MCS sub-dimensions of the SF-12 Quality of Life Scale ($r = 0.256$, $p = 0.007$) (Table 4).

The regression analysis revealed a significant relationship between OBQ11-T and the PCS of the SF-12 Quality of Life Scale ($R = 0.229$; R^2=0.052; $p < 0.05$). Accordingly, OBQ11-T explained 5% of the variance in the PCS. No significant relationship was found between OBQ11-T and the MCS of the SF-12 Quality of Life Scale ($R = 0.051$; R^2=0.003), indicating that OBQ11-T had no significant effect on the MCS (Table 5).

Discussion

In this study, no statistically significant difference was found between the age, educational status, employment status, and income status variables of the women in the case and control groups, indicating that the groups included in the study were homogeneous (p˃0.05).

There was no statistically significant difference between the mean total scores of OBQ11-T and the SF-12 Quality of Life Scale sub-dimensions based on the sociodemographic and obstetric variables of the pregnant women in the case group. However, in the control group, a significant relationship was identified between OBQ11-T mean scores and the variables of education and employment status ($p < 0.05$). Specifically, unemployed women had higher occupational balance scores, while primary school graduates had the lowest scores among all education levels. The higher occupational balance observed in unemployed women may be attributed to their greater flexibility in planning daily activities. Women having free time for activities of their choice positively contributed to life satisfaction [30]. Similarly, a study by Evans et al. (2019) revealed that the conflicting roles of working women, particularly the caregiver and household

Table 5 Regression analysis between OBQ11-T and SF-12 quality of life scale Sub-dimension (Physical and mental health Component) scores

Variables	B	Std. Error	β	t	*p*
(Constant)	63.355	3.946	-	16.056	0.000
Occupational Balance	0.327	0.134	0.229	2.442	0.016
R:0.229[a]	R^2: 0.052	F:5.965	p:0.016[b]		
[a]Dependent Variable: SF-12 Mental Health Component; [b]Predictors (Constant): Occupational Balance Scale					
Variables	**B**	**Std. Error**	**β**	**t**	***p***
(Constant)	42.241	7.513	-	5.622	0.000
Occupational Balance	0.136	0.255	0.051	0.535	0.594
R:0.051[a]	R^2: 0.003	F:0.286	p:0.594[b]		
[a]Dependent Variable: SF-12 Mental Health Component; [b]Predictors (Constant): Occupational Balance Scale					

member roles, negatively impacted their occupational balance [31]. However, it should be noted that additional comparative studies are required to further investigate the underlying factors affecting occupational balance among women.

In our study, the mean OBQ11-T score of participants was 28.77 ± 6.54 in the case group and 26.30 ± 6.43 in the control group. While there is no established cut-off value for this scale, the total score (33) is used as a reference point.

The fact that the participants scored above the average suggests a certain balance between their activities of daily living and their current situation. This result may be attributed to the fact that both groups in the study consisted of healthy individuals. Pregnancy, a significant social and cultural transition period, often requires women to adapt to new circumstances while maintaining their daily routines [32]. However, previous research indicates that participation in activities such as rest and sleep, sexual life, social engagements, physical activities, diet, work, and education tends to decrease during pregnancy, negatively impacting occupational balance [33]. Given the limited number of studies evaluating the relationship between pregnancy and occupational balance using the OBQ11-T, direct comparisons with other research remain challenging. For instance, a study conducted in Sweden with a group of healthy women reported a mean OBQ11-T score of 12. However, the authors noted the difficulty of interpreting whether this score indicated a high or low level of occupational balance due to the scale's novelty and the absence of a defined cut-off value [34].

In the study, when the case and control groups were compared, a statistically significant difference was found between the mean scores of the OBQ11-T scores and the PCS in the SF-12 Quality of Life Scale. Higher scores were obtained in the study group in terms of physical health and occupational balance during pregnancy. This shows that both the occupational balance levels and physical health status of pregnant women were higher compared to the control group. As a matter of fact, it is stated in the literature that there may be difficulties in organizing daily life during pregnancy, but some women manage their physical health more carefully during this period [32, 35]. The SF-12 mental sub-dimension scores in the case group and both mental and physical sub-dimension scores in the control group were below average, indicating lower quality of life, while the physical sub-dimension scores of pregnant women were above average, reflecting better physical health. Unlike our study, previous research indicates that physical quality of life tends to decline significantly during pregnancy, while the mental dimension often remains stable [19, 35]. This difference may be due to the cross-sectional design of the study and the data being collected at a single time point to reflect only the current conditions of the pregnant women. Additionally, the limited number of studies investigating the relationship between occupational balance and quality of life in pregnant women using OBQ11-T makes it challenging to compare and interpret the results comprehensively.

In our study, the SF 12 Quality of Life Scale MCS score had lower values than the physical subscale. Indeed, quality of life during pregnancy is influenced by pregnancy-specific changes as well as psychological and social factors [35]. Studies demonstrate that pregnancy-related complaints negatively impact daily functioning, subsequently reducing quality of life [23, 36]. Boutib et al. (2022) emphasize that the perception of not being able to fulfill their roles during pregnancy is a critical factor affecting quality of life [37]. Physical, psychological, and social problems contribute significantly to this decline [22, 24, 38]. The low mental sub-dimension scores in our study support these findings. Similarly, in a study conducted in Iran, the lowest scores were reported in the mental dimension [38]. Kırca et al. (2022) assessed the quality of life of pregnant women at a moderate level, while Özhüner and Çelik (2019) reported scores below the moderate level for all sub-dimensions except for pain and mental health [39, 40].

In our study, a weak but positive correlation was found between OBQ11-T and the PCS subscale of the SF-12 Quality of Life Scale in both groups, and regression

analysis showed that occupational balance significantly affected the physical dimension of quality of life. These findings suggest that better occupational balance may be associated with improved quality of life, a conclusion supported by previous studies highlighting the positive relationship between occupational balance and life satisfaction [41, 42]. For instance, Håkansson et al. (2011) found that women who perceived their occupational balance as good reported higher life satisfaction [30]. These results demonstrate that an individual's occupational balance perception directly influences their health and overall quality of life [42]. In conclusion, both the literature and our findings underscore the importance of strengthening occupational balance to enhance the quality of life for pregnant and non-pregnant women alike.

Strengths and limitations of the study

The strength of this study lies in its pioneering examination of the relationship between women's occupational balance and quality of life. However, the collection of data from a single center and the limited sample size restrict the generalizability of the findings. Additionally, the scarcity of studies utilizing OBQ11-T for pregnant women and the absence of a defined cut-off point for the scale complicate the interpretation of results.

Conclusion and recommendations

The findings indicate that women in both groups had above-average occupational balance scores. While the SF-12 Quality of Life Scale sub-dimension scores were below average in the control group, pregnant women demonstrated above-average physical component summary. A statistically significant difference and a weak positive relationship were observed between occupational balance and the physical component summary of quality of life in both groups. Furthermore, occupational balance was found to significantly influence the physical dimension of quality of life. Therefore, nursing interventions aimed at enhancing occupational balance could improve quality of life, and further studies with a broader scope are needed to explore.

Abbreviations

OBQ11	T–Occupational–Role Balance Questionnaire–11 Turkish Version
SF-12	12–Item Short Form Health Survey
PCS	Physical Component Summary
MCS	Mental Component Summary
SPSS	Statistical Package for the Social Sciences

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Author contributions

DSK: Concept/idea, design, data collection, analysis and interpretation, supervision/consultation, literature review/critical review, manuscript writing. NG: Concept/idea, analysis and interpretation, manuscript writing, literature review.FP: Analysis and interpretation, manuscript writing, literature review. ART: Concept/idea, data collection, literature review.

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Data availability

The datasets generated and/or analyzed during the current study are not publicly available due to ethical reasons but are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was approved by the Lokman Hekim University Scientific Research Ethics Committee (Approval Number: 2024/110). All procedures were conducted in accordance with the ethical standards of the institutional research committee and the Declaration of Helsinki. Informed consent was obtained from all participants prior to their inclusion in the study.

Consent for publication

All authors have read and approved the final manuscript and consent to its publication.

Competing interests

The authors declare no competing interests.

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