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ORIGINAL ARTICLE

The Effect of Exercise on Anxiety Levels of Pregnant and Non-Pregnant Women

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ABSTRACT

Background: Evidence that the birth process of physically active women go through more easily than inactive women goes back to ancient times. As a result, women's orientation to physical activity during pregnancy indicates that they will have a very beneficial and comfortable period both before and after pregnancy.

Aim: The aim of this study was to examine the effect of exercise on the anxiety levels of pregnant and non-pregnant women in terms of various variables.

Methods: Pregnant Information Form and Cambridge Anxiety Scale created by the researchers were used as data collection tools in the study. Data collection tools were applied by the researcher using face to face interview method. In the analysis of the data obtained in the study, percentage and frequency descriptive statistical methods to determine the distribution of the personal information of the participants, T-test, One Way Anova Test First of all, Kaiser-Mayer-Olkin (KMO) and Bartlett tests were used to measure the conformity of the expressions to the factor analysis, reliability and validity of the anxiety scale used. After it was determined that the validity condition was met, the mean and standard deviation values for the scale expressions were calculated.

Conclusion: According to the findings, the anxiety levels of the participants; According to the results of the analysis on whether there is a significant difference according to their age, average age, education level, income status, number of children, current health status, frequency of doing sports, type of sport, motivating factors for sports, anxiety levels for themselves during the pandemic process, during the pandemic process. It has been determined that there is a significant difference according to their anxiety levels for their babies, their pregnancy status and their relationship with sports.

Result: It was determined that the level of anxiety did not differ according to the number of pregnancies, the number of miscarriages, the duration of pregnancy and social security status.

Keywords: Pregnancy, Exercise, Anxiety.

INRODUCTION

Pregnancy is a 38 40 week period starting from the first day of the last menstrual period. This process is examined in terms of pregnancy follow-up in three periods: first trimester (0-14th weeks), second trimester (15th-27th weeks), and third trimester (28th-40th weeks). Pregnancy is generally perceived as a period of happiness for the mother. However, the idea that pregnancy is a happy period and a state of emotional well-being has now been abandoned. During this process, women experience very intense physiological, psychological and social changes[1]. Pregnancy can be a source of joy, satisfaction, maturity, self-realization and happiness; it can also create anxiety, anxious waiting and psychological difficulties[2]. During pregnancy, women are exposed to many factors that can create stress. A woman's personality and socio-cultural characteristics, self-esteem, and high level of fears strongly affect her way of perceiving stress and thus affect pregnancy stress and thus her adaptation to pregnancy[3]. It is very important for the pregnant woman to cope with the stress effectively in the face of changes and to adapt to pregnancy in terms of a healthy and comfortable period[4].

Pregnancy, which is a very natural process for every woman, is known as one of the most important periods of nutrition and nutrients in human life[5]. During this period, mother's nutrition and lifestyle are very important not only for her own health but also for the health of the fetus[6]. In this process, it is necessary to provide the increasing nutritional needs of the fetus of pregnant women[7]. To provide the increasing needs of the rapidly growing fetus and placenta, the pregnant woman's body undergoes various and intense metabolic changes. Undoubtedly, weight gain comes first among these changes. Most of this increase belongs to fetus, placental uterus and amniotic fluid, but a small part is due to water retention, fat and protein storage of body. The weight gain of the future mother during pregnancy should be around 11 kg. Although weight gain is less in the first three months and more in the last 2 trimesters, it is expected to be between 1 and 1.5 kilos per month to be easy for the patient[8]. The reason for the increase in folate requirement during pregnancy is known as tissue synthesis and physiological changes in both fetus and pregnant women[9]. Since it is not possible to meet the increased need for folate with diet alone, folic acid supplementation in pregnant women is recommended all over the world[10,11]. The hemodynamic changes seen during pregnancy consist of physiological changes aimed at providing adequate blood flow for the fetus. Cardiovascular changes in this period are in the 5th-8th days of pregnancy that start in the second week of pregnancy and continue increasing until the end of the second trimester and show a stable course from the last trimester to the end of pregnancy[12]. From the 8th-10th weeks of pregnancy, cardiac output begins to increase. At

the end of the second trimester, cardiac output reaches its highest level and increases by approximately 30-50% compared to the initial levels[13,14]. A plateau period is observed during the last trimester[15]. Blood volume is the most important change that occurs during pregnancy. Towards the end of pregnancy, blood volume increases by about 30-50%. This rate is more common in multiple pregnancies. Especially in the last trimester, water and salt retention due to the effect of reninangiotensin-aldosterone is a cause of fluid increase in the body. This increase in blood volume is intended to protect the mother from blood loss that may occur during birth. The reason for the hemodynamic deterioration in pregnant women with heart failure is also the increase in this blood volume. During pregnancy, red blood cell mass increases with blood volume. However, since the increase in plasma volume is greater than the increase in the number of red blood cells, hemodilution and physiological anemia are seen in pregnancy15. From the first week of pregnancy, the heart rate also begins to increase, and the resting heart rate is approximately 10-20 beats/min higher than before pregnancy. It is reported that the reason is due to the increase in the number of alpha receptors of the heart muscle by estrogen[16,17,18]. Evidence that physically active women go through the birth process more easily than inactive women goes back to ancient times. Aristotle stated that difficult births were caused by a sedentary lifestyle. While exercise programs were limited to walking only at the beginning of the twentieth century, more active exercise programs began to be implemented in the 1930s. Vaugh's squatting exercise programs that strengthen the perineum muscles, Read's respiratory relaxation techniques, Lamaze's psychoprophylactic delivery methods are examples of this period[19]. The sedentary lifestyle, in which there are few activities during and after pregnancy, is eliminated by performing appropriate exercises during pregnancy. By exercising during pregnancy, the development of gestational diabetes is prevented primarily in overweight women (body mass index>30 kg/m2)[20,21]. The American Diabetes Association has suggested that exercise can be used as an adjunctive therapy in pregnant women who cannot maintain normal blood sugar levels with diet alone[22]. The origin of the word anxiety is “anxietas” in ancient Greek, meaning fear, curiosity and worry. According to Freud, anxiety contributes to the functions of warning the individual against the dangers coming from the physical or social environment, providing the necessary adaptation and sustaining life[23]. Although pregnancy and childbirth are physiological events, factors such as the personal experiences of the woman, education level and life philosophy, family type, family relations, attitudes of family members towards pregnancy, socio-economic status of the family, being an expected or unexpected pregnancy and multiple pregnancy cause pregnancy to be a great burden and stressful life event for the woman[24]. During pregnancy, sexual satisfaction and sexual activity gradually decrease compared to the pre-pregnancy period, resulting in many concerns about sexual life. The most common of these are; anxiety of harming the baby, fatigue, possibility of miscarriage, decreased libido, dyspareunia and infection. A woman may also think that her husband will not find her attractive because of the physical changes that occur in her[24]. Added to this is the thought of losing her husband's love and attention[25]. In career women, motherhood can also create a dilemma; the issue of how the birth of the child will affect the career may cause concern[26]. In addition, the fact that the working pregnant woman has to leave her job or take a break from the working period creates social and economic concerns for both mother and father-to-be[24]. After the mother is discharged from the hospital after birth, it is expected that she will adapt to the physiological and psychological changes she has experienced, accept her baby and be able to take care of herself and her baby. In this process, mothers, while trying to cope with their own care and problems, on the other hand, have to continue their daily activities to provide the needs of the baby and adapt to the new situation[27]. In addition to the emotional and physiological problems experienced by the mother, there is a crisis period in the family during the transition to parenthood. The family system is changing, as well as some changes occur in family relations and roles. With the addition of a new member to the family, the order that the family is accustomed to changes, and the care of the baby may become the primary duty of the family members[28]. Based on the information given, in this study; The aim of this study was to examine the effect of exercise on the anxiety levels of pregnant and non-pregnant women in terms of various variables.

MATERIAL AND METHODS

Pregnant Information Form which was created by the researchers and Cambridge Anxiety Scale were used as data collection tools in the study. Data collection tools were applied by the researcher with the face to face interview method. The data of the study were obtained from 120 pregnant women who got pregnant between 2019-2020, who received support from state and private health institutions living in Antalya Alanya district, and 125 married and non-pregnant women living in the same province and district. Written permission was obtained from Yiğit Günay[29] for the implementation of the research. A pregnant identification form was prepared to determine the socio-demographic and obstetric characteristics of pregnant women. This form consists of 23 questions. Cambridge Anxiety Scale to measure the anxiety levels of pregnant women; CAS was developed for use within the scope of the "Cambridge Prenatal Screening Study" on 1072 fertile women in England, taking into account education, socio-economic status and number of births[30]. The validity and reliability of the Cambridge Anxiety Inventory was performed by Green et al. in 2003 to evaluate general anxieties about pregnancy and the baby to be born[9]. The validity and reliability of the scale was confirmed by Georgsson Öhman et al. in Swedish pregnant women, by Carmona Monge et al. in Spanish pregnant women, and by Gourounti et al. in Greek pregnant women. It is stated that the scale can be used safely to survey anxiety in pregnancy[31,32,33]. The Cambridge Anxiety

Inventory is a likert-type scale and is graded according to a 6-point system (0 no anxiety, 5 too much anxiety). At the end of the scale, there is an open-ended question. Here, it is aimed for the pregnant woman to state if she has any concerns that are not included in the scale items. The scale has four sub-dimensions: socio-medical, socio-economic, health and relationships. Socio-medical sub-dimension; giving birth, going to the hospital, vaginal exams, taking care of the newborn, and whether the husband will be present at the birth, socio-economic sub-dimension; money problems, accommodation, laws, work-related, unemployed if employed, health sub-dimension; the possibility of miscarriage, the possibility of something wrong with the baby, and the health of the pregnant woman, relationships sub-dimension; concerns about the health of someone close to the pregnant woman, her husband, and relationships with family and friends. In the study, the research hypotheses were formed as follows:

H1: The anxiety levels of the participants about their pregnancy differ according to their ages.

H2: The anxiety levels of the participants about their pregnancy differ between those who do sports and those who do not.

H3: The anxiety levels of the participants about their pregnancy differ according to the frequency of doing sports.

H4: The anxiety levels of the participants about their pregnancy differ according to the type of sport they do.

H5: The anxiety levels of the participants about their pregnancy differ according to the factor that motivates them to do sports.

First of all, Kaiser-Mayer-Olkin (KMO) and Bartlett tests were used to measure the suitability of the statements for factor analysis, and after it was determined that the anxiety scale used met the reliability and validity conditions, the mean and standard deviation values for the scale statements were calculated and then in the analysis of the data obtained in the study, percentage and frequency descriptive statistical methods, T-test, One Way Anova Test were used to determine the distribution of personal information of the participants.

RESULT

The frequencies and percentages of the answers given to the demographic questions about the individuals participating in the research are summarized in Table 1.

Table 1. Demographic Characteristics of the People Participating in the Research

AGE	Frequency	(%)	
18-25	111	15,0	740
26-35	476	64,3	
36 years and older	153	20,7	
EDUCATION STATUS	Frequency	(%)	
Literate	4	0,5	740
Primary Education	13	1,8	
Secondary Education	78	10,5	
High Education	645	87,2	
ACCOMMODATION	Frequency	(%)	
Village	15	2,0	740
Town	8	1,1	
District	212	28,6	
City	505	68,2	
PROFESSION	Frequency	(%)	
Housewife	196	26,5	740
Civil Servant	322	43,5	
Worker	24	3,2	
Retired	4	0,5	
Private Sector	194	26,2	
ACTIVE WORK FOR THE PERIOD	Frequency	(%)	
Yes, work actively	340	45,9	740
Yes, work flexible	100	13,5	
No, unemployed	240	32,4	
No, on maternity leave	60	8,1	
SOCIAL SECURITY (Insurance)	Frequency	(%)	
Yes	680	91,9	740
No	60	8,1	
FAMILY TYPE	Frequency	(%)	
Extended Family	56	7,6	740
Nuclear Family	684	92,4	
MONTHLY INCOME	Frequency	(%)	
Income Less Than Expenses	153	20,7	740
Equal Income and Expences	362	48,9	
Income More Than Expenses	225	30,4	
CURRENT PREGNANCY STATUS	Frequency	(%)	
Yes	181	24,5	740
No	559	75,5	
NUMBER OF MISCARRIAGES	Frequency	(%)	
No	708	95,7	740
2 or More	32	4,3	
NUMBER OF LIVING CHILDREN	Frequency	(%)	
1	554	74,9	740
2	157	21,2	
3 and More	29	3,9	
HEALTH SITUATION	Frequency	(%)	
Excellent	34	4,6	740
Very Good	138	18,6	
Good	403	54,5	
Moderate	157	21,2	
Poor	8	1,1	

According to the frequency analysis results of the demographic characteristics of the individuals participating in the research, individuals between the ages of 18-25 constitute 15% of the total frequency, individuals between the ages of 26-35 constitute 64.3%, and individuals aged 36 and over constitute 20.7% of the total frequency. When the educational status of the participants is examined, it is seen that 0.5% are literate, 1.8% are primary school graduates, 10.5% are secondary school graduates, and 87.2% are higher education graduates. 2% of the individuals live in the village, 1.1% in the town, 28.6% in the district and 68.2% in the city center. While 26.5% of the sample number are housewives, 43.5% are civil servants, 3.2% are workers, 26.2% are employees in the private sector and 0.5% are retired; Those with social security constitute 91.9%, while those without social security make up 8.1%. It was asked what type of family the individuals live in the house they live in and 92.4% of them live as a nuclear family and 7.6% of them live as an extended family. Responses to the questions asked about monthly income and expense levels are seen as 20.7% of them are income less than expenses, 48.9% of them are income equal to expenses and 30.4% of them are income more than expenses. 24.5% of the participants are currently pregnant and 76.5% are not. According to the answers to the question regarding the number of pregnancy abortions, 95.7% of the participants have never had a miscarriage, and 4.3% have had 2 or more miscarriages. 74.9% of these individuals have one child, 21.2% have 2 children and 3.9% have 3 or more children. When the health status of individuals is examined; 4.6% of those with excellent health status, 18.6% of those with very good health, 54.5% of

those who are good, 21.2% of those who are moderate and 1.1% of those who are poor.

Table 2. Relationship of People Participating in the Research with Sports

DO YOU DO SPORTS?	Frequency	(%)
Yes	319	43,1
No	421	56,9
FREQUENCY OF SPORT	Frequency	(%)
Once a week	61	8,2
2-3 Times a Week	138	18,6
4-5 Times a Week	81	10,9
Rarely	300	40,5
Never	160	21,6
SPORT TYPE	Frequency	(%)
Hiking	447	60,4
Yoga-Pilates	91	12,3
Swimming	12	1,6
Dance	10	1,4
Step Aerobics	41	5,5
Others	139	18,7
SPORT HISTORY	Frequency	(%)
1-2 Year(s)	427	57,7
2-3 Years	66	8,9
0-6 Month(s)	117	15,8
3 and More	130	17,6
FACTORS THAT MOTIVATE TO DO SPORTS	Frequency	(%)
Easy Birth	46	6,2
Healthy Lifestyle	209	28,2
Makes me feel better	218	29,5
Provides Weight Control	267	36,1
SPORT PLACE	Frequency	(%)
Outdoor Hiking	472	63,8
House	159	21,5
Gym	109	14,7
LEVEL OF CONCERNS FOR YOUR HEALTH DURING THE PANDEMIC PROCESS	Frequency	(%)
Never worried	84	11,4
Not Worried	98	13,2
Moderately Worried	278	37,6
Worried	123	16,6
Very Worried	157	21,2
YOUR LEVEL OF CONCERNS FOR YOUR BABY'S HEALTH DURING THE PANDEMIC PROCESS	Frequency	(%)
Never worried	361	48,8
Not Worried	12	1,6
Moderately Worried	49	6,6
Worried	67	9,1
Very Worried	251	33,8

While 43.1% of the individuals participating in the research do sports, 56.9% do not. 8.2% of these individuals once a week, 18.6% two or three times a week, 10.9% 4 or 5 times a week, 40.5% rarely do sports and 21.6% don't. The most common type of sport they do is hiking with 60.4%, yoga and pilates 12.3%, swimming 1.6%, dance 1.4%, step and aerobics 5.5% and 18.7 of them are interested in other sports branches. 57.7% of them have a history of 1-2 years, 8.9% of them have a history of 2-3 years, 15.8% of them 0-6 months and 17.6% of them over 3 years. The factors that motivate these participants to sports are 6.2% of sports facilitating childbirth, 28.2% to lead a healthy life, 29.5% to feel good and 36.1% to provide weight control. Those who prefer outdoor hiking are 63.8%, those who do sports at home are 21.5% and those who prefer the gym are 14.7%. During the pandemic process in the world, the participants are for their own health; 11.4% answered as never worried at all, 13.2% not worried, 37.6% moderately worried, 16.6% worried and 21.2%very worried. In this process, 48.8% of them showed no concern for their babies' health, 1.6% were not worried, 6.6% were moderately worried, 9.1% were worried and 33.8% were very worried.

In the study, the Crohn's coefficient about education for children and information about this analysis are given in Table3.

Table 3. Reliability Level of the Scale Used in the Research

Scale	Researcher Who Developed the Scale	Number of Items	Cronbach Alfa Coefficient
Anxiety	Statham et al. (1997)	17	0,918

According to the literature, the reliability coefficient between 0.60-0.70 is at an acceptable level, the reliability coefficient between 0.71-0.80 is at a reliable level, and the reliability coefficient above 0.81 is highly reliable34. According to the reliability test for the research scale, the Cronbach Alpha Coefficient was found to be 0.918 and it was observed that the scale was highly reliable. Factor analysis is required to measure the validity levels of the statements that create the scale. First of all, Kaiser-Mayer-Olkin (KMO) and Bartlett tests were used to measure the suitability of the statements for factor analysis, and it is emphasized in the literature that the KMO value should be above 0.6034. The KMO and Bartlett tests for the anxiety scale were performed and it was observed that the KMO value was 0.904 and the Bartlett test result was statistically significant (p<0.001). In the context of this result, it was determined that the scale expressions were suitable for factor analysis.

Table 4. Factor Analysis Results

	Expressions	Factor1	Factor2	Factor3
10	Vaginal (bottom) exams	0,598		
11	Giving birth	0,729		
12	Taking care of your newborn baby	0,714		
13	(if you're working) leaving your job	0,576		
14	Whether your husband will be with you at birth	0,729		
15	Possibility of miscarriage	0,772		
16	Possibility of early onset of labor pains	0,813		
17	(If any) Older children's reactions to the baby	0,535		
2	Your financial problems		0,658	
3	Your legal problems		0,734	
6	Your own health		0,613	
7	The health of someone close to you		0,687	
9	Hospital visits		0,675	
1	Your shelter			0,475
4	Your relationships with your husband			0,878
5	Your relationship with your family and friends			0,725
8	Problems with your husband			0,825
Eigenvalue		7,421	1,598	1,296
Explained Variance		25,363	18,739	16,574
Total Explained Variance		60,677		
Cronbach Alfa		0,918		

Note: N=740, KMO=0,904, Bartlett=6850,163, sig.=0,000, p<0,001.

While evaluating the factor analysis results, it is required that the factor loads be equal to or above 0.50 and the

eigenvalues of the dimensions should be greater than 1[35,36]. According to the result of the factor analysis, it is observed that all factor loads of the expressions related to the Anxiety scale have a value above 0.50 and exhibit a 3-dimensional structure with an eigenvalue greater than one. The first dimension of the scale consists of 8 items and explains 25,363% of the total variance, the second dimension consists of 5 items and explains 18,739% of the total variance, and the third dimension consists of 4 items and explains 16,574% of the total variance. The scale used in this context explains 60,677% of the anxiety level. The results show that the structural validity of the scale is provided.

Table 5. Descriptive Features of the Anxiety Scale

	Expressions	Av.	S.D.
1	Your shelter	1,63	1,20
2	Your financial problems	2,82	1,50
3	Your legal problems	3,04	1,74
4	Your relationships with your husband	2,07	1,40
5	Your relationship with your family and friends	2,12	1,28
6	Your own health	2,73	1,34
7	The health of someone close to you	3,45	1,62
8	Problems with your husband	2,36	1,55
9	Hospital visits	3,08	1,69
10	Vaginal (bottom) exams	3,22	1,82
11	Giving birth	3,35	1,86
12	Taking care of your newborn baby	2,91	1,74
13	(if you're working) leaving your job	2,88	1,84
14	Whether your husband will be with you at birth	2,45	1,70
15	Possibility of miscarriage	2,93	1,81
16	Possibility of early onset of labor pains	2,91	1,81
17	(If any) Older children's reactions to the baby	2,33	1,68
Total		2,72	1,62

The average and standard deviations related to the scale were calculated, and it was concluded that the average of the answers given to the statement in which the level of anxiety was asked for "Shelter" was the lowest, that is, the individuals were least worried about their accommodation because they did not have a problem in this regard. In addition to shelter, the subjects with low levels of anxiety are about individuals' relationships with their husbands, families and friends, respectively. The subjects with the highest averages were the health of a close person, vaginal exams and giving birth. Individuals mostly stated that they have high levels of anxiety about these issues.

Table 6. Frequency Distribution of the Variables of the Anxiety Scale

	Expressions	No Anxiety		Low Anxiety		Moderate Anxiety		Pretty Anxiety		High Anxiety	
		N	%	N	%	N	%	N	%	N	%
1	Your shelter	516	69,7	103	13,9	35	4,7	17	2,3	19	2,6
2	Your financial problems	154	20,8	220	29,7	111	15,0	61	8,2	55	7,4
3	Your legal problems	192	25,9	144	19,5	100	13,5	74	10,0	104	14,1
4	Your relationships with your husband	367	49,6	165	22,3	52	7,0	33	4,5	31	4,2
5	Your relationship with your family and friends	310	41,9	203	27,4	64	8,6	28	3,8	18	2,4
6	Your own health	129	17,4	250	33,8	104	14,1	44	5,9	39	5,3
7	The health of someone close to you	91	12,3	162	21,9	119	16,1	108	14,6	115	15,5
8	Problems with your husband	294	39,7	191	25,8	63	8,5	37	5,0	57	7,7
9	Hospital visits	160	21,6	175	23,6	90	12,2	83	11,2	100	13,5
10	Vaginal (bottom) exams	171	23,1	145	19,6	69	9,3	75	10,1	145	19,6
11	Giving birth	162	21,9	135	18,2	63	8,5	81	10,9	166	22,4
12	Taking care of your newborn baby	212	28,6	159	21,5	85	11,5	63	8,5	102	13,8
13	(if you're working) leaving your job	254	34,3	120	16,2	58	7,8	59	8,0	123	16,6
14	Whether your husband will be with you at birth	328	44,3	129	17,4	52	7,0	56	7,6	73	9,9
15	Possibility of miscarriage	233	31,5	131	17,7	69	9,3	64	8,6	117	15,8
16	Possibility of early onset of labor pains	234	31,6	139	18,8	71	9,6	61	8,2	116	15,7
17	(If any) Older children's reactions to the baby	368	49,7	108	14,6	60	8,1	35	4,7	73	9,9

Looking at Table 6, it is seen that the answers given to the questions asked to the participants were given in terms of number and frequency. When the results are evaluated in general, it can be concluded that the level of anxiety is not very high. The One Way Anova Test was conducted to determine whether the anxiety levels of the individuals participating in the research differ according to their age, education level, income level, number of pregnancies, miscarriages and children, duration of pregnancy, health status and relationship with sports. The results are shown in Tables 7-8-9-10-11-12-13-14-15-16-17-18-19, respectively.

Table 7. Anxiety Levels of Participants by Age

	Age	N	Av.	S.D.	F	Sig.
Anxiety Scale	18-25	111	3,00	1,25	15,960	0,000
	26-35	476	2,79	1,01		
	36 ve üstü	153	2,32	1,02		

According to the results of the analysis conducted to determine whether the anxiety levels of the participants differ according to their ages, it was concluded that the anxiety level differed significantly according to the average age ($p<0.05$). According to the result:

"H1: The anxiety levels of the participants about their pregnancy differ significantly according to their age." hypothesis was accepted.

Table 8. Anxiety Levels of Participants by Educational Status

	Educational Status	N	Av.	S.D.	F	Sig.
Anxiety Scale	Literate	4	2,32	0,51	6,394	0,000
	Primary Education	13	2,81	1,28		
	Secondary Education	78	2,23	1,03		
	High Education	645	2,78	1,06		

According to the results of the analysis on whether the anxiety levels of the participants differ according to their educational status, it was concluded that the anxiety level differed significantly according to the education level ($p<0.05$).

Table 9. Anxiety Level of Participants by Monthly Income Status

	Monthly Income	N	Av.	S.D.	F	Sig.
Anxiety Scale	Income Less Than Expenses	153	2,97	1,12	5,894	0,003
	Equal Income and Expences	362	2,69	1,07		
	Income More Than Expenses	225	2,60	1,01		

According to the results of the analysis on whether the anxiety levels of the participants differ according to their income status, it was concluded that the anxiety level differs significantly according to the income status ($p<0.05$).

Table 10. Anxiety Level of Participants by Number of Pregnancy

	Number of pregnancy	N	Av.	S.D.	F	Sig.
Anxiety Scale	1	145	2,74	0,96	0,629	0,642
	2	112	2,61	1,15		
	3	44	2,62	0,99		
	4 and more	15	2,58	0,86		
	Not Pregnant	424	2,76	1,11		

According to the results of the analysis on whether the anxiety levels of the participants differ according to the number of pregnancies, it was concluded that the anxiety level did not differ significantly according to the number of pregnancies ($p>0.05$).

Table 11. Anxiety Level of Participants by Number of Miscarriage

	Number of Miscarriage	N	Av.	S.D.	F	Sig.
Anxiety Scale	Any	708	2,73	1,07	0,702	0,402
	2 and More	32	2,56	1,19		

According to the results of the analysis conducted to determine whether the anxiety levels of the participants differ according to the number of pregnancy miscarriage, it was concluded that the anxiety level did not differ significantly according to the number of miscarriage ($p>0.05$).

Table 12. Anxiety Level of Participants by Number of Children

	Number of Living Children	N	Av.	S.D.	F	Sig.
Anxiety Scale	1	554	2,78	1,05	3,147	0,044
	2	157	2,56	1,12		
	3 and More	29	2,51	1,18		

According to the results of the analysis on whether the anxiety levels of the participants differ according to the number of children, it was concluded that the anxiety level differs significantly according to the number of children ($p<0.05$).

Table 13. Anxiety Level of Participants by Pregnancy Period

	Pregnancy Period	N	Av.	S.D.	F	Sig.
Anxiety Scale	4-12	42	2,89	0,82	1,867	0,114
	13-22	55	2,36	0,82		
	23-35	54	2,73	0,88		
	35-40	35	2,81	0,99		
	Not Pregnant	554	2,74	1,13		

According to the results of the analysis on whether the anxiety levels of the participants differ according to the pregnancy period, it was concluded that the anxiety level did not differ significantly according to the pregnancy period ($p>0.05$).

Table 14. Anxiety Level of Participants by Health Status

	Health Status	N	Av.	S.D.	F	Sig.
Anxiety Scale	Excellent	34	2,33	0,69	7,365	0,000
	Very Good	138	2,56	1,07		
	Good	403	2,66	1,04		
	Moderate	157	3,07	1,14		
	Poor	8	3,38	0,99		

According to the results of the analysis on whether the anxiety levels of the participants differ according to their current health status, it was concluded that the anxiety level differs significantly according to their current health status ($p<0.05$).

Table 15. Anxiety Level of Participants by Frequency of Doing Sports

	Frequency of Sport	N	Av.	S.D.	F	Sig.
Anxiety Scale	Once a week	61	2,77	1,01	3,312	0,011
	2-3 Times a Week	138	2,55	0,98		
	4-5 Times a Week	81	2,43	1,04		
	Rarely	300	2,80	1,09		
	Never	160	2,84	1,12		

According to the results of the analysis on whether the anxiety levels of the participants differ according to the frequency of doing sports, it was concluded that the level of anxiety differs according to the frequency of doing sports ($p<0.05$). According to the result, "H3: The anxiety levels of the participants about their pregnancy differ significantly

according to the frequency of doing sports." hypothesis is accepted.

Table 16. Anxiety Level by Participants' Preferred Sport Type

	Sport Type	N	Av.	S.D.	F	Sig.
Anxiety Scale	Hiking	447	2,78	1,07	2,251	0,048
	Yoga-Pilates	91	2,61	1,05		
	Swimming	12	2,98	1,25		
	Dance	10	2,08	0,74		
	Step Aerobics	41	2,37	0,91		
	Others	138	2,73	1,13		

According to the results of the analysis on whether the anxiety levels of the participants differ according to the types of sports they do, it was concluded that the level of anxiety differs according to the type of sports ($p<0.05$). According to the result, "H4: The anxiety levels of the participants about their pregnancy differ significantly according to the type of sport they do." hypothesis was accepted.

Table 17. Anxiety Level of Participants by Factors That Motivate to Do Sports

	Factors That Motivates To Do Sports	N	Av.	S.D.	F	Sig.
Anxiety Scale	Easy Birth	46	2,66	1,03	2,920	0,033
	Healthy Lifestyle	209	2,56	1,03		
	Makes me feel better	218	2,73	1,08		
	Provides Weight Control	267	2,85	1,10		

According to the results of the analysis on whether the anxiety levels of the participants differ according to the factors that motivate sports, it was concluded that the anxiety level differs according to the factors that motivate sports ($p<0.05$). According to the result, "H5: The anxiety levels of the participants about their pregnancy differ significantly according to the factor that motivates them to do sports." The established hypothesis is accepted.

Table 18. Anxiety Level of Participants by Level of Concern for their own Healths during the Pandemic Period

	Level of Concerns For Your Helath During the Pandemic Period	N	Av.	S.D.	F	Sig.
Anxiety Scale	Never worried	84	2,25	0,91	8,627	0,000
	Not Worried	98	2,51	0,92		
	Moderately Worried	278	2,71	1,07		
	Worried	123	2,91	1,05		
	Very Worried	157	2,98	1,16		

According to the results of the analysis on whether the anxiety levels of the participants differed according to their level of concerns for their helaths during the pandemic process, it was concluded that the anxiety level differed significantly according to their level of concerns for their healths during the pandemic process ($p<0.05$).

According to the results of the analysis on whether the anxiety levels of the participants differed according to their anxiety levels for their babies during the pandemic process, it was concluded that the anxiety level differed significantly compared to the anxiety levels for their babies during the pandemic process ($p<0.05$).

The Independent Samples T Test was conducted to determine whether the anxiety levels of the individuals participating in the research differ according to their social security status, pregnancy status and statements about whether they do sports or not, and the results are given in Tables 20-21 and 22.

Table 19. The Level of Anxiety of the Participants by the Level of Concern for their Babies During the Pandemic Period

	Your Level of Concern For Your Baby During the Pandemic Period	N	Av.	S.D.	F	Sig.
Anxiety Scale	Never worried	361	2,63	1,11	7,321	0,000
	Not Worried	12	2,14	0,73		
	Moderately Worried	49	2,58	0,95		
	Worried	67	2,41	0,79		
	Very Worried	248	2,99	1,07		

Table 20. Anxiety Levels of Participants by Social Security Status (Insurance)

	Social Security (Insurance)	N	Av.	S.D.	F	t	Sig.
Anxiety Scale	Yes	680	2,72	1,07	0,032	0,129	0,859
	No	60	2,70	1,12			

According to the results of the analysis on whether the anxiety levels of the participants differ according to their social security status, it was concluded that the anxiety level did not differ significantly according to their social security status ($p>0.05$).

Table 21. Anxiety Level of Participants by Pregnancy Status

	Are You Pregnant?	N	Av.	S.D.	F	t	Sig.
Anxiety Scale	Yes	181	2,66	0,89	14,322	-0,812	0,000
	No	559	2,74	1,12			

According to the results of the analysis on whether the anxiety levels of the participants differ according to their pregnancy status, it was concluded that the anxiety level differed significantly according to their pregnancy status ($p<0.05$).

Table 22. Anxiety Level of Participants According to Whether They Do Sports or Not

	Do You Do Sports?	N	Av.	S.D.	F	t	Sig.
Anxiety Scale	Yes	319	2,55	1,00	2,590	-3,778	0,000
	No	421	2,85	1,11			

According to the results of the analysis on whether the anxiety levels of the participants differ according to whether they do sports or not, it was concluded that the anxiety level differs according to their relationship with sports ($p<0.05$). “H2: The anxiety levels of the participants about their pregnancy differ significantly between those who do sports and those who do not.” The established hypothesis is accepted.

DISCUSSION

Although many studies have been conducted on exercise and anxiety, it has not reached a sufficient level in terms of women and pregnancy compared to studies on exercise and anxiety. This study is important in that it was carried out on pregnant women and married but not pregnant women living in Antalya Alanya between the years 2019-2020. In the study, attention was drawn to the anxiety levels of the participants and the factors affecting the anxiety levels of the participants. When the literature is reviewed, it is possible to come across studies that did not find a significant relationship between age groups and anxiety levels[37,38]. However, in many different studies, it can be observed that anxiety levels are found to be high in pregnant women, especially in the young age group, and that this level even carries a significant risk for depression[39,40]. In this study, as supported by these results, it was determined that there was a significant difference between the ages of the participants and their anxiety levels. Gözüyeşil (2003) found a relationship between the anxiety and depression levels of pregnant women and their education levels, and stated that the anxiety levels of individuals with higher education were lower[38]. Similarly, Gotlib and Whiffen (1989) state that as the education level of women increases, their effectiveness in their own lives increases, their self-esteem increases, and as a result, their anxiety level decreases[41]. It is suggested that pregnant women with a high level of education develop more effective skills in coping with anxiety [42]. In the study, as supported by the results of the findings in the literature, it was concluded that the level of anxiety differed significantly according to the education level.

Although there are studies showing that there is no relationship between being involved in the working life and the level of anxiety, there are many studies indicating that the level of anxiety is high in women and even depression symptoms are common, especially under low economic conditions during pregnancy[37,38,43,44]. It is stated that the economic level of the woman or the family in which the woman is included can be effective both on the level of anxiety and on various pregnancy complications[45]. As supported by the results of these studies, it was determined that the anxiety levels of the participants in the study differed significantly according to their income status.

While higher levels of anxiety were observed in women who were in the first pregnancy period in various studies, it was reported that women with higher pregnancies had lower levels of anxiety[46,47]. In this study, different from these results, it was concluded that the level of anxiety did not differ according to the number of pregnancies. This difference may be due to cultural reasons as well as different approaches in data collection, survey and evaluation methods.

Lwellyn et al. (1997) found in their study that anxiety levels were high among women who had abortions and that approximately one third of the participants also exhibited significant depressive symptoms. In different studies, it was revealed that high anxiety level was significantly positively correlated with both age and number of miscarriages[39,43,37]. It has been stated that feelings of guilt may occur in women who have had abortions, and as a result, the level of anxiety may increase[48,49]. On the other hand, in this study, it was concluded that the level of anxiety did not differ significantly according to the number of low levels. One of the most important reasons for this result, which was different from other studies, can be explained by the fact that 87.2% of the participants in this study had higher education. As mentioned before, it is suggested that pregnant women with a high level of education develop more effective skills in coping with anxiety[41,42].

In the study, it was concluded that the anxiety levels of the participants differed according to the number of children. Similarly, Doğru and Arslan (2008) stated in their studies that as the education level of women who have children, in other words, mothers, increase, their anxiety levels also increase[50]. One of the reasons for this may also be to care more about the financial responsibilities of having a child due to the awareness that increases with the level of education. In this context, in the study of Coşkun and Akkaş (2013), it is stated that mothers' perceived income level or social support factors have a lowering effect on the anxiety level [51].

There are studies reporting that the stress levels of expectant mothers are relatively high during their pregnancy, especially in women who have high levels of anxiety about childbirth and fear about the requirements of the process[52]. However, in the study, it was concluded that the level of anxiety did not differ according to the duration of pregnancy. Among the reasons for this, it can be thought that the factors that cause anxiety are the conditions in which the process is experienced rather than the duration. In terms of these conditions outside of the period, Smith states in his study that within the scope of pregnancy, the woman's self-perception, various social roles, the lifestyle she leads, and even the communication and relationships she establishes with other individuals as an individual can be effective in redefining herself[53].

When the literature is examined, there are studies showing that the necessity of going to health institutions, especially emergency departments, increases the level of anxiety in pregnants[54]. However, it is stated that not only the health problems experienced by pregnant women during their own processes, but also the fact that they witness the health problems experienced by other pregnant women, especially bleeding situations, increases the level of anxiety that already exists[55]. Studies in the literature support the finding of this study that the level of anxiety differs significantly according to the "current health status" of pregnant women.

There are many studies in the literature showing that physical exercises increase the level of self-confidence of the individual and reduce the level of anxiety[56,57]. Studies showing that women who are physically active and engaged in activities have a much easier pregnancy process go back to ancient times[58]. It can be thought that this situation has a positive effect on the level of anxiety. In various studies, it is stated that the frequency of doing sports and performing sports activities in a certain routine

have positive effects on the level of anxiety[59]. In the study, it was determined that the anxiety levels of the participants about their pregnancy differed significantly according to the frequency of doing sports, which is in line with the studies in the literature.

When studies examining the relationship between individuals' sports preferences and their anxiety levels are examined, it has been determined that the preferred types of sports activities have different effects on anxiety levels[60]. Although studies on pregnant women have excluded the types of sports that are at risk of injury or that contain competition, it has been revealed that sports types have different effects on anxiety levels in studies conducted on women, and especially on pregnant women[61,62,63]. In the study, as supported by the findings in the literature, it was determined that the anxiety levels of the participants about their pregnancy differed significantly according to the types of sports they do.

Although it is accepted that sports activities have benefits on pregnant women, it is stated that the rate of doing sports among pregnant women is relatively low[64]. Studies indicate that pregnant women participating in sports activities benefit not only from physical benefits but also from psychological benefits[65]. Studies evaluating the motivation of pregnant women who do sports indicate that pregnant women prefer to do sports in order to feel good and be healthy[40,49]. In the study, it was determined that the anxiety levels of the participants about their pregnancy differed significantly according to the factor that motivated them to do sports.

Considering the studies in the literature, it is stated that individuals with a positive-positive mood have an increase in their subjectively perceived "self-efficacy" levels, while hopeless or depressive moods have a negative effect on them[66]. In other words, the decrease in self-efficacy can indirectly cause an increase in anxiety levels by reducing the capacity of the individual to cope with problems, and as a result, the individual can be dragged towards the point of psychological collapse[67]. In the study, it was reported that the anxiety level of the participants, which is in line with the results of the studies in the literature, differed significantly according to their anxiety levels during the pandemic process[68,69].

With the increase in the level of anxiety in individuals, the capacity to cope with problems can also be negatively affected, It is stated that especially in women who are mothers, being affected by the COVID-19 infection during the pandemic process increases their anxiety levels, and even the level of attachment to the baby may differ due to problems such as coping or not being able to cope[70,71]. It is also stated that COVID-19 infection causes anxiety, anxiety or depression in women who have a baby or are pregnant[72]. In this study, it was found that the anxiety levels of the participants differed significantly according to the levels of women who were worried about their babies during the pandemic process, in line with the results of the studies in the literature.

In the conducted studies, it is stated that variables such as low education level or low income level are perceived by individuals as risks in terms of health, and as a result of this perception, it is stated that the basis for physical and psychological disorders[73,74]. In particular, women's confrontation with the necessity of meeting the unique needs of the baby and continuing to meet their own needs not only during pregnancy but also after delivery can lead to anxiety and helplessness. For this reason, it can be argued that women may need support in all aspects within the scope of postpartum processes[75,76]. In this study, it was determined that the anxiety levels of the participants during pregnancy did not differ according to their social security status. It can be thought that among the reasons for this situation, there may be reasons such as being in an extended family, having sufficient economic opportunities, and not needing social security.

In studies examining pregnant and non-pregnant women, it was determined that the level of anxiety was lower in non-pregnant women[40,46,53]. It can be thought that the increase in the awareness of women who are in the pregnancy process may also affect their anxiety levels. In many studies, it is stated that the level of anxiety may be affected by pregnancy[43,45,77]. As a result of this study, it was determined that the level of anxiety differed significantly according to the pregnancy status of the participants, in line with the literature.

Studies in the literature indicate that doing or not doing sports is related to the level of anxiety. Especially in terms of anxiety level, important and positive effects of physical exercises can be observed[56,57,59]. In this study, it was concluded that the anxiety levels of the participants about their pregnancy differ significantly between those who do sports and those who do not, which can be expressed as supported by the studies in the literature.

CONCLUSION

This study was conducted on pregnant women and married but not pregnant women living in Antalya Alanya between the years 2019-2020, and attention was drawn to the anxiety levels of the participants and the factors affecting the anxiety levels of the participants.

According to the results of the analysis on whether the anxiety levels of the participants differ according to their age, the average age, education level, income status, number of children, current health status, frequency of doing sports, type of sport, motivating factors for sports, anxiety levels for themselves during the pandemic process, pandemic It was determined that the anxiety levels for their babies during the process of pregnancy differ according to their pregnancy status and sports and relationships. In addition, it was determined that the level of anxiety did not differ according to the number of pregnancies, the number of miscarriages, the duration of pregnancy and social security status.

As with any study, this study also has limitations. Since the measurement of anxiety as a variable is based on subjective judgments, the possibility of participants to give non-biased answers can be considered as another limitation.

Some suggestions are presented for future studies. Accordingly, it is recommended to reach a larger sample in

future studies. In addition, the real thoughts of the participants can be obtained and analyzed more objectively with interviews based on face to face interviews. In the study, the anxiety levels of the participants and the factor affecting the anxiety levels of the participants were tried to be examined. The relations of these factors with each other can also be discussed in future studies. Considering that the pregnancy process, which means the continuity of the society in a sense, is a physiological process that includes important changes, it is thought that it is important to examine the mentioned factors in order to reach the ideal conditions for women and therefore the society and the future of the society.

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