



Determination of Exercise Attitudes of Pregnant Women

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Abstract

It is known that pregnancy is essential in the contribution of exercise to human health and the formation of healthy societies. Phenomenology design, one of the qualitative research techniques, was used in the research. The attitudes of pregnant women towards exercise before and during pregnancy and the factors affecting these attitudes were examined. The research group comprises 10 pregnant women, who are university graduates and work as professionals, who voluntarily participated in the research while living in Düzce. It is assumed that university graduates and professional pregnant women are the most qualified part of society in terms of health awareness and sports habits. A semi-structured interview form was used to collect data. Face-to-face interviews were conducted with pregnant women from different professions and at different stages of their pregnancy. NVIVO 11 statistical program was used in the analysis of the data. Although the participants thought that it was beneficial for their health, it was determined that they had various fears. Due to these fears and the fact that specialist doctors do not recommend exercise, even pregnant women who did not have any problems during their pregnancy avoided exercising. It was observed that the exercise attitudes of the participants before and during pregnancy differed.

Keywords: Attitude, Exercise, Fear, Health, Pregnant, Woman.

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Contribution of this paper to the literature

This article will contribute to the literature by emphasizing the importance of the factors affecting the attitudes of women towards exercise before and after pregnancy, the role of exercise in the development of women's and maternal health, and by developing suggestions that will enable pregnant women to exercise.

1. Introduction

Women play an important role in the formation of a healthy society in a country and in raising healthy generations. The place of the mother and the woman in society should be considered important, and the health of the woman who gave birth to the child before and after pregnancy should be given importance (Oner, 2014).

The World Health Organization (WHO) envisions a world where “every pregnant woman and newborn receives quality care throughout the pregnancy, childbirth and the postnatal period” (Tunçalp et al., 2015) The female body undergoes many metabolic, biochemical, and physiologic changes during pregnancy. These changes create a milieu that is advantageous for the maintenance of pregnancy and the post-partum period (Olson, Sikka, Hayman, Novak, & Stavig, 2009).

Exercise, defined as physical activity consisting of planned, structured, and repetitive bodily movements done to improve one or more components of physical fitness, is an essential element of a healthy lifestyle, and obstetrician-gynecologists and other obstetric care providers should encourage their patients to continue or to commence exercise as an important component of optimal health (ACOG, 2020b).

Exercise is a magic key that opens the door to normal birth. Normal birth is a condition in which breath control and pelvic muscle strength are important. If the pregnant woman prepares herself physically and mentally for the birth, the probability of having a calm birth with confidence in normal birth and meeting her baby in peace increases (May, 2017). Women with uncomplicated pregnancies should be encouraged to engage in aerobic and strength-conditioning exercises before, during, and after pregnancy (ACOG, 2020a).

Inactivity during pregnancy is cause for concern because prenatal women who do not engage in exercise forgo numerous health benefits. For example, exercise during pregnancy is associated with a reduced risk of preeclampsia (Dempsey et al., 2004; Marcoux, Brisson, & Fabia, 1989; Sorensen et al., 2003) gestational diabetes (Dempsey et al., 2004; Mottola, 2007), and preterm birth (Hegaard, Pedersen, Bruun Nielsen, & Damm, 2007; Juhl et al., 2008) as well as improved pain tolerance, lower total weight gain and less fat mass gain, and improved self-image (Clapp III & Kiess, 2000).

Physical activity is beneficial for pregnant women (Ağaoğlu, 2015; Mecdi & Rathfisch, 2013), but their rate of doing sports is reported to be low (Ağaoğlu, 2015). Exercise during pregnancy carries the mother's relationship with her body to a more special position. Exercise activities are neglected during pregnancy (Kolukisa, 2017). The relationship between this situation and the education level of women is an undeniably important criterion (Balsak et al., 2007; Barakat, Pelaez, Montejo, Luaces, & Zakythinaki, 2011).

Traditionally, pregnant women have been directed to wait until the second trimester to begin an exercise program if they have not been active previously. The thinking behind this directive is to avoid the risk of miscarriage during a sensitive period. However, no studies have shown increased rates of complications (such as spontaneous abortion or congenital deformities) or interference with the ability to conceive in women who exercise during the conception phase or early in pregnancy. Undue concern about this issue has caused experts to continue to advise cautiously on the matter until more research results are available (Wolfe, Brenner, & Mottola, 1994).

Despite the well-established benefits of exercise during pregnancy, many women do not meet the current recommendations for physical activity participation. This is in part related to the numerous barriers to exercise participation for pregnant women. These barriers include a lack of time, physical discomfort, fatigue, and uncertainty about exercise guidelines and how to exercise safely (Connelly, Brown, van der Pligt, & Teychenne, 2015; Duncombe, Wertheim, Skouteris, Paxton, & Kelly, 2009; Guelfi et al., 2015).

Popular concern warns that the risks of exercise can cause premature birth, abortion, or congenital deformities. There are no reports documenting that regular exercise alone increases the occurrence of maternal or fetal injury in a healthy woman with a normal pregnancy. She can be physically active without endangering herself or her fetus. However, every woman should be informed of the potential risks of exercise and warned of the associated problems so that she can make an informed decision about her participation in exercise (Hammer, Perkins, & Parr, 2000).

All healthy pregnant women should be physically encouraged to exercise and exercise in a healthy pregnancy to reap great health benefits. Health professionals have a distinct role in encouraging pregnant women to adopt health-enhancing behaviors. Pregnant women should be evaluated comprehensively in prenatal care, and wrong behaviors should be determined. Pregnant women and their partners should be encouraged to adopt health-promoting behaviors through training programs or counseling (Aksoy, Turfan, & Yılmaz, 2017).

This research aims to determine the attitudes of pregnant women towards exercise before and during pregnancy and the factors affecting these attitudes, with a research group selected from university graduates and professional pregnant women, who are considered the most conscious part of the society living in Düzcce.

2. Method

2.1. Research Design

Phenomenology design, which is one of the qualitative research techniques, was used in the research. The attitudes of pregnant women towards exercise before and during pregnancy and the factors affecting these attitudes were examined.

2.2. Participant (Subject) Characteristics and Sampling Procedure

The research group comprises 10 pregnant women who are university graduates and work professionally, who participated in the research voluntarily while living in Düzcce. The research group was formed by the snowball

sampling method. Other participants were reached in a chain manner through the acquaintances of the participants, whom the researchers found by moving from their close circles. It is assumed that university graduates and professional pregnant women are the most qualified segment of society in terms of health awareness and sports habits. The informed consent form was obtained from the participants who were verbally informed about the study and voluntarily participated in the interviews.

2.3. Data Collection

A semi-structured interview form was used to collect data. With the created form, the questions were tested by interviewing a participant who was not in the research group. Necessary arrangements were made and the interview form was given its final form. Face-to-face interviews were conducted with pregnant women from different professions and at different stages of their pregnancy. Interviews were audio recorded. Audio recordings were decoded into a word file.

2.4. Data Analysis

NVIVO 11 statistical program was used in the analysis of the data. The codes and sub-themes obtained were tabulated by the researchers under the themes. Descriptive analysis was conducted with participant statements supporting the themes and codes.

3. Results

The demographic characteristics of the participants are shown in the tables below. The 10 interviewees are numbered as P1 and displayed at the end of the tables and statements.

Table 1 presents type of graduation of participants.

Table 1. Type of graduation of participants.

Participant	Faculty
P1, P5	Law
P2	Pharmacy
P3, P7, P8, P9, P10	Education
P4	Science Literature
P6	Health Sciences

Table 2 presents number of children of the participants.

Table 2. Number of children of the participants.

Participant	Number of children
P1, P3, P4, P5, P7, P8, P9, P10	First pregnancy
P2	1
P6	2

Table 3 presents the number of pregnancies of the participants.

Table 3. The number of pregnancies of the participants.

Participant	Number of Pregnancy
P1, P3, P4, P5, P7, P8, P9, P10	1
P2	2
P6	3

Table 4 presents participants' month of pregnancy.

Table 4. Participants' month of pregnancy.

Participant	Month in pregnancy
P1	9
P6, P7, P9	8
P4, P8, P10	7
P3	5
P2, P5	4

Table 5 presents ages of the participants.

Table 5. Ages of the participants.

Participant	Age
P6	37
P4, P8	33
P1, P2, P3	32
P5, P10	30
P9	28
P7	26
Average	31.30

Table 6 presents participants' years of marriage.

Table 6. Participants' years of marriage.

Participant	Year of marriage
P6	16
P1, P2, P4,	5
P3, P5	4
P8	3
P7, P10	2
P9	1,5
Average	4.75

The answers given to the open-ended research questions were analyzed by content analysis and codes and sub-themes were created. The content analysis of the answers given to each question was tabulated and examples from the participants' views were included.

Table 7 presents participants' views on exercising.

Table 7. Participants' views on exercising.

Sub-theme	Code	F
Exercise habit	Exercise at school	3
	Childhood	3
	Physical education teacher	1
	Weight losing	1
	Friendship	1
	Act of movement	1
Total		10

"How was your relationship with exercise during your childhood and school years? According to the data obtained from the answers to the question; It was determined that the participants exercised in some way throughout their childhood and education. It has been understood that school and friend groups have an important role in gaining exercise habits.

"I played outside a lot, jumped rope, ran, walked. When I was in middle school, I played volleyball and couldn't go to the games because I was afraid of my teacher. I was stressed. When the weather was nice, I was playing volleyball with my friends at school." (P2, P8).

"My relationship with sports started in high school. After my overweight period in adolescence, I started to lose weight." (P5).

"I was not active during my school years, except for physical education classes. I saw it as a compulsory activity. I didn't feel the need to exercise. I was active enough with my friends outside of school" (P6).

"There was always play and action in my life since my primary school years." (P1)

Table 8 presents participants' interest levels in exercising.

Table 8. Participants' interest levels in exercising.

Sub-theme	Code	F
Exercise level	Work intensity	3
	Irregular exercise	2
	Membership of gym	2
	Outdoor activities	1
	Cycling	1
	Exercising at home	1
	Total	10

"What is your level of exercise in daily life?" According to the data they obtained from their answers to the question; It has been understood that working life is effective in the exercise habits of the participants. It was determined that the participants could not find time to exercise and they could not exercise regularly when they had time. It has been determined that the participants try to exercise regularly as members of gyms and they want to do their exercise needs as outdoor activities.

"I've always had some interest in exercising. But I can't say it's regular. I took long breaks from work." (P1).

"I went to the gym for a while and did pilates, yoga for a while, fitness for a while. Currently I continue to exercise at home" (P9).

"I ride a bike in the summer. I walk every now and then." (P2)

Table 9 presents participants' views on exercise pre-pregnancy.

Table 9. Participants' views on exercise pre-pregnancy.

Sub-theme	Code	F
Sedentary life	Pilates	2
	Walk	2
	Home exercise	2
	Gym	1
	Swimming	1
	Work intensity	1
	Lack of exercise knowledge	1
Total		10

"What were you doing as pre-pregnancy exercise?" According to the data obtained from the answers given to the question; It was observed that the participants did short-term and irregular exercise during the pre-pregnancy period. It was revealed that some of the participants could not exercise regularly because they did not have enough time and knowledge.

"I did pilates for 3-4 months. I tried swimming briefly to find out." (P2).

"I just walked, I went up and down stairs because I was working at school. Maybe because I don't have any other training or knowledge on this subject. Since there is no study related to this in Düzce, I did not turn to an activity such as a pregnancy school." (P8).

"I have never experienced such a situation, I was already pregnant at my normal weight, but now I have gained quite a lot of weight, about 25 kilograms. Let's see how we will continue since I did not exercise, a troubled period awaits me." (P7).

Table 10 presents participants' opinions about pregnant women exercising.

Table 10. Participants' opinions about pregnant women exercising.

Sub-theme	Code	F
Pregnant health	Facilitates birth	2
	Need for exercise	1
	Walking is beneficial	1
	Doctor recommend	1
Baby health	Weight losing	1
	Pregnancy school promotion	1
	Provides confidence	1
	Necessary for normal birth	1
	Relaxes	1
Total		10

"What do you think about pregnant women doing exercise?" According to the answers to the question According to the answers given to the question, two sub-themes and a total of 15 codes emerged. Participants; They stated that exercise is beneficial for childbirth because it contributes to health, facilitates birth, recommends a doctor, and provides physical and mental relaxation.

"I think it facilitates vaginal birth, I think regular walks should be done before pregnancy." (P10).

"Everybody should do it before pregnant women should do more, especially those who think normal birth." (P5).

"I hear that it is very useful for pregnant women who will give birth normally. I felt it was good for me too. Even when I was doing pilates, what I could do was good, maybe it would be much more beneficial if I could do it with a professional hand. Absolutely sounds good. 15-20 min. it felt good both psychologically and physiologically." (P3).

Table 11 presents participants continuing exercise while pregnant.

Table 11. Participants continuing exercise while pregnant.

Sub-theme	Code	F
Exercise habit	Lack of motivation	3
	High-risk pregnancy	3
	I attended course	2
	I did walk	1
	I was not exercising before pregnancy	1
Total		10

"Have you been able to continue your sports branch while you were pregnant?" Three participants answered positively and five respondents negatively. Two sub-themes and seven codes were determined from the answers given. It was observed that the participants did not exercise during pregnancy, mostly due to health concerns. It has been revealed that, due to the problems related to the first pregnancy, exercise is not done at an advanced age. It has been observed that exercisers prefer low-intensity, risk-free exercise.

"I continue as long as I have the opportunity. I am walking. So that I can be more active. Because I get very tired sometimes. I may have reduced the times, but I'm walking. Of course, I like walking more than other sports. The walk is more important to me." (P8)

"I stopped exercising because I was in danger of miscarriage, and I still do. Because I had to lie still." (P4).

"No, but I did some exercises of pilates from time to time. But it was not regular. I did not take walks because of the seasonal air pollution. I can't be motivated." (P1).

Table 12 presents participants' level of getting suggestions/programs from obstetricians to exercise.

Table 12. Participants' level of getting suggestions/programs from obstetricians to exercise.

Sub-theme	Code	F
Doctor's advice	Walking	3
	No exercise advice	3
	Never mentioned	3
	Optional	1
Total		10

"Did you get a program or suggestion from your obstetrician about exercising?" One sub-theme and seven codes emerged from the answers given to the question. Most of the participants stated that they did not get advice from doctors about exercising during pregnancy. It has been revealed that doctors who recommend exercise generally recommend walking and direct exercise according to the preference of the pregnant woman.

"He didn't say anything because my pregnancy was very nauseous at first. He then suggested a walk. He recommended it in the last check I went to. You can walk at a slow pace for no more than 40 minutes." (P3).

“He offers advice on medication and nutrition. I did not come across a doctor who recommended sports in both pregnancies. I had three doctors. I've never heard of it until now. ” (P2).

“When I said I am exercising to get ready for the birth, the doctor said“ I don't mind if you feel good ”. I didn't say whether I should do this or that. He said to keep going no matter how good you feel.”(P9).

Table 13 presents opinions of the participants on what to do if they get a suggestion from the obstetrician about exercising.

Table 13. Opinions of the participants on what to do if they get a suggestion from the obstetrician about exercising.

Sub-theme	Code	F
Healthy life	Determined	3
	Diligent	3
Effort	Easy birth	2
	Baby's health	1
	Mother's health	1
Total		10

“What to do if they get a suggestion from the obstetrician about exercising?” Two sub-themes and six codes emerged from the answers given to the question. Most of the participants stated that they will strive for health.

“If there was a program, I would definitely apply it. Because pregnancy is a very different period. Everything the doctor said was perceived as an order, I thought I had to do it. If he said you have to do it, I would definitely do it. Now, since there is no such obligation, I do something myself. I would be a little more careful if he gave a program.” (P6).

“I would try to practice. In order to give birth easier, I would try to do it because I want my baby to be healthy. Experts encourage normal birth. He says that doing sports has a positive effect on normal birth.” (P8).

“I definitely would. For both my baby and myself. I wish more for myself. Because how am I going to lose this weight?” (P4).

Figure 1 illustrates results table of the participants' exercise attitudes before and during pregnancy.

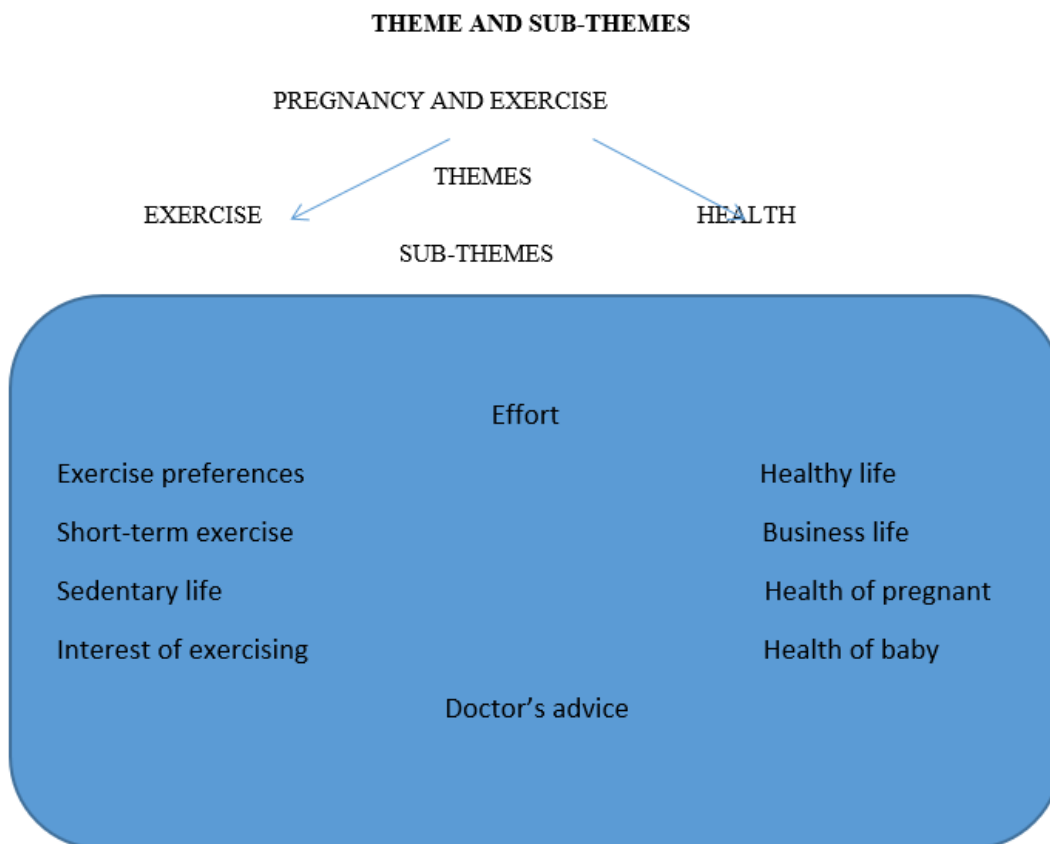


Figure 1. Results table of the participants' exercise attitudes before and during pregnancy.

4. Discussion

According to the research results; It was observed that the participants had different exercise attitudes before and during pregnancy. It was observed that the majority of the research group, which consisted of 10 pregnant women between the ages of 26-37, having an average of 6.7 months of their pregnancy and living an average of 4.75 years of their marriage, had their first pregnancy. It was observed that the majority of the research group did sports before pregnancy. It has been determined that there are different reasons for the change in exercise attitudes when pregnant.

Hayman, Short, and Reaburn (2016) examined the exercise behaviors of 142 pregnant women living in Australia, 64% of the respondents reported that they exercised at least three or four times a week before pregnancy. In the study, 87 active women (70%) participated in pre-pregnancy with an intensity of "medium", "difficult" or "very difficult" 14. It was observed that most women did sports before pregnancy.

Kolukisa (2017) in his study with pregnant women aged between 21-39, asked the pregnant women "Would you do sports before pregnancy?" (42.9%). There are studies conducted with pregnant women who had sports habits before pregnancy. It was found that most of the participants did not exercise during pregnancy and pregnant women did not move except for compulsory walks and daily activities.

Hayman et al. (2016), when the level of exercise before and during pregnancy was compared, a significant decrease in exercise participation was observed ($\chi^2 = 31.66, p < 0.05$). Among those who continued to exercise, there was a significant decrease in the number of pregnant women who followed the exercise guidelines ($\chi^2 = 8.55, p < 0.05$). Exercise frequency ($\chi^2 = 111.63, p < 0.05$), intensity ($\chi^2 = 6741, p < 0.05$) and duration ($\chi^2 = 114.33, p < 0.05$) significantly decreased from pre-pregnancy to during pregnancy.

A significant decrease was observed in the exercise session duration before pregnancy and the exercise time after pregnancy. Exercise for less than 30 minutes (62%) while pregnant was the most frequently reported exercise. This shows that the exercise time during pregnancy drops significantly.

Before pregnancy, exercise for flexibility was found to be the least common type of exercise. Especially, 26% of the participants participated in exercises for flexibility, 40% in strength exercises and, 78% in aerobic exercises. In contrast, flexibility exercise during pregnancy is the second most frequently reported exercise type. During pregnancy, strength exercises have been reported the least frequently. Nine participants (10%) stated that they participated in strength training during pregnancy. Aerobic exercise is also less reported during pregnancy (50%) than before (78%). After getting pregnant, the duration, frequency, intensity and, type of exercise decreased markedly 14.

Fell, Joseph, Armson, and Dodds (2009) found a statistically significant decrease in sports and exercise activities during pregnancy. Most women reduced their level of physical activity during pregnancy, especially sports and exercise, compared to their activity levels in the year before pregnancy, but few women in this study actually increased their activity in this area. According to the study, it was concluded that participation in sports and exercise activity during pregnancy could potentially be modifiable and positively affect perinatal health and maternal post-partum weight. The results of this study show that pregnancy is an event that leads to a decrease in physical activity.

Balsak et al. (2007) in their study, the distribution of exercises performed by pregnant women according to their types was 32.5% walking, 2.7% strengthening the abdominal-leg muscles, 1.7% stretching back muscles, 0.6% breathing exercises, 0.2% strengthening abdominal muscles, 0.2% neck mobility. protection, 0.2% in the form of stretching the back neck muscles 6. According to the research, the most preferred exercise type for pregnant women is walking.

Evenson, Savitz, and Huston (2004) found that the rate of exercising among pregnant women was 65.6%, and that of non-pregnant women was 73.1% 6. Zhang and Savitz (1996) found that the rate of exercising at least 30 minutes three times a week, which was 55% before pregnancy, decreased to 42% with pregnancy. Exercising attitudes before pregnancy changed after pregnancy. Many women reduce their physical activities during pregnancy.

Although the study group expressed mostly positive opinions about exercising during pregnancy and consisted of participants who had exercise habits before pregnancy, it was observed that they stopped exercising during pregnancy. It was observed that the research group consisting of university graduates, who were assumed to be the most conscious segment of society, could not meet this expectation.

Balsak et al. (2007), according to the results of the research examining the knowledge and behavior of pregnant women about pregnancy exercises, pregnant women with high educational status have significantly higher exercise knowledge. Exercise knowledge of pregnant women with university degrees was 60%, 18.1% of primary school graduates, 32.8% of secondary school graduates, and 52.2% of high school graduates.

Most of the participants stated that they did not get exercise advice from obstetricians, and almost all of them stated that they would follow the program if they received an exercise recommendation or program from their doctor. It is anticipated that referrals from doctors and healthcare professionals can strongly influence exercise attitudes.

Balsak et al. (2007) found that 44.2% of the information sources of pregnant women on exercise are healthcare workers. Chawla and Anim-Nyame (2015) 92% of pregnant women do not exercise during pregnancy, although they are encouraged by doctors. Limited exercise is recommended for about two-thirds of pregnant women.

Despite the common use of bed rest in certain pregnancies, there is a scientific and medical consensus that regular exercise is safe and beneficial for most pregnant women. The weight of the available evidence indicates that aerobic exercise is not associated with health problems, but rather, it is associated with improvements in both maternal and fetal health (Biolo, Heer, Narici, & Strollo, 2003).

Women with higher socioeconomic status (SES) reported more physical activities overall compared with low SES women. Higher SES-women reported swimming and gardening more frequently during pregnancy while lower-SES women reported home exercise (i.e. stationary bike) more frequently (Zhang & Savitz, 1996).

5. Conclusions

According to the results of the research, it is easier for children who have the chance to play with their peers in open areas during their childhood years to gain exercise habits. Children with this habit during their school years are more willing to take physical education lessons. Physical education lessons given by qualified teachers positively affect exercise habits. Career anxiety and exam stress, which started in high school, distract young people from exercise. It has been determined that the desire of women to make a career delays the age of marriage and motherhood. late marriages and pregnancies; Due to cesarean section, high risk pregnancies, and environmental pressure, parents can have a maximum of two children.

Differences were observed between women's approaches to sports before pregnancy and their exercise attitudes during pregnancy. It has been determined that women with exercise habits do not want to exercise during pregnancy although they know that exercise is beneficial for the baby and their own health.

It has been determined that women see themselves as sick or as candidates for being sick during pregnancy. It has been understood that during my pregnancy, pregnant women expect information and motivation from obstetricians to exercise, as they do in every other subject. Obstetricians and gynecologists are seen as the authority on the trainer, venue and program to exercise. It was concluded that obstetricians only recommend inactivity for high-risk pregnant women in relation to exercise. Pregnant women prefer only walking as exercise. Pregnant women consider it sufficient for their need for movement to do their own work such as cooking, cleaning

and personal care. It is thought that doing housework, which was done at intervals before, unless it is compulsory, will adversely affect the health of the pregnant woman and the baby. Pregnant women have a positive approach to exercise after giving birth, especially because of their motivation to lose weight.

For this reason, it is necessary to recommend exercises during and after pregnancy, which are indispensable for pregnant and baby health, by obstetricians. In order for the Ministry of Health to create programs related to the subject, obstetricians and sports science experts should create projects in which they will work together. Social projects should be developed to reduce the ages of marriage and motherhood and to enable healthier pregnancies. Necessary units should be established in obstetrics and gynecology services and other relevant health institutions for pregnant women, normal birth, exercises to facilitate birth, breathing exercises and pregnancy nutrition, etc.

For the health of future generations, the mother, who undertakes the primary care of the baby, can benefit from exercise for her mental, physical and psychological well-being, and for this, she can receive support from health institutions, the environment and her family.

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