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Evaluation of pregnant women's knowledge and attitude toward physical exercise during pregnancy at maternity hospitals

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Abstract:

BACKGROUND: There are major health benefits to physical exercise during pregnancy for mothers and newborns. However, physical inactivity during pregnancy varies worldwide, but it is more common during the third trimester of pregnancy. A positive attitude toward antenatal exercise can reduce physical inactivity.

OBJECTIVES: This study aimed to evaluate pregnant women's knowledge and attitude toward physical exercise during pregnancy and to find out the relationship between pregnant women's knowledge and attitude.

METHODS: This is a descriptive study utilizing a non-probability purposive sample of 200 women. The data were collected by distributing a structured, self-administered questionnaire. The questionnaire comprised 37 questions for knowledge and 15 questions for attitude. This study was conducted from October 2021 to November 2022.

RESULTS: The higher percentage of women's age was 20–24 years, and 30% graduated from primary school. Nearly two-thirds of them were in the second trimester. More than one-third of them have two to three living children. Nearly two-thirds of women have poor knowledge levels about physical exercise during pregnancy, but most of them have a positive attitude. There is a significant relationship between pregnant women's knowledge and attitude.

CONCLUSION: This study indicated that most of the study sample had poor knowledge regarding physical exercise during pregnancy. However, they have a positive attitude toward physical exercise during pregnancy.

Keywords:

Attitude, knowledge, physical exercise, pregnancy, pregnant

Introduction

Physical activity is widely accepted as a crucial aspect of a healthy lifestyle and has benefits for the health of pregnant women. Physical exercise, as a type of physical activity, is a planned, regulated, and repetitive body movement that requires either physical or mental effort and is done to promote health. New research demonstrates that pregnant women may begin and maintain relevant activities since they are

safe and provide considerable advantages for both the mother and the fetus.^[1]

The advantages of exercising during pregnancy are widely known, and studies have shown a lower incidence of excessive weight gain, miscarriage, gestational hypertension, preeclampsia, gestational diabetes, macrosomia, preterm birth, low birth weight, reduced length of labor, lowered risk of cesarean delivery, and complications. Physical activity during pregnancy has psychological advantages such as reducing tiredness, tension, anxiety,

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and depression, as well as improving well-being. The majority of workouts are safe to practice while pregnant as long as they are done within certain restrictions, which usually involve less vigorous, less frequent, and shorter physical activity than is typical of nonpregnant people.^[2,3]

Pregnant women can exercise most days of the week moderately for 30 minutes, according to the American Congress of Obstetricians and Gynecologists (ACOG). Exercise during pregnancy has been extensively researched and confirmed to be safe and useful, such as walking, stationary cycling, aerobic activities, resistance exercises, and stretching exercises.^[4]

Several studies, including a systemic review, found that low levels of antenatal physical activity were common among poor, lower-educated, and developed nations. This might be due to a variety of causes, including a lack of information or counseling, an understanding of the benefits of prenatal exercise, and insufficient knowledge of physical activity during pregnancy.^[5]

Over the last 20 years, attitudes toward exercising during pregnancy have altered significantly. Recent studies demonstrate that exercise is generally safe for both the mother and the fetus during pregnancy, supporting the recommendation to begin or maintain exercise in most pregnancies. So, antenatal care is included in most nations' public health promotion and preventive programs. Proper prenatal healthcare services are required for a safe pregnancy with improved newborn outcomes.^[6]

Therefore, this study aimed to evaluate the knowledge and attitude of pregnant women about physical exercise during pregnancy who attend maternity hospitals in Baghdad City to provide data that would be potentially useful in generating previously unavailable data on antenatal exercise during pregnancy among Iraqi women, which policymakers and nongovernmental organizations (NGOs) may use as a baseline for future planning and public health interventions of appropriate strategies to prevent pregnancy comorbidities.

Materials and Methods

Study design and setting

A descriptive study design was employed to obtain data from pregnant women to assess their knowledge and attitude toward physical exercise during pregnancy at outpatient maternity hospitals in Baghdad City.

Study participants and sampling

The study was conducted from October 2021 to November 2022. A non-probability (purposive sample) was used to collect the data from 200 pregnant women. Inclusion criteria were singleton pregnancy, gestational

age of 28 to 32 weeks, and has not any medical or obstetrical complications.

Data collection tools and techniques

The questionnaire consisted of 37 questions for knowledge and 15 questions for attitude. For knowledge items, categorical responses (yes, I don't know, and no) were applied with an item score of "2," "1," and "0," respectively. For attitude, the answers were either yes or no. A pilot study was conducted to determine the reliability of the questionnaire in a sample of 20 women ($r1 = 0.89$). Data are analyzed using Statistical Package for the Social Sciences (SPSS) version 26.

Ethical consideration

Ethical approval from the institutional ethics committee in the College of Nursing was obtained, and a consent form was filled out by the study participants. Data were collected after obtaining their agreement to participate in this study.

Results

Table 1 shows that the highest percentage (39%) of women's age are 20–24 years, with a mean \pm SD (Standard Deviation) 25.73 ± 5.6 . Regarding educational level, about one-third of them (30%) graduated from primary school. Regarding occupation, the majority of them (75%) are housewives.

Table 2 shows that more than half of pregnant women (54%) have a planned pregnancy. About two-thirds of them (62%) are in the third trimester of gestation. Regarding the number of living children, about one-third of them (39%) have two to three children. A higher percentage of them (54%) have previous delivery through vaginal birth.

Figure 1 reveals that the higher percentage (61%) of women's knowledge about physical exercise during pregnancy is poor, while only (12%) of them is good.

Figure 2 shows that more than two-thirds (73%) of women's sources of knowledge are from social media, while only (4%) of them are from health care providers.

Figure 3 shows that more than two-thirds (73%) of women's attitudes toward physical exercise during pregnancy are positive.

Table 3 results show that there are statistically significant differences between women's knowledge and attitude toward physical exercise during pregnancy.

Discussion

The findings of the present study show that the highest percentage of women in the age group are 20–24 and 25–29 years, respectively, and about two-thirds of

Table 1: Distribution of study sample according to socio-demographic characteristics

Demographic characteristics	Frequency	Percentage
Age/years		
15–19	23	11.5
20–24	78	39
25–29	50	25
30–34	27	13.5
35–39	19	9.5
40–44	3	1.5
Total	200	100
Mean=25.73±5.6		
Educational level		
Read and write	27	13.5
Primary school	60	30
Preparatory school	49	24.5
Secondary school	27	13.5
Institute graduate	5	2.5
College graduate	27	13.5
Master and higher	5	2.5
Total	200	100
Occupational status		
Student	26	13
Employee	24	12
Housewife	150	75
Total	200	100
Income		
Sufficient	32	16
Somewhat sufficient	82	41
Insufficient	86	43
Total	200	100
Family type		
Nuclear	77	38.5
Extended	123	61.5
Total	200	100

them have graduated from primary school. Regarding occupation, most of them (75%) are housewives, which is consistent with Sabiri *et al.*,^[1] who conducted a study among 306 pregnant women and found that the higher percentage (33.3%) of the study sample age ranged from 20 to 24 years, and most of them (43.1%) had primary education. Also, Chaudhari *et al.*^[4] found that in the majority of the study sample (55.22%) in the age group of 21–25 years, more than two-thirds (77.61%) were housewives. However, it was inconsistent with Siyad *et al.*,^[2] who stated that out of 651 pregnant women, most of them (66%) were within the age group of 25–35 years, and 70% had university or higher degrees.

Regarding reproductive variables, this study finds that a higher percentage of pregnant women have a planned pregnancy, and in the third trimester of gestation, the majority of them are multiparous women, have two to three children, and have not had abortions. A higher percentage of them (54%) have had previous deliveries through vaginal birth. These results are consistent with

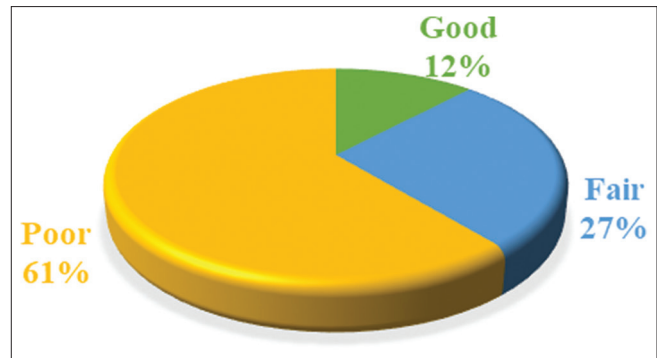


Figure 1: Women's knowledge about physical exercise during pregnancy

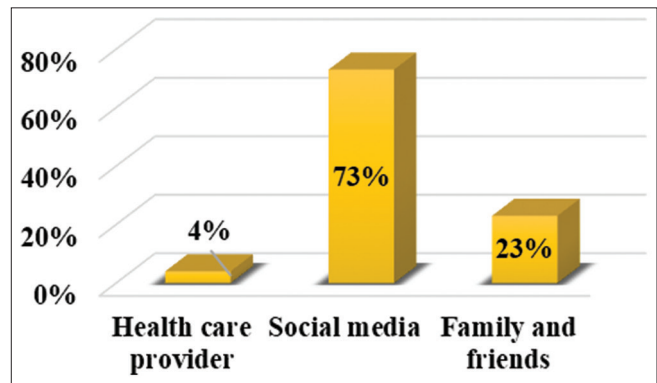


Figure 2: Women's sources of knowledge

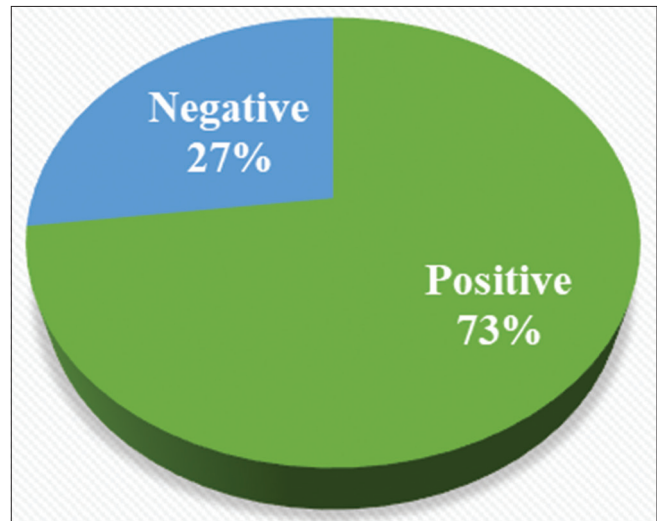


Figure 3: Women's attitude toward physical exercise during pregnancy

Negash *et al.*,^[5] who conducted a study among 806 pregnant women who participated in their study. The higher percentage (44.7%) of them were in the third trimester of gestation, the majority (51.4%) of them were multiparous women, most of them (43.7) had two to four children, and the majority of them (89.1%) had not had abortions. Moreover, Alaglan *et al.*,^[7] who conducted a study among 274 pregnant women who participated in their study, found that the majority (81.8%) of them

Table 2: Distribution of study sample according to reproductive characteristics

Variables	Frequency	Percentage
Planned pregnancy		
Yes	108	54
No	92	46
Total	200	100
Gestational age/weeks		
1 st trimester	24	12
2 nd trimester	52	26
3 rd trimester	124	62
Total	200	100
Mean (SD): 28.9 (10.3)		
Gravidity		
1	51	25.5
2–3	71	35.5
4≥	78	39
Total	200	100
Parity		
0	58	29
1	30	15
2–3	79	39.5
≥4	33	16.5
Total	200	100
Living children		
0	58	29
1	33	16.5
2–3	78	39
≥4	31	15.5
Total	200	100
Abortion		
0	163	81.5
1	20	10
2–3	12	6
≥4	5	2.5
Total	200	100
Previous delivery		
Cesarean birth	92	46
Vaginal birth	108	54
Total	200	100

Table 3: Association between women's knowledge and attitude toward physical exercise during pregnancy

Items	Chi-square statistics			
	Value	df	P	Sig.
Women's knowledge	4.644	1	0.030	S
Women's attitude				

df: degree of freedom, value: $P < 0.05$

are multiparous women, most of them (73.7) had more than two children, and the delivery mode was vaginal birth (66.4%).

This study was conducted to evaluate pregnant women's knowledge concerning antenatal exercise, which consists of four subdomains, including types of exercise. Most of the study sample has good knowledge regarding

breathing, yoga, back, and abdominal exercise (80%, 70%, 60%, and 55%, respectively), while they have poor knowledge regarding aerobics (10%), swimming (40%), and cycling (15%) exercise. These findings are supported by Sujindra *et al.*,^[6] who conducted a study among 200 pregnant women in India and reported that their study respondents' knowledge of the type of exercise during pregnancy was better regarding breathing (54%), back care (60%), and abdominal exercise (42%), while they have less knowledge regarding exercises such as cycling, aerobics, and swimming. Their study respondent had knowledge only of the usual types of exercise, such as breathing, abdominal, and back exercises. They did not know that pregnant women can do exercises such as swimming, cycling, and aerobics.

Concerning the benefit of exercise during pregnancy, most pregnant women indicated that antenatal exercise is beneficial in preventing excessive weight gain in pregnancy (60%), improving their ability to cope with labor and delivery (70%), and reducing back pain (58%). The result supported by Okafor and Goon found that among 1,082 pregnant women, most of the study sample mentioned that physical exercise has benefits in improving cardiovascular function (86.2%), reducing newborn weight (61.4%), reducing musculoskeletal discomfort (82.7%), relieving back pain (85.7%), and reducing the incidence of muscle cramps and edema in lower limbs (91.3%). Moreover, the majority of them reported that it can improve labor and delivery (96.9%), health of the baby (96.9%), health of the mother (98.2%), and the mood (90.4%).^[8] These results are inconsistent with Dwaily and Naji, who stated that among 92 pregnant women, more than half of them have a somewhat sound perception of physical exercise (51.1%).^[9]

The source of knowledge from healthcare providers was only 4%, while the higher percentage (73%) was from social media. Khalied and Abdullwahid conducted a study to evaluate maternal and child healthcare services in Baghdad City primary healthcare centers. They found that among a sample of 100 nurses, most of the services were fairly provided by the staff nurses, especially regarding "educating pregnant mothers about proper nutrition and exercise."^[10] Okafor and Goon found that more than one-third of their study sample (35.7%) were healthcare professionals who were the source of knowledge for physical activity information and advice.^[8]

This study showed that pregnant women have a positive attitude regarding physical exercises during pregnancy among more than two-thirds of them (73%); a higher percentage of them have a positive attitude regarding that exercise will help women recover soon after delivery (78%); doing exercise during pregnancy reduces complications (70%); and women will feel energetic after

doing antenatal exercise (76%), while they have a negative attitude regarding item "Do you have enough time to do exercise daily?" (75%), "Do you think, doing exercise during pregnancy is essential" (70%), and "antenatal exercise is safe to practice during pregnancy" (60%). Janakiraman *et al.*,^[11] who conducted a study among (349) pregnant women, found that most of their study sample (55.3%) had a positive attitude. The majority of them (87.4%) thought that "antenatal exercise will help them get back to shape after pregnancy," (72.5%) affirmed that "antenatal exercise should be performed based on advice," and more than two-thirds (64.2%) were enthusiastic to do exercises, while only (35%) of pregnant women believed that antenatal exercise will prevent pregnancy-related complications.

Limitations of the study

The study's limitations include the fact that there were no studies to assess Iraqi pregnant women's knowledge and attitude toward antenatal exercise during pregnancy. Also, the use of a self-reported questionnaire is to collect data from participants, where the possibility of response bias cannot be ruled out.

Conclusion

This study concluded that around three-quarters of women have poor knowledge about physical exercise during pregnancy, and more than two-thirds of them have source of knowledge from social media. The majority of them have a positive attitude toward physical exercise during pregnancy. There is a significant relationship between pregnant women's knowledge and attitude.

Recommendation

This study recommended that pregnant women need prenatal education about the importance of physical exercise for maternal and fetal well-being and encouragement to engage in physical exercise during pregnancy.

Ethical approval

Ethical approval was obtained from a committee in the College of Nursing/University of Baghdad. Also, the consent form was obtained from pregnant women.

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Conflicts of interest

There are no conflicts of interest.

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