



## **Knowledge and Attitude of Pregnant Women Regarding Antenatal Exercises**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author MH designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors QUA and NUSS managed the analyses of the study. Author JV managed the literature searches. All authors read and approved the final manuscript.*

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### **ABSTRACT**

**Background:** Exercise during pregnancy is very beneficial for maternal health and fetus also. Proper knowledge in pregnant mothers is very important to promote practicing of it.

**Objective:** To assess the knowledge and attitude of pregnant women regarding antenatal exercises.

**Methods:** This is a cross-sectional study done in Isra institute of rehabilitation and sciences, Karachi & JPMC, Karachi. Total of 266 pregnant women during their 2<sup>nd</sup> and 3<sup>rd</sup> trimester and willing to participate in study were included from different gynecological departments of Hyderabad. Complete history was assessed regarding patient's age, gestational age, educational status and any previous known pathology. Data were collected through face to face interviews and a validated and modified questionnaire with informed consent. For recording all the data, a designed

questioner proforma was used. SPSS version 20 was utilized for data analysis, which was then summarized by descriptive statistics using frequency tables, charts and percentages.

**Results:** Total 266 pregnant women were interviewed; the mean age was  $27.86 \pm 4.79$  years, with a minimum and maximum age of 18 and 44 years respectively. Majority (54.97%) of the women did not have knowledge regarding antenatal exercise. However, 79.0% of women showed positive attitude towards antenatal care.

**Conclusions:** Majority of pregnant women had inadequate knowledge regarding antenatal exercises, while most of whom with a positive attitude.

*Keywords: Pregnancy; exercise; knowledge; attitude.*

## 1. INTRODUCTION

Antenatal care acts as a component of public health encouragement as well as prevention programs in majority of nations. Safe maternity by means of enhanced neonatal results is centered on appropriate antenatal healthcare services [1] with systematic exercise encouraging general well-being and benefits [2]. Exercise has turned out to be an essential aspect relating to lives of females and a significant component of antenatal care [3,4].

In obstetrics, physiotherapy contributes significantly in both of the postnatal as well as antenatal periods. Antenatal exercises in pregnant mothers have been suggested to promote safe delivery and health safety [5].

Antenatal physiotherapy is believed to be as the best means to socialize the pregnant women in physical therapy profession and is known to make up the essential component during pregnancy for good foetomaternal health [5].

Antenatal exercises are helpful to maintain physical fitness as well as cardiovascular strength in the individuals who adopt these exercises. The exercises comprise breathing exercises, core stability, pelvic floor exercises, aerobics, back care and postural education. Moderately intense, low-impact, regular exercises assist to avoid unwarranted weight gain, gestational diabetes and preterm labor. This is in addition to advanced neurobehavioral relaxation and stress tolerance in the developing fetus and maternal postnatal recovery [6,7]. During clinical practice, pregnant women can, by engaging in the professional community practice, learn regarding benefits of antenatal exercises and its associations with the health of child and mother [7].

Moderate exercise in the course of pregnancy is good for cardiovascular health, to regulate weight

gain, to enhance psychological state and attitude, trouble-free and less difficult birth as well as a rapid postnatal recovery [6]. Prenatal workout avoids Gestational DM [7]. Preterm labour risk can possibly be decreased in nulliparous females who take exercise on a regular basis. It is suggested that pregnant females must be counseled to take exercise in order to achieve physical fitness in the course of prenatal visit. They must further be enquired regarding daily routines, leisure and work associated exercises in addition to strategies for variations in the course of pregnancy. During pregnancy, maternal exercise provides foetal improvements, which comprise adipose tissue's declined growth, enhanced stress tolerance [6]. Moreover, major significance of exercise in the course of pregnancy include pain relief, sustenance of loosened joints and strengthened muscles for labour management, improved circulation, improved flexibility, enhanced capacity (endurance), combating fatigue, raised level of energy, reduces muscle tension, enhances relaxation as well as a positive self-respect [8]. Sarfraz et al. reported that engaging in exercises during pregnancy provides several benefits such as enhanced general physical fitness and relieve certain discomforts related with pregnancy [9].

Green et al. as well discussed relaxation and breathing exercises especially during pregnancy. These exercises were found highly effective for the labour pain relief, in addition to improve emotional health. The well-being of mother & fetus is enhanced when the mother take certain simple exercises in the course of pregnancy. Exercise has been recognized physically & scientifically to enhance the circulation of blood to the fetal & mothers for example the heart, liver and brain etc.; enhanced muscle tone and pelvic bone, consequently improving normal and secure delivery of baby in the course of labour [10,11].

Current prevalent culture has adopted the idea of “fit pregnancy”. Scientific writing favors the argument that routine exercise in the course of pregnancy encounters minor risk and is advantageous, in relation to both mental and physical health [12-14].

Engaging in an exercise secures the fetus and mother in the course of pregnancy as well as recommendation continuous exercise in majority of pregnancies [15-17].

Though, surveys have exhibited that majority of pregnant females engage less in regularly exercise [18] and that less than 20% accept up-to-date exercise recommendations [19]. Several authors have explored the attitude and approaches of females regarding the routine of bodily activity during pregnancy as well as the causes that influence their conduct concerning exercise [20-21]. Therefore, the current study was performed to appraise the awareness and attitude about exercise during pregnancy among antenatal mothers

## 2. MATERIALS AND METHODS

This descriptive cross-sectional study took place at different gynecological institutes of Hyderabad, under supervision of consultant gynaecologist. All the pregnant women during the 2<sup>nd</sup> and 3<sup>rd</sup> trimester who were willing to contribute were

included. Women with any pathological conditions were excluded on basis of ultrasound, placenta previa, preterm labour and first trimester of pregnancy. Complete medical history was assessed regarding patient's age, gestational age, educational status and any previous known pathology. Data were collected through face to face interviews. A self-made questionnaire with informed consent was used. For recording all the data, a designed questioner proforma was used. SPSS version 21 was used for data analysis. Frequency and percentage were computed for the categorical data, mean and slandered deviation was calculated for women age and gestational age. Chi-square test was applied for educational status and P value less than 0.05 was regarded as significant.

## 3. RESULTS

The current study reports a mean age of females 27.86±4.79 years, with range of minimum 18 years and maximum 44 years. 35.3% women were found with gestational age of 26 to 30 weeks. Most of the women 72.2% were found with middle socioeconomic status (SES), followed by 19.9% with poor and 7.9% with high SES. According to the educational status majority of women 31.6% were uneducated, 24.8% were graduates and remaining with lower educational status, as showed in Table 1.

**Table 1. Distribution of women according to demographic characteristics =266**

	Frequency	Percent
<b>Gestational age</b>		
14-20 weeks	49	18.4
21-25 weeks	46	17.3
26-30 weeks	94	35.3
31-35 weeks	39	14.7
36-40 weeks	38	14.3
<b>Socioeconomic status</b>		
Poor	53	19.9
Middle	192	72.2
High	21	7.9
<b>Educational status</b>		
Primary	12	4.5
Secondary	26	9.8
Matric	22	8.3
Intermediate	56	21.1
Graduate	66	24.8
Uneducated	84	31.6

**Table 2. Questions regarding antenatal exercise n=266**

Variables	Frequency	Percent
Do you know about antenatal exercise?	119	44.7
Exercise in pregnancy decreases risk of backache?	115	43.2
Exercise during pregnancy prevents excessive weight gain?	139	52.3
Exercise can assist deal with labor and delivery?	101	38.0
Exercise in the course of pregnancy decreases risk of gestational diabetes?	81	30.5
Exercise during pregnancy increases energy and stamina?	158	59.4
Exercise would reduce risk of urinary incontinence?	89	33.5
Exercise during pregnancy causes high blood pressure	129	48.5
Exercise advantages general well-being and growth of the baby?	147	55.3
Does antenatal exercise contribute positively in antenatal care?	218	82.0
Is it essential to take exercise under the recommendation of health care professionals?	205	77.1
Do you think exercise can decrease pregnancy-associated complications?	191	71.8
Do you think exercise assists in post-delivery recovery?	198	74.4
Do you think the exercising assist you to recover your shape?	215	80.8
Do you think exercise regime should differ from one pregnant female to another?	218	82.0
Do you recommend physiotherapy during pregnancy?	226	85.0

**Table 3. Over all Knowledge and attitude regarding Antenatal Exercise n=266**

Variables	Percent	
<b>Knowledge</b>	Complete knowledge	146(54.9%)
	Partial knowledge	120(45.1%)
<b>Attitude</b>	Positive Attitude	79.7%
	Negative Attitude	20.3%

About 44.7% of women had knowledge reading antenatal exercises, followed by decreases risk of backache (43.2%), inhibits excessive weight gain (52.3%), helps to cope with labor (38.0%) and delivery (30.5%), reduces risk of gestational diabetes (55.3%), causes HBP and beneficial for general well-being and growth of baby (48.5%) Table 2. Most women had overall good knowledge and positive attitude while remaining had partial knowledge and attitude regarding exercise during pregnancy. Table 3 summaries this findings.

#### 4. DISCUSSION

Most participants in the current study were in their active years of child bearing. These findings are similar to those conducted by Mbada et al. [22] who had 189 respondents with a mean age of 28.9±4.63 years, most of whom (72.2%) were found with middle socioeconomic status (SES). Mbada CEet al. [22] further reported that the most of Nigerian pregnant females exhibited insufficient knowledge regarding antenatal exercises, though, the attitude was positive towards exercise. The latter researchers concur to our finds, in that majority had inadequate

knowledge towards exercise, however, with a positive attitude towards it. Awareness regarding advantage of as well as contraindications to exercise in antenatal significantly affected the approach to exercise during pregnancy. The score of summative knowledge exhibited that 47.6% of participants had knowledge below average and 5.82% were found with average knowledge [22] Similarly in this study 43.2% females were agreed with that, the antenatal exercise decreases risk of backache(43.2%), 52.3% said by this can avoids excessive weight gain, (38.0%) help cope with labor and delivery, (30.5%) said it can reduces risk of gestational diabetes, (55.3%) thinking that it can causes high BP and (48.5%) women said it is beneficial for general health and development of baby. In contrast, the ACOG recommendations on contraindications to exercise in antenatal, the most females reported swelling in lower extremities, excess weight loss/gain, and backache in the course of pregnancy [23]. Barakat R et al. [6] and Ribeiro CP et al. [17] reported positive approaching antenatal exercises and a positive paradigm shift in approaches towards exercise in the course of pregnancy in past 20 years. Meaning there is

escalating statistics of pregnant females contributing in sports activities, exercises, and physical activities [4,5]. Studies further linked the improved awareness of safety in exercise for both the mother & fetus throughout pregnancy in majority of cases to the readiness in initiating or continuing antenatal exercises [6,17]. Duncombe D et al. [24] stated that the commonest cause for lower exercising are feeling tired or unwell, busy schedules, and particularly in late pregnancy the exercise being uncomfortable. Sheth R et al. [25] stated that Knowledge and perception about physiotherapy during pregnancy were lower, but attitude was patients favorable. Mbada CE et al. [22] reported approach towards exercise during pregnancy was affected generally by undesirability to exercise, tiredness, and inadequate data on exercise. Cioffi J et al. [20] Found similar findings. Most recounted factors regarding limited exercise throughout pregnancy comprised sensation of much tiredness, sick or uncomfortable and being engaged. Additional major obstacles to exercising by pregnant women were reported to be shortage of time and tiredness [26]. Ali ZA et al. [26] stated that there was a good knowledge regarding antenatal physiotherapy but a big proportion showed negative attitude regarding it during pregnancy.

## 5. CONCLUSION

Majority of pregnant women had inadequate awareness regarding antenatal exercises. However, some women showed positive attitude towards exercise during pregnancy. Knowledge regarding advantages and contraindications to exercise in antenatal care significantly affected the attitude concerning the exercise during pregnancy. Awareness sessions should be done regarding proper way and importance of antenatal exercises to improve the fetal and maternal health.

## CONSENT

Data were collected through face to face interviews and a validated and modified questionnaire with informed consent.

## ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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