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A CROSS-SECTIONAL STUDY OF PERCEIVED KNOWLEDGE AND LEVEL OF EDUCATION IN SUBJECTS WITH GRAVIDA FEMALES TO PRACTICE ANTENATAL EXERCISES

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Abstract

Introduction: *Pregnancy is a stage that brings diverse challenges for the woman's body both external as well as internal changes occur enormously to produce a new life. Exercises play a significant role in improving health outcomes for mothers and for growing fetuses. This study aims to identify elements that may affect exercising in pregnant females.*

Method: *An observational cross-sectional survey study was conducted among 149 pregnant females from hospitals as well as private gynecological and obstetrics clinics in Karachi, Sindh, Pakistan. In this study, an association of knowledge and practice of antenatal exercise had been studied. Data was gathered through a self-made questionnaire and before proceeding a consent form was also filled by the targeted population.*

Result: *The majority of the women (42.3%) reported to have participated in regular physical exercise before their pregnancy and about two-thirds had never been advised about antenatal exercises.*

Discussion Conclusion: *It is evident from this study and also from different studies that antenatal exercises are not only beneficial physiologically but psychologically too if performed by expectant mothers. If performed as prescribed, it will improve mental health and is safe for the fetus too. Despite this fact, physical activities during pregnancy, poor practice in many parts of the world.*

INTRODUCTION

Physical inactivity is the fourth leading cause of global mortality, responsible for 9% of premature deaths. The WHO (World Health Organization) aims to reduce inactivity 10% by 2025 and 15% by 2030. Reduced activity during pregnancy increases the risk of maternal obesity, gestational diabetes, and hypertension. Physical inactivity during pregnancy is recognized as a modifiable risk factor for pregnancy-related complications[1]. Exercise is a body movement, exertion, or an effort to enhance overall health and fitness, also its role in pregnancy is hugely beneficial not only for the mother but for the fetus too. Over the past two decades, attitudes towards antenatal exercises have changed worldwide, and the concept of fit pregnancy steadily gained popularity based on its positive outcome. During pregnancy, it is recommended for females to engage in regular physical activity[2]. The guidelines suggest being active preferably every day, aiming for 2.5 to 5 hours of

moderate intensity, or 1.25 to 2.5 hours of vigorous intensity in a week[3].

Certain factors are significantly associated with the knowledge and practice of antenatal exercise among women. Common misconceptions and concerns of pregnant women, family members, and some obstetrician-gynecologists are that exercise during pregnancy may cause miscarriage, poor fetal growth, musculoskeletal pain, musculoskeletal injury, and premature delivery, while in the absence of absolute contraindications, antenatal exercises are safe, desirable, vital, and should be encouraged [2,3].

The state of pregnancy brings diverse challenges in the woman's body both external and internal aspects of the woman's body as it undergoes a remarkable process to produce a new life. In pregnancy, it is especially important to include physical activity in daily life. A huge number of medical professionals recommend exercise during pregnancy [4].

The existing literature provides robust evidence supporting positive associations between physical activity and benefits to mother who has been active throughout their pregnancy and has improved cardiovascular and metabolic function, as well as increased strength and bone density[4]. Furthermore, Evidence also exists for the role of exercise in preventing incontinence during pregnancy and in the postpartum period. According to the NICE (National Institute for Health and Care Excellence) guidelines , women who do exercises with precautionary measures during pregnancy will stay out of risk and get benefits [5]. A cross-sectional survey study in Karachi agreed that physiotherapists should be part of the Obstetricians/Gynecologists team but still not making any progress in implementing actions. They do refer their patients to PT (physiotherapist) not for antenatal exercises but to treat secondary problems e.g. LBP (low back pain). It is also evident from this study that referral is far better in the private sector rather than in government[6,7]

Moreover, A study was conducted in Pakistan to examine the knowledge, beliefs, and practice of Gynaecologists/Obstetricians regarding exercise during pregnancy. Results were amazingly surprising 91% of practitioners believed that antenatal exercises are extremely important and beneficial but only 34 % prescribed it. Their beliefs are positive but somehow still reluctant to recommend [6].

Hence, this study is based on identifying the drawbacks that mainly cause women in pregnancy to avoid physical activity. Despite an abundance of information based on high-quality research women in Pakistan are not performing antenatal exercise. It has also been seen from different perspectives that shed light on one of the reasons behind considering but not practicing it could be a recommendation of a gynecologist. The objective of this study is to analyze the perceived knowledge and educational level of pregnant females with antenatal exercise, the study aims to investigate the influence of educational background awareness and participation in antenatal exercise routine as well as to identify the knowledge gap that could hinder the adoption of these practices during pregnancy.

Methodology

This cross-sectional study was carried out among 149 pregnant females, recruited from different hospitals and private gynae and obs outpatient clinics in Karachi, province Sindh, Pakistan, through a non-probability convenience sampling technique. The sample size was calculated through the Openepi online sample size calculator by the method of proportion online sample size calculator by method of proportion version 3.01 after inserting 30.9%[8] at 7.5% margin of error and 95% confidence interval. Informed consent was obtained from all participants. We included pregnant females in any part of their trimester aged between 20-45 years having normal pregnancy without complication and comorbid. History of certain pathologies, complications, any type of heart and lung disease, placenta previa, pre-eclampsia or hypertension and anemia (Hb less than 8) were excluded.

Data was collected by informing patients about its role and future outcomes and explained through verbal interaction what this study is all about. Participant demographics were recorded. A self-acquired questionnaire was used to gather data.

Statistical analysis:

Data was entered into the Statistical Package for Social Sciences software version 23.0 (SPSS). Descriptive statistics were computed using percentage, mean, standard deviation, and frequency distribution were used to summarize the data. Chi-square test was used

to test the associations between knowledge and practice of activity in pregnant women

RESULT:
149 female participants of age groups ranging from 20-30, 30-35, 35-45 have taken part. Among the pregnant women surveyed, the majority (42.3%) were in the age group between 35-45 years. The educational level of the participants showed 34 (22.8%) women were unable to read and write, while 32 (21.5%) had matric, 23 (15.4%) had inter certificate, 31 (20.8%) graduated, and 29 (19.5%) higher degree level education (Table 1).

Demographics	n	Percentage (%)
Age (in years)		
20-30	46	30.9
30-35	40	26.8
35-45	63	42.3
Total	149	100
Highest Level of Education		
Matric	32	21.5
Intermediate	23	15.4
Graduate	31	20.8
Postgraduate	29	19.5
None	34	22.8
Total	149	100

(Table 1: Demographic Characteristics of Participants.)
Majority of the women (42.3%) reported to have participated in regular physical exercise before their pregnancy and about two-third had never been advised about antenatal exercises. Among those (n = 58) who had been advised about ex, the most often advised exercise was walking and the least was cycling. The most commonly cited source of information about antenatal exercise was from healthcare

professionals and social health workers (33.8%) (Table 2).

Question	Yes	No	I Don't know	Total
Have you ever performed antenatal exercises?	63 (42.3%)	86 (57.7%)	-	149 (100%)
Does your obs and gynae explained or guided you about rehab/physical therapy	58(38.9%)	44 (29.5%)	47 (31.5%)	
Do you know after pregnancy pelvic floor muscles and abdominal muscles get weakened?	60 (40.3%)	44 (29.5%)	45 (30.2%)	
Have you ever heard about breathing exercises, back exercises, ankle-toe exercises, pelvic floor and abdominal muscles strengthening exercises and regular exercise facilitates normal delivery?	60 (40.3%)	49 (32.9%)	40 (26.8%)	
Do you know in developed countries exercises/PT is recommended to pregnant women and its effect on the fetus is minimal to none if performed accurately?	61 (40.9%)	43 (28.9%)	45 (30.2%)	
Do you have any knowledge regarding exercises	58 (38.9%)	67 (45%)	24 (16.1%)	

protocols in pregnancy and pregnant women can perform it.				
Have you ever heard about breathing exercise, back exercise, ankle-toe exercise, pelvic floor and abdominal muscles strengthening exercises and regular exercise facilitates normal delivery?	60 (40.3%)	49 (32.9%)	40 (26.8%)	
If your OBS AND Gynea recommended physical therapy to you during, would you prefer to perform it on advice?	93 (62.4%)	40 (26.8%)	16 (10.7%)	

(Table 2: Knowledge and perception of antenatal exercises among pregnant females.)

Chi square analyses were used to examine the association between knowledge and performance of exercises among pregnant women. We have not found any statistically significant association between them (p-value= 0.436). Further, in multivariate analyses when adjusted for the other independent variables, level of education was a significant predictor of the knowledge of exercise among pregnant mothers. Those who completed diploma and degree level were found to be 2.8 times and 3.2 times more likely to be knowledgeable about exercise than those with lesser education or no education.

Basic Knowledge of antenatal exercise and level of education among pregnant women total n=149 out of which 58(38.9) were well aware and informed and 67(45.0) have no knowledge, 24(16.1) have no clue about it. The criteria to establish our result is developed on a simple question: where did they get all this information from n=149, 49(32.9) got it from the internet, 41(27.5) from someone, 14(9.4) from doctor, 17(11.4) from family.

Pregnant women who reported not being involved in physical activity before pregnancy, those who had 1 or 2 children, and those who were never advised about exercise were 54% 58%, and 86% less likely to be knowledgeable about exercise than their counterpart.

DISCUSSION

It is evident from different studies that antenatal exercises are not only beneficial physiologically but psychologically too if performed by expectant mothers. When performed as directed, regular physical activity during pregnancy can have a positive impact on mental health and is considered safe for the fetus. However, despite these benefits, inadequate physical activity during pregnancy is common in many regions. Expectant mothers need to comprehend the advantages, contraindications, and necessary

precautions to engage in prenatal exercise with a constructive approach.[09,10]

According to a study done in Ethiopia, over 30% of women who were pregnant or nursing exercised; however, only 11.7% of the sample as a whole and 37.9% of those who exercised had appropriate practices in accordance with the minimum recommended standards for this group. The results of two regional studies reporting on the degree of physical activity during pregnancy are almost identical to these. However, this is significantly less than the exercise habits recorded in similar populations in Nigeria (84.7%), Canada (29%), and Brazil (29%)[11,12]. This discrepancy may result from knowledge, awareness, educational attainment levels, socioeconomic inequalities, and, more crucially, from the limited usefulness of care, such as the absence of prenatal exercise counseling. Additionally, the study's cutoff for enough practice (ACOG recommendation; 3 days/week, 20 min/day) is comparable to research from Canada and Brazil. Risk to the fetus, a lack of time, and inadequate knowledge or training were the most often cited barriers to exercising in this study, which is consistent with the hurdles reported by expectant moms in Australia, Canada, and Brazil.l[13] Pelvic floor muscle training during pregnancy plays a critical role in preventing pelvic floor dysfunction. Fundamental data from the survey of pregnant women regarding PFMT can provide information for health-care workers to realize the problem and plan of treatment.

According to this survey, 50% of pregnant women were aware of PFMT. Only 27.9% of respondents were perceptive, demonstrating that they do not have the necessary in-depth knowledge of PFMT. The majority of the information on PFMT came from healthcare professionals. This result is consistent with the findings of the study by Whitford et al., which showed that 77.9% of pregnant women received information about PFMT from medical experts. Only 25% of the group that were aware had the proper understanding. This implies that pregnant women need to learn more about PFMT. Therefore, medical professionals, especially doctors and nurses at the antenatal clinic, should be aware of the advantages of PFMT and encourage women to incorporate these exercises into their pregnancies.[14]

In Zambia, a survey report was released in 2014. The vast majority (74% of pregnant women) were adequately informed about ex's. Physical therapists provided coverage for only 5% of their sources of information. For 6% of the participants in the current study, doctors were the source of information regarding physiotherapy services. Only 18 (6.0%) of the participants had their doctors suggest physical therapy as a way to stay active and healthy while they were pregnant. It blatantly demonstrated the healthcare professionals' lack of enthusiasm or awareness regarding the benefits of rehabilitative activities during pregnancy.[15]

The prevalence of urinary urgency 19.6% was estimated through a survey conducted in 2012 in Malaysia. Awareness during the gestation period about prenatal ex was 51.8% quite good and attitude was 96.4% while only 10.7% of participants were practicing exercises of pelvic floor muscles. A study reported 54% of women of gestation period have the problem of urinary incontinence in Bangladesh. To estimate attitudes and practices among pregnant women about prenatal ex a study was performed in 2014 that showed the positive attitude of 93% of participants and 67% were practicing prenatal during the gestation period. Urinary incontinence during the gestation period was 49.3%, and only 19.3% of participants were not only aware but also have knowledge about the role of physical therapy exercises in ANC. Out of total, 297(99.0%) participants agreed with a positive attitude but only 9(3.0%) women were in practice to get physical therapy services during pregnancy. [16]

In regards to knowledge about the benefits of prenatal ex, most women in this study believed antenatal exercise enhances post-natal recovery, improves stamina, and prevent weight gain. Except for the later benefit, these findings were contrasted with the other studies. A finding in the present study which was much expected like elsewhere was knowledge, attitude, and practice of prenatal ex was significantly higher among pregnant women with a higher level of education. Besides, the women in this study also believed doctor's recommendation is necessary to perform any ex protocol and it our dr responsibility to guide us and showed us ways to get better and perform better in and after pregnancy period. Nonetheless, the findings of this study revealed that the knowledge

about prenatal ex was influenced by education level, and previous advice about prenatal exercises.

To the best of our knowledge, few research have examined the knowledge, and practise of antenatal workouts as well as the reasons why this population does not exercise, which may have limited the comparing or contrasting the research's findings. Additionally, the operational definition of adequate knowledge includes a person's understanding of right and wrong, which is influenced by their level of exposure to various forms of communication and their level of life experience. Furthermore, the narrow response options provided for evaluating knowledge on prenatal exercises may not fully capture the depth of understanding. However, as the population included in this interpretation was homogeneous and based on the ACOG's advice, any bias in the interpretation may have been minimized. Despite these limitations, this study does include a sample that showed the lack of where we should shed light on and we believe that the findings of this study may collaborate towards enhancing prenatal care guidance and counseling concerning antenatal exercises among healthcare professionals and policymakers in our field for women's health.The study could benefit from input on improving awareness and the need for a large and diverse sample size sourced from across the country. Researching a larger scale will provide a more comprehensive understanding of the knowledge and application of antenatal exercises.

ETHICAL CONSIDERATION:

Data was collected after taking the consent from patients and their confidentiality was maintained throughout the study.

CONFLICT OF INTEREST:

The authors declare no conflict of interest.

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