

## KNOWLEDGE AND AWARENESS OF PREGNANT FEMALES REGARDING ANTENATAL PHYSICAL THERAPY IN TERTIARY CARE HOSPITALS OF PESHAWAR; A DESCRIPTIVE CROSS-SECTIONAL STUDY

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### Abstract

**Background:** Physical therapy includes different exercises that keep patients physically and mentally fit. During pregnancy, a woman's body goes through a lot of changes, both physically and mentally. It's especially helpful for pregnant females during and after pregnancy. Antenatal physical therapy, which is recommended by the World Health Organization (WHO), is a big part of this care. It helps prevent muscle and joint pain and provides group therapy for mental and physical health. It also helps avoid other problems like bladder issues, back pain, fatigue, and high blood pressure. Despite its benefit, there is a little knowledge and awareness about antenatal physical therapy among pregnant females.

**Objective:** To determine the knowledge and awareness of pregnant females regarding antenatal physical therapy in tertiary care hospitals of Peshawar.

**Methodology:** A descriptive cross-sectional study was conducted in five hospitals in Peshawar (four government and one private). A total of 377 pregnant females in any trimester with an age range of 18- 45years were approached and interviewed through a pre-examined questionnaire. Descriptive analysis was done using SPSS version 25.

**Results:** In this survey 377 of the total population of pregnant women of age from 18-45 years were taken. The mean age of participants was  $24.66 \pm 4.794$ . The education level of participants was that: 34.22% has never attended school, 28.36% has completed their secondary education and only 5.84% has done bachelor or above. Among 377 participants  $n=32(8.49\%)$  has knowledge about the physical therapy service during pregnancy and  $n=345(91.51\%)$  do not have any idea about it.

**Conclusion:** This study shows that the knowledge and awareness of pregnant females regarding antenatal physical therapy was very low. There is a crucial need to educate pregnant females about the use of antenatal physical therapy during pregnancy through surveys and workshops.

## INTRODUCTION:

Pregnancy causes major body changes to support the baby, affecting the mother's health and well-being. It's a key global health issue. Women typically gain 10–25 kg, with an average of 15 kg, and experience changes in blood flow, hormones, and metabolism (1). The body of a pregnant woman goes through various changes, including hormonal and physical changes (2). Pregnancy causes changes like balance shifts, organ pressure, weight gain, loose joints, and posture changes. These can lead to issues like back pain, pelvic pain, and bladder problems. Over 2/3 of pregnant women have back pain, 1 in 5 have hip/pelvic pain, and over 40% have urinary issues. About 50% still experience incontinence 8 weeks after birth, and some develop it later (3, 4). Pregnancy and childbirth can cause pelvic floor problems, affecting bladder, bowel, and sexual function. Other common issues are breast and joint pain, diastasis recti, carpal tunnel, anemia, anxiety, depression, and sleep trouble (5). Pregnancy is a natural process that brings various changes and possible complications in the body, which need medical attention and care, known as antenatal care (6). Pregnant women need care for their body, mind, and nutrition. Antenatal check-ups find problems early. With good support, many issues can be prevented (7).

According to WHO guidelines, Physical therapy plays a crucial role in antenatal wellness, aiding in pain prevention and promoting overall wellbeing throughout pregnancy (8). According to WHO, physical therapy is an independent practice where physiotherapists help to improve movement, reduce pain, and treat problems from injuries or illness (9). Physical therapy helps improve movement and quality of life. It supports health, prevents problems, treats conditions, and aids recovery through rehab (10). Exercise during pregnancy consists of regular and intentional physical activity that supports keeping the physical health fit and healthy (11). Exercise helps both the mother and baby. It can reduce problems, ease back pain, control weight, and lower C-section risk (12). It also improves posture, reduces discomfort and fatigue, and helps with a faster recovery after childbirth. Babies of exercising mothers are also more likely to have healthy growth and lower fat levels (13, 14).

Pregnancy hormones loosen ligaments and joints, causing back pain, balance issues, and incontinence. Antenatal exercises help ease these problems, strengthen muscles, and keep the body strong and healthy (15). Physical therapy during and after pregnancy is safe for the baby. It helps to improve mental health, reduce back pain, control weight gain, shorten labor, lower C-section risk, and speed up recovery (16). Babies of mothers who exercise during pregnancy may be calmer, leaner, and develop better mentally. While exercise is usually safe, many women reduce activity and need extra support to stay active (17). Pregnant women can choose from exercises like Kegels, core stability, and breathing exercises. Aerobic exercises, which boost heart rate and circulation, help keep the heart and muscles healthy during pregnancy (18). Kegel exercises help strengthen pelvic floor muscles, reducing urinary incontinence. Doing these exercises during and after pregnancy can also make childbirth easier and reduce the need for C-sections (19, 20). Regular, low-impact exercise during pregnancy helps control weight, prevent complications like diabetes and hypertension, and improve circulation. It also boosts mood and makes labor and recovery easier (21-23).

Active pregnant women have fewer complications, less back pain, better posture, and stronger muscles. They recover faster after birth. For the baby, exercise helps brain development, reduces fat, and boosts growth (24). WHO, ACOG, and NICE recommend exercise during pregnancy for better heart health, fitness, and stress reduction. Antenatal exercise is key for the physical and mental well-being of both mother and baby (25). Staying active is important for prenatal care. ACOG recommends expecting mothers to do moderate exercise for 30 minutes most days (26-28). Regular physical activity while pregnant benefits the mother as well as the baby, helping in improving overall health as well as well-being. To get the most benefits, it's important to stay active consistently throughout pregnancy (29). Regular exercise during pregnancy depends on awareness and practice. While many pregnant women have a positive attitude, few actually exercise due to uncertainty about how to do it. Antenatal exercise is safe and beneficial for most mothers as the baby develops (30). Many believe exercise during

pregnancy can cause miscarriage or harm, but unless there are medical reasons, it is safe, important, and should be encouraged (31). A global survey shows 50% to 70% of pregnant women have back pain, often due to lack of awareness about the benefits of physical therapy. Many don't know how helpful PT can be during pregnancy (32, 33).

Physical therapists should be part of pregnancy health programs to guide exercise. Raising awareness is important, as many still believe rest is best during pregnancy (34). Many communities have low activity level and many people live a sedentary lifestyle (35). Awareness about exercise during pregnancy is also low. Studies shows that pregnant women often lack enough information about antenatal exercise (36). It's important to raise awareness and provide information about antenatal physical therapy, as this can encourage pregnant women to participate (37). They should be advised to follow their doctor's recommendations for antenatal physical therapy under a qualified physiotherapist's guidance. However, antenatal care has been declining in some countries, especially in rural and underdeveloped areas (38).

In Nigeria, 46.6% of women knew about the advantages and potential risks of being active during pregnancy, while in Zambia, only 19% knew about them. In Northwest Ethiopia, approximately 39.5% of women had limited understanding of prenatal exercise. In Brazil, around 40% of expecting mothers and in Saudi Arabia 35.8% exercised during pregnancy. Nearly half of expectant mothers in Ethiopia's Tigray region (48.5%) reported being physically active. Meanwhile, in Pakistan, 87.2% of women who are pregnant remained unaware of the advantages of staying active during pregnancy (39). In Pakistan, few people know how exercise helps during pregnancy, and there's little research on it. A 2023 study in Lahore showed that out of 135 women, 34.1% knew about physical therapy, 49.6% were unsure, and 16.3% were unaware (40).

Therefore, this study was done to highlight the safety and effectiveness of physiotherapy during pregnancy, as awareness is currently low. Antenatal care is essential, yet there are no research studies on the awareness of antenatal physical therapy among pregnant women in Peshawar, Pakistan. This study seeks to assess their awareness, treatment-seeking

behavior, and the risks necessitating physical therapy, aiming to increase awareness and utilization of antenatal physical therapy.

## METHODOLOGY:

This was a cross-sectional descriptive study conducted with participants aged 18-45 years. A sample of 377 pregnant women was selected by non-probability sampling. Eligible participants were females with a normal pregnancy, within any trimester, and aged between 18-45 years. The study duration was six months following the approval of the research proposal. Pregnant women attending routine antenatal visits at Hayatabad Medical Complex (HMC), Naseerullah Khan Babar Memorial Hospital, Moulvi Jee Hospital, Peshawar General Hospital (PGH) and, Lady Reading Hospital (LRH) were approached and invited to participate. Those who provide consent and met the criteria for inclusion were individually interviewed. The screening criteria required participants to be women aged 18-45 years with a singleton pregnancy in any trimester having healthy pregnancy with a low risk of abortion or other complications, and who provide informed consent, while excluding pregnant women above 45 years and those with a history of high-risk pregnancies such as abortion, miscarriage, placenta previa, incompetent cervix, or gestational diabetes.

Data was collected using a pre-examined questionnaire consisting of close-ended questions. The questionnaire gathered information on demographics, awareness of Antenatal physical therapy, and necessity of physical therapy services during pregnancy. The data was analyzed using SPSS version 25, focusing on the chi-square test to assess associations between categorical variables. This method evaluated differences in awareness of antenatal care and the perceived necessity of physical therapy across demographic groups. The chi-square test was ideal for analyzing relationships without assuming normal data distribution, identifying significant patterns and trends. The results provided valuable insights into antenatal care knowledge and physical therapy awareness among pregnant females in Peshawar, guiding future healthcare interventions.

## RESULTS:

In this survey 377 of the total population of pregnant women of age from 18-45 years were taken. The mean age of participants was  $24.66 \pm 4.794$ . Among 377 participants  $n=32$  (8.49%) has knowledge about the physical therapy service during pregnancy and  $n=345$  (91.51%) do not have any idea about it.

### ➤ Socio-demographic characteristics:

It includes the age range, residential area, educational qualification, profession (occupation) and socio-economic status of the participants (Table-1).

**Table 1 : Socio-demographic characteristics of the participants**

Variables	Categories	Frequency	Percentage
Age Range	18-22 years	146	38.7
	23-27 years	133	35.3
	28-32 years	70	18.6
	33-37 years	23	6.1
	38-45 years	5	1.3
Residential Area	Urban	122	32.4
	Semi-urban	125	33.2
	Rural	130	34.5
Educational Qualification	Never attended school	129	34.2
	Primary education	93	24.7
	Secondary education	107	28.4
	Higher secondary	26	6.9
	Bachelors or above	22	5.8
Profession/Occupation	Housewife	342	90.7
	Employed	26	6.9
	Student	9	2.4
Socio-economic status	Upper	6	1.6
	Middle	177	46.9
	Lower	194	51.5

### ➤ Awareness of Antenatal care:

Among the 377 participants  $n=32$  (8.49%) know about the physical therapy services during pregnancy and  $n=345$  (91.51%) do not have any idea about the physical therapy services in pregnancy. In these  $n=32$

(8.49%),  $n=20$  (5.31%) pregnant females were informed by doctor,  $n=3$  (0.80%) participants were informed by nurse and  $n=9$  (2.39%) were informed by other sources like colleague, internet etc.(Table-2).

**Table 2: Awareness of Antenatal care**

Variables	Responses	Frequency	Percentage
Do you know about physical therapy services during pregnancy?	Yes	32	8.49
	No	345	91.51
How do you get to know about that service?	Doctor	20	5.31
	Nurse	3	0.80
	Others	9	2.39
	Not informed	345	91.51

### ➤ Health concerns during Pregnancy:

It shows us the common problems pregnant females are suffering from during their pregnancy. It includes

back pain, neck pain, joint pain, urine urgency, edema, tingling sensation and muscle cramps (Table-3).

Table 3: Health concerns during Pregnancy

Variables	Categories	Frequency	Percentage
Back pain, neck pain and/or joint pain	Yes	315	83.6
	No	62	16.4
Urine urgency	Yes	289	76.7
	No	88	23.3
Edema, tingling sensation, muscle cramps of hand and leg	Yes	264	70
	No	113	30

#### ➤ Necessity of Physical therapy services:

It includes all the important questions about the necessity of physical therapy services. It also shows us the attitudes of the participants about these services (Table-4).

Pregnancy is divided into three trimesters in which most of the participants (n=223) were in 3<sup>rd</sup> trimester. Only 8.75% (n=33) participants were aware of physical therapy services for their existing health concerns during pregnancy. 10.08% (n=38) pregnant females were aware of role of physical therapy in pregnancy and only 18.04% (n=68) have accessible

physical therapy services. A small number of participants 3.45% (n=13) were referred for physical therapy services for their physical problems during pregnancy and 80.9% (n=305) participants responded that they will go for physical therapy services if recommended. But still only 8.22% (n=31) participants think that physical therapy services are necessary for pregnant women, 19.63% (n=74) thinks that these services are not necessary while the remaining 72.15% (n=272) participants were not sure about its necessity.

Table 4: Necessity of Physical therapy services

Variables	Categories	Frequency	Percentage
What is the stage of your pregnancy?	1 <sup>st</sup> trimester	48	12.73
	2 <sup>nd</sup> trimester	106	28.12
	3 <sup>rd</sup> trimester	223	59.15
Do you know that Physical therapy can help for your existing health concerns?	Yes	33	8.75
	No	163	43.24
	Not sure	181	48.01
Do you know about the role of Physical therapy in pregnancy?	Yes	38	10.08
	No	339	89.92
Are the Physical therapy services accessible?	Yes	68	18.04
	No	309	81.96
Are you ever attended or referred by a Doctor to Physical therapy for any of physical problems experienced during pregnancy?	Yes	13	3.45
	No	364	96.55
Will you go for Physical therapy services if it were recommended?	Yes	305	80.9
	No	72	19.1
Do you think that Physical therapy service is necessary for pregnant women?	Yes	31	8.22
	No	74	19.63
	Not sure	272	72.15

#### DISCUSSION:

The present research aimed to investigate the level of Knowledge and Awareness of Pregnant Females Regarding Antenatal Physical Therapy in Peshawar. In this survey 377 of total population of pregnant

women of age from 18-45 years were taken. The mean age of participants was 24.66 ±4.794. The amount of those pregnant women who were a part of this survey 34.48% are settled in rural area, where 33.16% in semi urban and the rest 32.36% in urban



areas in which 90.72% of women are housewives. The education level of participants were that of 34.22% has never attended school, 28.36% has completed their secondary education and only 5.84% has done bachelor or above. Among 377 participants n=32(8.49%) know about the physical therapy service during pregnancy and n=345(91.51%) do not have any idea about it due to lack of education, lack of referrals, accessibility and financial difficulties. While the degree of positivity regarding physical therapy in pregnancy was 80.9% if prescribed by a doctor.

Results of current study was aligned with the survey which was carried out in 2023 in Kenya on n=101 participants. According to that study n=15 (15%) of prenatal mothers were aware about physical therapy service during antenatal period while n=86(85%) were not(4). This irregularity might be caused by the diversity in health care organization, inaccessibility of prenatal physical activities guidance in our current study.

In 2022 a similar questionnaire report from Lahore was published on 300 candidates of age 18-40 in which majority of women n=199(66.30%) were unaware of physical therapy in gestation period while n=101(33.70%) got awareness from their doctors and other sources, 99.00% of pregnant women show positive attitude toward physical therapy if recommended but sadly only n=28(9.30%) women has the accessibility of physical therapy service in their area(30).

Similar study was conducted in Bangladesh in 2022 in which the researchers took 97 pregnant women and find the average age was 25.5 years in which 67% were aware about antenatal exercise during pregnancy and the rest 33% of women were not(1). Another study similar to this one was done in Ethiopia in 2023 .In which the level of understanding of physical exercise among pregnant women was evaluated as 42.2%(39). This variance could be attributed to difference in research participants, factor such as educational level, experience and availability to prenatal care guidance. The results of our current study highlights significant obstacles to prenatal care including information gap, cultural misconceptions, limited counselling access, poverty and unclear exercise guidelines for management. Study findings indicate a strong

correlation between education attainment and awareness, understanding the need for improved education. On the other side, gynecologists are also at the blame, they do not recommend or suggest these services. First trimester interventions show limited efficacy, while second and third trimester access remains restricted due to inadequate information and referral pathways for these services. The source of information was also very few as very low number of people were familiar about physical therapy option in pregnancy.

## CONCLUSION:

Musculoskeletal problems are very common in pregnancy and physical therapy can help to minimize these problems as well as can also prevent many pregnancy-related complications. According to our study pregnant females exhibited a substantial gap in knowledge and awareness regarding antenatal physical therapy. There is a growing need to inform pregnant females about physical therapy advantages during pregnancy. There is poor referral system among inter professionals in health sector, it is very necessary to minimize gaps between them. Effective strategies like workshops, seminars and congress are required to educate pregnant females, their families, healthcare providers, enhancing their quality of life and increasing awareness in them.

## LIMITATIONS:

- In this study, we had limited amount of time therefore we only collected the data from four government hospitals and only one private hospital in which major families was from middle and lower class.
- There was low referral rate (3.45%) and accessibility (18.04%) due to which the data collected might not adequately represent the variability in population.
- There are not many articles published in regarding physical therapy services in antenatal care in Pakistan due to which comparing it with other research is difficult.
- Only 3.45% of people attended physical therapy services for their problems during pregnancy which their doctors also referred. There may be other options that can improve the awareness of physical

therapy services in pregnancy that are not studied in this research.

## RECOMMENDATIONS:

This study revealed inadequate physical therapy services usage, only 8.49% of participants have some knowledge about physical therapy services during pregnancy. It is crucial to explore the reasons behind the inadequate use of antenatal physical therapy. Community education is necessary to encourage pregnant females to access antenatal care and physical therapy services for their musculoskeletal and gynecological health. Ideally physical therapy services should be provided at the local level for rural communities. This study recommends interdisciplinary workshops involving gynecologists and physical therapists to share knowledge and best practices, so that they can refer patients to each other properly. Staff members should be encouraged to expand their knowledge and skills through various educational programs and events. A multidisciplinary team of healthcare providers should deliver programs for awareness of regarding antenatal physical therapy in clinics and communities to boost maternal well-being. Further studies can investigate trimester-specific pregnancy issues, musculoskeletal risk factors, gynecologist attitudes, physical therapy service quality and access barriers.

## Abbreviations:

HMC Hayatabad Medical Complex  
LRH Lady Reading Hospital  
PGH Peshawar General Hospital  
MJH Moulvi Jee Hospital  
NBH Naseerullah Khan Babar Memorial Hospital  
WHO World Health Organization  
ACOG The American College for Obstetricians and Gynecologists  
NICE The National Institute for Health and Care Excellence

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