



KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING ANTENATAL AND POSTNATAL KEGEL EXERCISES AMONG PAROUS WOMEN

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ABSTRACT

Background: Kegel exercises, sometimes referred as pelvic floor muscle exercises (PFMEs), also include the voluntary contraction and relaxation of muscle of pelvic floor to raise muscle tone, strength, and stamina. Kegel exercises aid to enhance mobility, reduce pain, and strengthen the muscle of pelvic floor in the treatment of prolapse and urinary incontinence. Throughout antenatal and postnatal period, urinary incontinence (UI) is common. Urine incontinence during pregnancy is a powerful indicator of urinary incontinence after delivery and in later life. Kegel exercises aim to increase muscle tone by fortifying the pelvic floor's pubococcygeus muscles. Pregnancy exercise benefits the well-being of the mother, the fetus, and the neonatal. Reduced risk of too much pregnancy weight gain, gestational diabetes, pre-eclampsia, delivery difficulties, preterm delivery, neonatal issues, and post-delivery depression are some of the health advantages of prenatal physical activity.

Objective: To assess knowledge, attitude and practice regarding antenatal and postnatal Kegel exercises among parous women.

Methodology: A cross-sectional study was conducted among 384 women in district Gujrat, Pakistan through non-probability sampling technique with the age range between 18-45 years. The participants were selected according to inclusion and exclusion criteria and were investigated using a self-structured questionnaire for the knowledge, attitude and practice (KAP) related to antenatal and postnatal Kegel exercise among parous women.

Results: A cross-sectional study was carried out on 384 parous females in district Gujrat, Pakistan through a self-structured questionnaire. Most participants were between age group 25-31 (n=170, 44.3%). The women participated in this study majority of them were housewives (n=274, 71.4%). Most of them were with healthy BMI (n=169, 44%). 294 participants with the percentage of (76.6%) were with no disease. 32.8% were with high knowledge level and 54.2% were with positive attitude level. Only 6.5% show good practice of antenatal and postnatal Kegel exercises. There is a strong association between knowledge level, attitude level practice level as p-value is less than <0.001 so the results were statistically significant.

Conclusion: The majority of women, according to this study, are unaware of Kegel exercises for antenatal and postnatal period, but most of them also exhibit a positive attitude toward Kegel exercises, with only few of them participating in it themselves. It was shown that there is a considerable Correlation between knowledge, attitude and practice achievement. It is crucial that such favorable attitudes toward antenatal and postnatal Kegel exercises do not translate into good practice.

Keywords: Kegel exercise, cross-sectional study, antenatal, postnatal, parous women, physical activity.

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INTRODUCTION

Kegel exercises, sometimes referred as muscle of pelvic floor exercises (PFMEs), include the intentional

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contraction and relaxation of the muscle of pelvic floor to raise their tone of muscles, strength, and strength. They also aid in the stoppage and management of all

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types of pelvic floor dysfunction during gestation and after childbirth.¹ Kegel exercises help to enhance mobility, reduce pain, and support the muscle of pelvic floor in the management of prolapse and urine incontinence. Trainings for the muscle of pelvic floor are beneficial at preventing and treating pelvic floor dysfunction throughout pregnancy and after delivery. Also, it can enhance emotional health, promote natural childbirth, and lessen the need for Caesarean sections.² In order to support the muscles of pelvic floor, Dr. Arnold Kegel developed the Kegel exercise in 1940. The tension of urinary incontinence was reduced by toning and soothing the pelvic floor muscle throughout this exercise. It is advantageous to increase both the muscle strength in the urethra and the ability of these muscles to contract and stretch.³ The first 6 weeks' subsequent delivery, sometimes identified as the postpartum or puerperium, are a time of significant physiological change for the body. Women are going through a crucial transitional period that will have a big impact on both their physical and emotional health. The majority of postpartum issues can be avoided with the right maintenance, well-being education, and commitment to a balanced nutrition and post-delivery activity program.⁴

The pelvic floor muscles' (PFM) functionality is affected by anatomical, physiological, and also hormonal variations during gestation. These changes may also outcome in dysfunctions including urinary and anal incontinence, which have a severe result on antenatal and postpartum women's quality of natural life. It is well-known that during the 2nd and 3rd trimesters of gestation, more than a 3rd of antenatal women experience urine incontinence.⁵

Throughout gestation and the post-delivery period, incontinence (UI) is common. Urinary incontinence during gestation is a powerful indicator of urinary incontinence after delivery and in later life. Females' wellbeing and quality of life are decreased by UI. Pregnant women who begin PFMT throughout pregnancy experience clinically significant decreases in their risk of developing UI during and after delivery, preventing prolapse and enhancing sexual function. A suitable first-line treatment is PFMT.⁶ Kegel exercises strengthen the urethra, bladder, uterus, and rectum by targeting the pelvic floor muscles. Exercises for the muscles of pelvic floor also strengthen the muscles of

the vagina, increase flexibility, strength, and motor control, which speeds up the 2nd stage of labor, lessens the necessity for an instrumented delivery.⁷

Levator ani and caudal muscles make up the pelvic floor muscle (PFM), which is vital for sustaining pelvic organs. Primary causes of PFD are pregnancy and delivery. The incidence and strictness of pelvic floor muscle damage increase through the number of pregnancies. Early PFM recovery workout is crucial because it not only helps women recover their physical function after giving birth but also enhances their pelvic floor condition over the long term.⁸ The pubic floor is made up of a number of ligaments and muscles that help them attach to the pelvic bones. Many pelvic organs are supported by this structure, which has the shape of a dome. Also, because the reproductive structures are maintained physically by the muscles of pelvic floor, weak muscles of pelvic floor can cause prolapse of the reproductive organs.⁹

The health of the muscles of pelvic floor is essential for continence. Leakage in SUI is caused by a deficit in urethral closure, which might be caused by underdeveloped muscles of pelvic floor that are unable to efficiently close the urethra. Kegel exercises are a proven method for reducing SUI and continue to be the gold standard for initial care.¹⁰ In the general female population, age, obesity, pelvic surgery, gestation, and vaginal birth are all known risk factors for urine incontinence. Utmost females with urinary incontinence do not pursue medical assistance despite these negative effects since they think it is just a common side effect of motherhood and ageing somewhat than a serious well-being problem.³

Gestation, vaginal delivery, obesity, pelvic surgery and age are all known danger factors for UI in the universal woman population, putting women at risk for the condition. Women with urine incontinence faced restrictions in their daily activities, personal connections, and social interactions. In the end, related emotional issues including low confidence, sadness, unhappiness, and awkwardness have a negative impact on quality of life.¹¹

Dr. Arnold Kegel made pelvic floor muscle strengthening exercises prominent, and they are frequently referred to as Kegel exercises. Urinary incontinence and discomfort can be controlled with the use of these exercises. The right postures and exercises can help women adjust to their bodies' physical



changes during the childbearing year.¹²

Women who adopt the suggested physical activities benefit greatly from antenatal exercises in maintaining their physical condition. Exercise during pregnancy has been demonstrated to help minimize delivery-related problems.¹³

Women who have UI during pregnancy report a fivefold increased likelihood of experiencing UI in the post-delivery period. Thus, it is serious to identify them as soon as possible and treat them using (PFMT). Exercises like the PFMT or Kegel are crucial for pregnant women. The benefits of exercise include reducing the length of the second stage of labor and the uncomfortable postpartum period.¹⁴

Arnold Kegel made PFMT for the treatment of UI prominent. Exercise the pelvic floor muscle could aid to counter the enlarged intra-abdominal heaviness brought on by the rising fetus, hormonally driven decrease in urethral closing pressure, and the enlarged flexibility of ligaments and fascia in the pubic area during pregnancy.¹⁵

The aim of this study is to assess Attitude, knowledge and practice related to pre-birth and postnatal Kegel exercises between parous women is to gain insight into their awareness, beliefs and behaviors regarding these exercises. By assessing this, healthcare professionals can identify gaps in their understanding of Kegel exercises, misconception they may hold, and barriers to practicing them

MATERIAL AND METHODS

Selection and description of participants: A descriptive cross-sectional study was carried out. Data was collected from district Gujrat, Division Gujranwala. Convenient sampling technique was used and total of 384 females were evaluated. Female Population that are willing to participate was check for inclusion and exclusion criteria. 18- 45 age range females were included. Females having history medical complications were excluded.

For data collection, a self-structured KAP questionnaire was used which consisted of demographical data and question related to knowledge, attitude and practice regarding antenatal and postnatal Kegel exercises. Included participants was given the consent form to fill in. Participants who agree to take part in this study after filling consent forms was then asked to fill in a self-made questionnaire. The reliability of the questionnaire was very good (Cronbach's $\alpha=0.866$). Each question consists of two answers choices. The eISSN1303-5150

data were collected under the regulations and rules of ethical committee of (UOL)university of Lahore.

Technical information: BMI of the patients was calculated by measuring their height and weight. A measuring tape was used to measure their height by asking the patient to stand erect without shoes and a weight machine was used to measure their weight by asking the patients to stand bare footed on it.

Statistics: SPSS (Statistical Package for Social Sciences) software version 25 was used to entered and analyzed data. In this descriptive analysis, for quantitative variables mean and standard deviation were calculated while for qualitative variables frequency and percentages were calculated. And an appropriate statistical test was applied for inferential statistics Scoring of the KAP questionnaire was done by giving 1 mark and each of the category had 12, 10 and 8 questions. Association between knowledge attitude and practice was found by Pearson correlations. Correlation was considered significant at the 0.05 level (2-tailed).

RESULTS

The results have been obtained after analyzing the data to evaluate knowledge, attitude and practice regarding antenatal and postnatal Kegel exercises among parous women. Total 384 participants were recruited for this study out of which 110(28.65%) were working and 274(71.35%) were housewife. Frequencies of variables were mentioned in table 1. Mean age of participants is 29.7 with (SD 6.11), mean BMI of participants is 2.56 with (SD 0.76), mean value of comorbidities of participants is 4.41 with (SD 1.25), mean knowledge level of participants is 2.02 with (SD 0.79), mean attitude level of participants is 2.41 with (SD 0.70) and mean practice level of participants is 1.42 with (SD 0.61) was mentioned in table 2. Correlation between knowledge and attitude level with spearman correlation value was 0.346, Pearson's value was 0.342, Chi square value was 53.806 and p-value was <0.001 which shows that results was statistically significant. Correlation between knowledge and practice level with spearman correlation value was 0.470, Pearson's value was 0.467, chi square value was 93.923 and p value was <0.001, association between attitude and practice level with spearman correlation value was 0.295, Pearson's value was 0.285, chi square value was 34.894 and P-value was <0.001 which shows that result is statistically significant. And this association of knowledge, attitude and practice was mentioned in table 3.

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Table 1 showing Frequencies of Variables

variables		n(%)
Age of participants	18	6(1.6%)
	19	6(1.6%)
	20	6(1.6%)
	21	6(1.6%)
	22	20(5.2%)
	23	20(5.2%)
	24	11(2.9%)
	25	23(6.0%)
	26	26(6.8%)
	27	32(8.3%)
	28	19(4.9%)
	29	24(6.3%)
	30	26(6.8%)
	31	20(5.2%)
	32	17(4.4%)
	33	22(5.7%)
	34	15(3.9%)
	35	9(2.3%)
	36	17(4.4%)
	37	11(2.9%)
	38	12(3.1%)
39	8(2.1%)	
40	5(1.3%)	
41	4(1.0%)	
42	7(1.8%)	
43	5(1.3%)	
44	4(1.0%)	
45	3(0.8%)	
Occupation of participants	Working	110(28.6%)
	Housewife	274(71.4%)
BMI of participants	Under weight	19 (4.9%)
	healthy	169(44%)
	Over weight	155(40.4%)
	obese	41(10.7%)
Comorbidities	Hypertension	36(9.4%)
	MSK	41(10.7%)
	nill	294(76.6%)
	diabetes	13(3.4%)

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Knowledge Level	<4(poor)	117(30.5%)
	4-7(moderate)	141(36.7%)
	>7(high)	126(32.8%)
Attitude Level	<4(negative)	48(12.5%)
	4-7(moderate)	128(33.3%)
	>7(positive)	208(54.2%)
Practice Level	<3(poor)	246(64.1%)
	3-5(moderate)	113(29.4%)
	>5(good)	25(6.5%)
	Total	384(100%)

Table 2: Show mean ± std. deviation of variables

Variables	Mean ± Std. Deviation
Age of participants	29.79 ± 6.11
Body mass index	2.56 ± 0.74
Comorbidities	4.41 ± 1.25
Knowledge level	2.02 ± 0.79
Attitude level	2.41 ± 0.70
Practice level	1.42 ± 0.61

Table 3: Association between knowledge, attitude and practice level of participants

Association	Chi-square	Spearman's correlation	Pearson's	p-value
Knowledge vs attitude level	53.806	0.346	0.342	<0.001
Knowledge vs practice level	93.923	0.470	0.467	<0.001
Attitude vs practice level	34.894	0.295	0.285	<0.001

DISCUSSION

The main goal of the current learning was to evaluate knowledge, practice and attitude regarding antenatal and postnatal Kegel exercises amid parous women. A
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cross-sectional study was carried out through a self-structured questionnaire involving parous women and total 384 participants were included. Women of age 18-45 years and had at least 1 childbirth were included in



this study. Women who have not had any previous pelvic surgery were included. Nulliparous women, women who have been reported with some psychological issues, women detected with medical complications resulting in ambulatory incapacities and females with postpartum hemorrhage were excluded from this study.

The result of this study shows the knowledge, practice and attitude regarding antenatal and postnatal Kegel exercises in parous women was found that out of 384 participants 32.8% participants were with high knowledge level, 54.2% participants were with positive attitude level and only few 6.5% participants were with good practice level.

Previously, study was conducted on 349 pregnant women. In the current study, sample size is 384 parous women. Result of the previous study shows 138 (39.5%) and 193 (55.3%) had the adequate knowledge and sound behavior.¹⁶ The result of the current study shows (32.8%) and (54.2%) were with high knowledge and positive attitude. Possible changes in the results may due to population unit. The results of current study indicate that participants' attitudes toward antenatal exercise are generally positive and that they have little knowledge about it.

In the past, a cross-sectional study was carried out in which sample size of 152 postpartum women were selected. The current study used a sample of 384 women. According to the findings of a previous study, 44.7% of the sample was between the ages of 26 and 31, and 62.7% of the sample had sufficient knowledge. According to the study's results, more over half of participants were women, and 78.9% of them had low levels of knowledge.¹⁷ In a prior research, sample size was collected from Maternity hospital and Children's Hospital in Al Madinah Saudi Arabia, but in current study, we took a sample from general population of Gujrat.

Previously, a study was conducted in which sample size of 184 women with age extending from 18-60 were selected. The current study used sample size of 384 women with age ranging from 18-45 years. According to findings from a prior study, the majority of females (60%) had moderate knowledge, while only 12% had poor knowledge.¹⁸ The results of current study show 36.7% of sample had moderate knowledge and 54.2% of sample had positive attitude.

In the past, a descriptive study was carried out with a sample size of 162 postnatal mothers. This study found that postnatal moms lacked enough information regarding postnatal exercises, had a negative attitude toward postnatal exercise, and did not practice postnatal exercises in the majority of cases due to their lack of understanding.¹⁹ Results of our study show moderate knowledge, positive attitude and poor practice level.

In the past a study was conducted, 183 pregnant women served as the sample size for a cross-sectional study. The participants' average age was twenty-seven years. However, the usual age of women in the current study in between 25-31 years. Results of an earlier study indicate Only the exercise's practice was statistically linked to knowledge level, showing a bigger percentage of women who regularly or irregularly complete the exercise have higher levels of knowledge.⁵ And the outcomes of our study are parallel to the past study that there is significant relation of education level with practice of exercise.

In the past, a descriptive study was carried out with sample of 160 females. The current study used a sample of 384 parous women. Results of previous study show mean age of participants was 28.6 and most of them between 21-31 years old and 5% were having intermediate education.²⁰ Results of current study show mean age of women is 29.7. Previous study showed common of participants were had adequate knowledge about postpartum exercises (72.5%). But current study show that women were had poor knowledge (30.5%), (36.7%) were had moderate knowledge and (32.8%) were had high knowledge level.

In the past, a cross-sectional study was conducted with sample of 400 women. Result of previous study showed majority of respondents were business women (39.9%) and their prevalence of postnatal exercise was 79.0% respectively. There was a strong direct correlation between activity and education level.²¹ The result of current study show majority of participants were housewives (71.4%). And the results of our study are similar to past study that there is significant association between knowledge and exercise practice.

In the past, a study was conducted to find Knowledge, attitudes, and practice of pelvic floor dysfunction and pelvic floor ultrasound among women of childbearing age in Sichuan, China. Out of 17, 45, and 20,

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respectively, the average scores for knowledge, attitudes, and practice were 12.53, 39.98, and 16.51. The result of the current study shows (32.8%) Participants demonstrated sufficient knowledge regarding the Kegel exercise, (54.2%) participants had positive attitude and only few (6.5%) had good practice level. In Sichuan, China, women of childbearing age had reasonable awareness, a favorable attitude, and good behavior with regard to Pelvic floor disorder and Pelvic floor unit.²²

It was recommended that further researchers should focus on raising public awareness by developing guidance to prepare early- pregnant and postpartum women for antenatal and postnatal physical activity. Further researcher should consider gym instructor, teachers, as study population. Further studies may find the association of occupation and comorbidities with knowledge, attitude, and practice since the current study only find the association of knowledge level with attitude and practice level.

Some limitations came up during this study, firstly most of my patients had language barrier related to questionnaire/ Performa as it was bit complicated for my local Urdu and Punjabi speaking patients, so most of the time I have to elaborate the questions for my patients to make it more comprehensive and along with that helping myself the patients to fill it out. My research participants were general female population but it was very inconvenient and time consuming to deal with them separately. In addition to that I felt so unethical to invade my subject personal space, so I had to choose a medium where 80% of them would meet my standard criteria and maternity hospital was best option to moved forward.

The findings of this study revealed that majority of the women were unaware of Kegel exercises for antenatal and postnatal period, but most of them also exhibit a positive attitude toward Kegel exercises, with only few of them participating in it themselves. It was shown that there is a significant correlation between knowledge and practice achievement. It is crucial that such favorable attitudes toward antenatal and postnatal Kegel exercises do not translate into good practice.

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