

ORIGINAL ARTICLE

Pelvic Floor Muscle Training to Prevent Stress Urinary Incontinence in Pregnancy

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ABSTRACT

Objective: To check the frequency of stress urinary incontinence and to assess the awareness about pelvic floor muscle training for stress urinary incontinence among pregnant women.

Study Design: Cross sectional observational study.

Place and Duration of Study: The study was conducted from April 02, 2017 to July 30, 2017, at the department of Obstetrics and Gynecology Islamic International Medical College, Pakistan Railway Teaching Hospital, Rawalpindi.

Materials and Methods: A total of 322 pregnant women between gestational ages of 12 to 38 weeks were selected by convenience sampling technique. A structured closed questionnaire was used for data collection. All data were analyzed in SPSS version 21 and percentages and mean were calculated.

Results: The frequency of stress urinary incontinence among our study population was 32.9%. Awareness about pelvic floor muscle training was seen in only 9% of women in general and 27% of women suffering from stress urinary incontinence.

Conclusion: Frequency of stress urinary incontinence in our pregnant population is high. Awareness about pelvic floor muscle training and its benefits is very scant and very few pregnant women suffering from stress urinary incontinence are doing pelvic floor muscle training. This highlights the need of improving antenatal care.

Key Words: *Pelvic Floor Muscle Training (PFMT), Pregnancy, Stress Urinary Incontinence (SUI).*

Introduction

Stress urinary incontinence (SUI) is involuntary leakage of urine with physical activity. It occurs when intravesical pressure exceeds urethral closure pressure in the absence of detrusor muscle contraction. It may also occur due to bladder neck hypermobility or poor urethral closure pressure. It interferes with women's quality of life and is the commonest cause of incontinence among women of all ages and during pregnancy.^{1, 2, 3} The reported prevalence of stress urinary incontinence during pregnancy in literature varies from 17.9% to 71%.^{4, 5, 6} This variation can be due to different selection criteria and definitions used in studies. Quality of life of more than 50% pregnant women is effected which worsens with advancement of pregnancy.² Many

women suffer in silence and do not report symptoms unless questioned, which prevents the exact incidence of stress urinary incontinence difficult to assess. Pregnancy, childbirth and aging all are the risk factors.^{7,8} Weak pelvic floor other than stress urinary incontinence, can also lead to fecal incontinence, prolapse of pelvic structures and sexual difficulties. Pelvic floor muscle training (PFMT) is repetitively selective voluntary contraction and relaxation of specific pelvic muscles. Pelvic floor muscle training (PFMT) raises bladder, prevents decent in bladder neck during increased abdominal pressure. It is the first line conservative treatment for prevention of stress urinary incontinence in women during pregnancy and afterwards and is considered safe.^{9,10} There is evidence from literature, Cochrane review, that pelvic floor muscle training can prevent stress urinary incontinence up to six months following delivery. Studies have not revealed any detrimental effect of pelvic floor muscle training on the process of labor and delivery.^{11,12} The objectives of this study is to check the frequency of stress urinary incontinence in pregnant women because most women do not report the problem considering it related to pregnancy and childbirth and are unaware of the benefits pelvic floor muscle training can

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provide. Increased frequency and low awareness about stress urinary incontinence and pelvic floor muscle training is expected, respectively, in our population due to repeated pregnancies, poor nutrition and failure to seek help by considering it non amendable and shameful.

Materials and Methods

A cross sectional study was conducted over 4 months periods from April 02 to July 30, 2017 at the department of obstetrics and gynecology in Islamic International Medical College, Pakistan Railway Teaching Hospital Rawalpindi. Sample size calculation yielded 322 women done by WHO creative research system survey software, assuming that the percentage of incontinent women in the study population would be 50% with 5% estimated error and a confidence level of 95%. Women were selected by convenience sampling technique. Permission from institution's ethical committee was taken before conducting the study. A modified questionnaire for stress urinary incontinence diagnosis (QUID) was used for data collection, frequency of stress urinary incontinence and awareness about pelvic floor muscle training.⁹ The questionnaire for urinary incontinence diagnosis had 3 sections, Section 1 included demographic variables, and section 2 had questions for stress urinary incontinence diagnosis. Section 3 was about women's awareness and knowledge of pelvic floor muscle training with pictorial details in Urdu. Informed consent was taken and questionnaire was completed by interviewing women visiting clinic for routine antenatal care (study population). All women between gestational ages 12 to 38 weeks were included in the study. Exclusion criteria included women diagnosed with urinary tract infection, preterm labor and preterm premature ruptured membranes. All women who reported mild to severe symptoms of stress urinary incontinence were considered as incontinent. The data from questionnaire was entered in SPSS version 21 and results were calculated in percentages and mean with standard deviation for demographic variables.

Results

Age range of our study population was between 18 years to 43 years, mean age was 29.16 ± 4.946 years. Mean BMI was 26.97 ± 2.002 . Eighty two percent of women were Parity 1 and above. Study results

showed that 32.9% of pregnant women suffered from stress urinary incontinence ranging from mild to severe form. Fifty percentage of women suffering from stress urinary incontinence were above the age of 30 years and BMI above 30 was seen in 70% of women suffering from stress urinary incontinence. Chronic constipation and cough was seen in only 1% of effected women (table 1). Nine percent of women in general had awareness about pelvic floor muscle training, while awareness about pelvic floor muscle training in effected women was 27% out of which only 3% were performing of it.

Table 1: Frequency of Risk Factors among Women with Stress Urinary Incontinence

Risk Factors	Percentage
BMI >30	70%
Age >30	50%
Parity >1	82%
Previous 1 or more LSCS	48%
Chronic cough	1%
Chronic constipation	1%

Discussion

The study shows that 3 out of 10 pregnant women in our population is suffering from stress urinary incontinence. The women do not complaint about the problem during routine ante natal visit until inquired and they also lack knowledge and benefits about pelvic floor muscle training.

Advanced age, obesity and multiparity is seen as a risk factor for stress urinary incontinence in our study. Literature backs aging, parity and obesity as known risk factors for stress urinary incontinence. One study reports 20% increase in urethral hypermobility following first vaginal delivery.¹³ According to Norwegian EPINCOT study, association with cesarean section is also noticeable and comparable to risk in nulliparous.¹⁴ Poor knowledge and motivation about pelvic floor muscle training seen in the study can be due to multiple reasons. One reason can be the busy antenatal clinic, where less time is given to hear all complaints from the women and less time given to provide extra teachings. Another reason can be the pelvic floor muscles which are not visible, so women do not know the right way to perform the exercise. Also anemia, protein and other nutritional deficiencies are common in our population and can make it difficult

for women to hold muscles.¹⁵

Pelvic floor muscle training is considered free of cost, safe and effective method to prevent and treat stress urinary incontinence in pregnancy and post-partum. A cochrane review summarized the results of 5 randomized trials and shows that women undergoing intensive pelvic floor muscle training in early pregnancy were 56% less likely to report urinary incontinence in late pregnancy and around 30% less likely to report urinary incontinence in 6 months postpartum.¹⁶ A meta-analysis reports improvement in stress urinary incontinence ranging from 48% to 93% with effective pelvic floor muscle training (6-8 second contraction, 3 sets of 8-12 contraction, and 2-4 days per week). The response is seen in one to three weeks.¹⁷ Evidence shows that at least 8 to 12 weeks of pelvic floor muscle training is required to see the good results.^{18,19} Health education in the form of antenatal class is beneficial and some centers recommend teaching pelvic floor muscle training as early as 10 weeks in the booking antenatal class.²⁰ Limitation of our study is that the level of severity for stress urinary incontinence is not defined. This study is useful as it identifies the frequency and importance of inquiring about symptoms of stress urinary incontinence and we plan to review our policy of routine antenatal care.

Conclusion

The study concludes that frequency of stress urinary incontinence is not far less than the prevalence seen elsewhere in the world, around 3 out of 10 pregnant women. Awareness about pelvic floor muscle training in pregnant women is very scant. Pregnancy provides women an opportunity to visit a health care provider multiple times, discuss issues effecting quality of life and get teachings like pelvic floor muscle training. But our antenatal teaching is falling behind in this particular area and require revision.

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