

A study of prevalence of pelvic floor dysfunction in women attending OPD at a tertiary health care centre

Dileepkumar Dattatraya Rane^{1*}, Sonal Chhagan Chaudhari²

¹Assistant Professor, ²Associate Professor Department of OBGY, Ulhas Patil Medical College, Jalgaon, Maharashtra, INDIA.

Email: diliprane77@yahoo.com inglesachin101@yahoo.co.in

Abstract

Background: Millions of women are affected with PFD globally. PFDs are not only a major health problem but affect the quality of life of women reducing their productivity. Symptoms of urinary incontinence or faecal incontinence, pelvic organ prolapses, sexual dysfunction and chronic pain syndromes all are different conditions of PFD which may occur separately or coexist in a single individual. **Aim and objective:** To study the prevalence of Pelvic Floor Dysfunction in women attending OPD of a tertiary health care center. **Methodology:** Present study was a cross sectional study carried out on women attending OPD of OBGY department during the study period. Data was collected with pre tested questionnaire. Data collected was sociodemographic data clinical and obstetric history. Data related to different types of urinary incontinence and anal incontinence and pelvic organ prolapse was noted. Data was analysed with appropriate statistical tests. **Results and discussion:** The prevalence of PFD in our study was 21%. Majority of the women had pelvic organ prolapse 35(17.5%) followed by POP with urinary incontinence 4(2%). Most commonly affected age group was above 45 years and women who had 2-3 vaginal deliveries.

*Address for Correspondence:

Dr Dileepkumar Dattatraya Rane, Assistant Professor, Department of OBGY, Dr. Ulhas Patil Medical College, Jalgaon, Maharashtra, INDIA.

Email: diliprane77@yahoo.com

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INTRODUCTION

The anatomical location of the pelvic floor requires a balance of visceral and muscular pressures for physiological functioning of all the organs located within it. The female pelvis is wider and circular in shape, which facilitates head engagement during parturition. At the same time, the pelvic floor is exposed to the risk of weakness due to the wider outlet increasing the risk of pelvic floor dysfunction in females. Anatomical structure of pelvis

includes muscle, connective tissue and nerves. It is important for performance of functions like parturition, urination and urinary continence, defaecation and faecal continence and sexuality. Global prevalence of POP among women ≤ 45 years of age is reported between 2% to 20%. In United States prevalence of pelvic floor disorder was 25%. Among them 17.1% women had moderate to severe urinary incontinence, 9.4% women had fecal incontinence and 2.9% had prolapse. ¹ Pelvic floor dysfunction is manifested as urinary incontinence (UI), faecal incontinence (FI), and pelvic organ prolapse (POP). Among all these conditions, urinary incontinence and pelvic organ prolapse are the most commonly occurring PFDs. Pelvic organ prolapse is herniation of pelvic organs which include bladder, uterus, small bowel or rectal ampulla through levator hiatus. Urinary incontinence is the involuntary leakage of urine. ² Various conditions of pelvic floor dysfunction coexist. 16% of women with PFDs have more than one condition. It was found that 9% of women have both urinary incontinence and faecal incontinence and 7% had both urinary incontinence and pelvic organ

prolapse.³ Pregnancy and childbirth are considered as important risk factors for pelvic floor dysfunction. Mechanical strain during delivery causes Injury to pelvic floor muscles and the connective tissue or partial denervation of the pelvic floor results in pelvic floor dysfunction. The tendency to develop PFDs increases with age due to the weakening of pelvic floor muscles mostly after the age of 55 years.⁴ PFD affects quality of life of women. Majority of the women did not seek medical care due to ignorance about available treatment and personal embarrassment associated with the condition. Very few studies are available for prevalence of pelvic floor dysfunction. Present study was conducted to find prevalence of pelvic floor dysfunction in women attending OPD of tertiary health care center.

Aim and objective: To study the prevalence of Pelvic Floor Dysfunction in women attending OPD of a tertiary health care center.

MATERIAL AND METHODS

Present study was a cross sectional study carried out in department of Obstetrics and Gynecology at a tertiary health care center. Study population was women attending OPD of OBGY department during the study period.

Inclusion Criteria: 1. Patients attending OPD of OBGY department in age group of 18-70 years 2. Married, pregnant, postnatal women

Exclusion criteria: 1. Women who had history of abdominal, gynaecological surgery 2. Women with acute illness 3. Women with musculoskeletal disorders, spinal cord injuries, cerebral palsy

After considering the inclusion and exclusion criteria we studied 200 patients.

Study was approved by ethical committee of the institute. A valid written consent was taken from the patients after explaining study to them. Data was collected with pre tested questionnaire. Data included sociodemographic data like age, sex, occupation etc. Detailed clinical and obstetric history noted. Through clinical examination was done. Data related to different types of urinary incontinence and anal incontinence and pelvic organ prolapse was noted. Data was entered in excel sheet and analysed with SPSS version 23.

RESULTS

In our study, we studied 200 patients. Out of these 200 patients, 42(21%) patients had pelvic floor dysfunction. 158 (79%) women don't have any PFD. Thus the prevalence of PFD in our study was 21%. (fig 1) Table 1 shows distribution of patients according to type of PFD. In our study, majority of the women had pelvic organ prolapse 35(17.5%) followed by POP with urinary incontinence 4(2%). Out of total patients, 1% women had

urinary incontinence and 0.5% had fecal incontinence. In our study, majority of the patients were from the age group above 45 years 30 (71.43%) followed by 36-45 years 9 (21.42%). Patients in age group of 26-35 years were 4.77% and only one patient was below the age of 25 years. Thus as the age increases, prevalence of PFD increases. (table 2) In our study most commonly affected women for PFD were having 2-3 children 27 (64.29%) followed by women with more than 4 children 9 (21.43%). Out of 42 patients, 4(9.52%) had only one child and 4.76% women were nulliparous. (table 3) In our study, 83.33% women with PFD had vaginal deliveries. 11.91% women underwent caesarean section. 2 patients (4.76%) had history of instrumental delivery. (table 4) Out of total 42 patients, 27 (64.29%) patients had BMI in the range of 25 to 34.99 kg/m² and 15 (35.71%) women had BMI in the range of 18-24.99 kg/m². None of the patients with PFD had BMI ≥35 kg/m². (table 5)

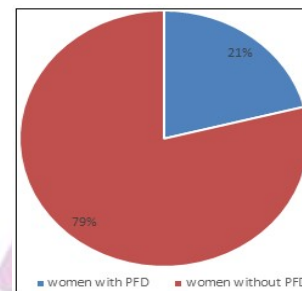


FIGURE 1: Prevalence of PFD among women attending OPD at tertiary health care center

Table 1: Distribution of patients according to type of PFD

Type of pelvic floor dysfunction (PFD)	Frequency	Percentages
Fecal incontinence (FI)	1	0.5%
Urinary incontinence (UI)	2	1%
POP with UI	4	2%
Pelvic organ prolapse	35	17.5%
NONE	158	79%

Table 2: Distribution of patients of PFD according to age group

Age Group	Frequency	Percentages
18 to 25	1	2.38%
26 to 35	2	4.77%
36 to 45	09	21.42%
>45	30	71.43%

Table 3: Distribution of PFD patients according to parity

Number of Children	Frequency	Percentages
Nullipara	2	4.76%
One child	4	9.52%
2 or 3 children	27	64.29%
≥4 children	09	21.43%

Table 4: Distribution of PFD patients according to type of delivery

Type of Delivery	Frequency	Percentages
Instrumental	02	4.76%
Caesarean section	05	11.91%
Vaginal Delivery	35	83.33%

Table 5: Distribution of PFD patients according to BMI

BMI Classification	Frequency	Percentages
18 to 24.99	15	35.71%
25 to 34.99	27	64.29%
≥35	0	0%

DISCUSSION

The prevalence of PFD in our study was 21%. Similar to our study, In a study done in India by Krishna Rao, B., *et al.*⁵, which showed a prevalence of 21.0% and in another study conducted by Wu, J. M., *et al.*¹, in the USA which showed a prevalence of 25.0%. On the other hand, in another study by Megabiaw, B., *et al.*⁶, in Ethiopia reported a prevalence of 12.0%. In our study, majority of the women had pelvic organ prolapse 35(17.5%) followed by POP with urinary incontinence 4(2%). Out of total patients, 1% women had urinary incontinence and 0.5% had faecal incontinence. It is similar to that found in a study by Walker, G. J., *et al.*,⁷ where the mean prevalence for pelvic organ prolapse was 19.7%.

In our study, majority of the patients were from the age group above 45 years 30 (71.43%) followed by 36-45 years 9 (21.42%). Patients in age group of 26-35 years were 4.77% and only one patient was below the age of 25 years. Thus as the age increases, prevalence of PFD increases. In a study by Hallock, J. L *et al.*³, it was mentioned that prevalence of PFDs increased from 2.91% among 20 to 29-year-old participants, to 16.16% among participants 70 years and older. In our study most commonly affected women for PFD were having 2-3 children 27 (64.29%) followed by women with more than 4 children 9 (21.43%). Out of 42 patients, 4(9.52%) had only one child and 4.76% women were nulliparous. In a study by Özdemir, Ö. Ç *et al.*⁸, it was found that women who had 1-3 deliveries had the highest Pelvic floor muscle strength; and that this strength decreased as the number of deliveries increased. In a study by Hilde, G., *et al.*,⁹ it was found that pelvic floor muscle strength decreases after the first vaginal delivery. In our study, 83.33% women with PFD had vaginal deliveries. 11.91% women underwent caesarean section. 2 patients (4.76%) had history of instrumental delivery. In a study by MacLennan *et al.*¹⁰ reported that pelvic floor dysfunction in 58% of women who had a spontaneous vaginal delivery, compared with 43% of those who underwent caesarean section. It is thought that VD may be responsible for the development of PFD by damaging pelvic support tissues such as muscles and connective

tissues as well as nervous structures, especially during the second stage of labour. Hormonal changes during pregnancy and the mechanical effects that start to increase in the third trimester and reach the maximum level at term are the factors changing the structure of the pelvic floor. It has been suggested that increased intra-abdominal pressure due to growing uterus and the change in the axis of the lumbar spine may also be predisposing factors for the development of PFD. It has also been reported in these studies that increased pressure on the bladder during pregnancy causes an increase in the ureterovesical angle, and a decrease in the support of the bladder neck and urethra, which may be responsible for urethral hypermobility as well as UI.¹¹ Levator complex provides support to the pelvic floor. Denervation, disruption and damage to levator complex caused during vaginal delivery increase the risk of development of POP. Stress caused to the vaginal wall, microdamage to connective tissue caused the development of POP. Ureterovesical angle is found to be increased in women after childbirth compared to non-pregnant women.¹² In our study, Out of total 42 patients, 27 (64.29%) patients had BMI in the range of 25 to 34.99 kg/m² and 15 (35.71%) women had BMI in the range of 18-24.99 kg/m². Similar findings were seen in study by Hendrix, S. L., *et al.*¹³ The most probable mechanism of POP development among obese women is increase in intra-abdominal pressure which causes weakening of pelvic floor muscles and fascia.¹⁴

CONCLUSION

Prevalence of Pelvic floor Dysfunction was 21%. Most commonly observed PFD is pelvic organ prolapse with majority patients with vaginal delivery.

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