

Prevalence of Pelvic Floor Dysfunction among Women in South India

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Abstract

Aim and Objective: To assess the prevalence of pelvic floor dysfunction among women.

Methodology: Quantitative approach, descriptive survey research design adopted for this study.

Population comprised of all women between 3 months to 1 year post delivery status and having either of the symptoms of urinary incontinence, bowel incontinence, pelvic organ prolapse, pelvic pain or dyspareunia. Pelvic floor dysfunction was assessed using pelvic floor distress inventory scale, for the women residing in the 26 villages of Tamil Nadu.

Result: 424 women screened, 232 (54.7%) women were identified to have risk for pelvic floor muscle dysfunction, 45.3% of women had normal pelvic floor muscle strength. Majority of them (93.2%) had reported pelvic pain followed by (82.4%) having urinary incontinence. Only (1.4%) of them had reported to have pelvic organ prolapse.

Conclusion: Pelvic floor dysfunction causes a lot of burden among the women and studies have showed a trend of increasing prevalence. Community based nursing interventions are very much needed to prevent women from encountering pelvic floor dysfunction which will significantly affect their quality of life.

Keywords: Pelvic floor dysfunction, pelvic floor distress inventory scale, Urinary Incontinence.

Introduction

Women are the source of life of the universe and women's health is directly proportional to the nation's health and women play a key role in the family. The entire family's health is based on the health of the women. Healthy women give birth to healthy child and healthy children make healthy nation.

Women experience health issues sometimes because of their reproductive anatomy. 'Pregnancy and Childbirth' the natural process which occurs in women's life is nowadays treated as disease because of the social processes and lack of quality healthcare services which has made women's health at risk.² The current healthcare system in the developing countries is not tailor made for women even as men and women undergo similar health problems. Complicating the healthcare system the gender based inequalities such as lack of education, income and employment has limited the ability of the women to protect them.³

One amongst the health problems of women which affects their quality of life of is 'Pelvic floor dysfunction'. Pelvic Floor Dysfunction (PFD) is defined as presence of any of the symptoms such as 'Urinary Incontinence (UI)', 'Faecal Incontinence (FI)', 'Pelvic Organ Prolapse (POP)', 'sensory or emptying abnormalities of the lower urinary tract', 'defecation dysfunction', 'sexual dysfunction' and 'chronic pain syndromes', which can present separately or coexist. Vaginal delivery has been repeatedly mentioned as one of the main contributing factor. Any factor which weakens the pelvic floor muscle causes dysfunction of these major functions in women. These problems affect the women's health very badly and disrupt the quality of life of women as they get older.⁶

During the vaginal birth the muscles and nerves of the pelvic floor are stretched and undergo intense pressure and may become injured which impacts the functions of the pelvic floor and it requires women to rebuild their strength through various means. Reviews

have showed that women who have vaginal delivery are having more risk for 'pelvic floor dysfunction' than women who have cesarean birth and also they say that it increases with 'multiple child births'⁷

The major contributing factors to pelvic floor dysfunction among women are 'increasing weight', 'pregnancy and childbirth', 'frequent lifting of heavy objects', 'having surgery or injury to pelvic floor' and 'straining bowel patterns'. Pregnancy and child birth are considered as known risk factors for many years. The mechanical strain which happens during child birth process causes 'partial denervation of the pelvic floor' and causes injury to the muscle and connective tissue. The injury caused to the muscles affects the core functions of the pelvic floor of supporting the women pelvic organs leading to prolapse, incontinence of urine and faeces etc.⁹

'Pelvic Floor Dysfunction (PFD)' was considered as one of the largest 'unaddressed issues in women's health'. Worldwide statistics regarding urinary incontinence showed that around '200 million people' are affected with some form of 'PFD'. It was observed that 'One in four women over the age of 18' years have experienced episodes of urinary incontinence. It was also found that women wait for '6.5 years' to have a proper diagnosis for such symptoms.

The prevalence rates were found to be high across women in developed and developing countries. In India research studies have reported prevalence rate of '21% with 19.02% of the women' experiencing urinary incontinence and 1.99% experiencing pelvic organ prolapse. The prevalence of incontinence was found to be '18.6%' in another study where the prevalence was reported in '12.5% of primi mothers' as compared to '26.4% in multiple child births'. 'Prevalence of pelvic floor dysfunction' was reported to be high among the women in the rural areas. Rural areas reported prevalence of 44.2% (38.0 – 50.8 %). The reason being most of the women do lot of heavy lifting activities and give birth to more number of children.

Objectives

1. To assess the level of pelvic floor dysfunction among women.
2. To associate the level of dysfunction among women with their demographic variables.

Materials and Method

Research Approach: Quantitative approach

Research design: Descriptive survey research design.

Population

Target Population: Comprised of all women between 3 months to 1 year post delivery status and having either of the symptoms of urinary incontinence, bowel incontinence, pelvic organ prolapse, pelvic pain or dyspareunia residing in the villages.

Accessible Population: Comprised of all women between 3 months to 1-year post-delivery status either with urinary incontinence, bowel incontinence, pelvic organ prolapses, pelvic pain and dyspareunia in the 26 selected villages which comprised a total of 424 women.

Sample

The samples of the study consisted of women between 3 months to 1-year post-delivery status who were identified using pelvic floor distress inventory and fulfilled the inclusive criteria.

Setting

The study was conducted in Thiruvallur district of Tamil Nadu. 26 villages were selected for the study.

Data collection: Pelvic floor dysfunction was assessed using pelvic floor distress inventory scale which assessed the presence of symptoms for urinary incontinence, bowel incontinence, pelvic organ prolapse, pelvic pain and dyspareunia which was prepared by the investigator. This tool was used for inclusion of women to the main study data collection. The tool consisted of 15 items with "yes" or "no" options. 'Yes' for an item was taken as positive for having pelvic floor dysfunction. Women who had the presence of either one of the following, urinary incontinence/bowel incontinence/pelvic organ prolapsed/pelvic pain/dyspareunia were included for the study.

A total of 424 women were in 26 villages from 3 months to 1-year post-delivery status. There were 232 women who had pelvic floor dysfunction. The number of villages and samples taken in each village is presented below.

Data Collection Procedure: The investigator visited the villages one by one and got the list of the women (3 months post labour to 1 year) from balwadi workers and village health nurse. Then the investigator met the women individually at their households, they were seated comfortably with adequate privacy. To obtain the true and free responses the women were explained regarding the purpose and usefulness of the study. The investigator assured the clients about anonymity and confidentiality. The background data of the women was then collected, and they were screened for pelvic floor dysfunction using the pelvic floor distress inventory.

Data Analysis:

Description of Pelvic Floor Muscle Dysfunction Among Rural Women

Table 1: Frequency and Percentage distribution of pelvic floor dysfunction among the rural women

N=424

Total Number of Women Screened in 26 Villages	Total number of women found with pelvic floor muscle dysfunction N (%)	Total Number of women with normal pelvic floor N (%)
424	232 (54.7)	192 (45.3)

The above table1 depicted that among the 424 women screened, 232 (54.7%) women were identified to have risk for pelvic floor muscle dysfunction, 45.3% of women had normal pelvic floor muscle strength.

Table 2: Frequency and percentage distribution of specific pelvic floor dysfunction among the rural women

N=232

Type of Pelvic Floor Dysfunction	Frequency (N)	Percentage (%)
Urinary Incontinence	193	82.4
Bowel Incontinence	116	50.0
Pelvic Organ Prolapse	3	01.4
Pelvic Pain	218	93.2
Sexual Dysfunction	128	54.6

The above table2 showed that among the 232 women identified with pelvic floor dysfunction, majority of them (93.2%) had reported pelvic pain followed by (82.4%) having urinary incontinence. Only (1.4%) of them had reported to have pelvic organ prolapse.

Discussion

Screening for Pelvic floor dysfunction: 424 eligible women from 26 villages screened, 232(54.7%) women were identified to have any one of the pelvic floor muscle dysfunction. Women who had at least one pelvic floor muscle dysfunction were included in the study. The present finding was supported by the studies conducted in rural India with prevalence of pelvic floor dysfunction ranging from 38% to 50.8%. The findings also proved the burden of the problem among women who had multiple child birth. Systematic review conducted by Bozkurt M et al., highlighted that traumatic birth, usage of forceps, length of the second stage of delivery, and sphincter damage as modifiable risk factors for pelvic floor dysfunction. Women with multiple vaginal deliveries undergo constant damage to the pelvic floor and becomes at risk for pelvic floor dysfunction.

Among the women who had reported pelvic floor muscle dysfunction, 193(82.4%) of them had urinary incontinence, 116(50%) of them had bowel incontinence, 3(1.4%) of them had pelvic organ prolapse, 218(93.2%) had pelvic pain and 128(54.6%) of them had sexual dysfunction. The present study findings were supported by a systematic review done by GuriRortveit and Yngvild S. Hannestad, where in the study had reported urinary incontinence of 25 – 45 %, pelvic organ prolapse of 5 – 10%. Majority of the women reported urinary incontinence and pelvic pain which affects their quality of life to the maximum.

Demographic, Obstetrical, Clinical and Study specific characteristics of study participants: The demographic variables among the 220 women, Most of the women 82(74.5%) and 76(69%) were between 21 – 30 years of age. Most of them 42(38.2%) and 47(42.7%) had middle school education, 84(76.4%) and 79(71.9%) were Hindus, 54(49.1%) and 63(57.2%) were belonging to joint family, 84(76.4%) and 87(79.1%) had monthly income within Rs. 11361, 83(75.5%) and 85(77.2%) were unemployed and having sedentary lifestyle and 106(96.4%) and 107(97.3%) of the women were having non vegetarian food pattern.

With regard to the Obstetrical factors among the study participants most of them 48(43.6%) and 42(38.2%) had one child birth, 29(26.4%) and 33(30%) had 2-3 years birth spacing between two children and 60(54.5%) and 55(50%) had normal vaginal delivery.

With regard to clinical factors pertaining to last child birth among the study participants 65(59.1%) and 53(48.2%) had 6-10 kg weight gain during pregnancy, 77(70%) and 80(72.7%) of them had medical induction of labour and 49(57%) and 41(59.4%) of them had less than one hour of second stage of labour, 69(62.7%) and 72(65.5%) had children with birth weight between 2-3 kilograms, 43(39.1%) and 40(36.4%) were in between 7 – 9 months post natal period, 31(28.25) and 36(32.7%) had perineal trauma during last child birth and 15(13.6%) and 21(19.1%) were presently obese

With regard to study specific factors among the study participants 42(38.2%) and 34(30.9%) had family history of pelvic floor dysfunction and all of them had I degree relationship, among the family members with pelvic floor dysfunction 26(61.9%) and 22(64.7%) had urinary incontinence. Among the 220 women 6(5.5%) and 8(7.3%) had previous information about pelvic floor dysfunction and all of them had information from health care personnel and none of them did any type of exercises.

Demographic and clinical variables of the women with pelvic floor dysfunction showed clearly majority of women having family history, sedentary life style, medical induction of labor, vaginal delivery and birth spacing less than 2 years. These factors are largely supported by many epidemiological studies and systematic reviews. In a study conducted by Jennifer M. Wu et al., where prevalence and trends of these pelvic floor disorders in U.S. women from 2005–2010 was studied it was found that there are various factors associated with pelvic floor dysfunction. The study findings showed that Higher BMI, greater parity, and hysterectomy being associated with higher odds of one or more pelvic floor disorder.

The above observations were also supported by studies conducted by AratiMahishale and Himani Dave among 100 postnatal women from tertiary care hospital, Belagavi. The study findings showed that type of delivery and working status of postnatal women as major contributing factors for urinary incontinence. Other contributing factors were identified as mode of delivery, parity, urinary tract infection, occupation and level of physical activity.

A large scale study conducted by Uma Singh et al among 3000 women presented the contributing factors for urinary incontinence which was the most common

among the pelvic floor muscle dysfunction as age more than 40 years, multiparity, postmenopausalStatus, body mass index more than 25, history of diabetes and asthma, habit of taking tea, tobacco, pan, and betel are risk factors found to be associated with increased prevalence of urinary incontinence in univariate analysis. On multivariate analysis, age more than 40 years, multiparity, vaginal delivery, hysterectomy, menopause, tea and tobacco intake, and asthma were found to be significantly associated with overall incontinence.

Another study conducted by Trupti et al among 552 women showed a prevalence of Urinary Incontinence to have significant association with increasing age and obstetrical factors such as high parity, young age at first childbirth, forceps delivery and prolonged labour.

Conclusion

Pelvic floor dysfunction causes a lot of burden among the women and studies have showed a trend of increasing prevalence. Pelvic floor dysfunction can be easily prevented by women with improved awareness and by performing regular pelvic floor strengthening exercises. The major problem in India and other developing countries was the lack of awareness about the preventing measures and contributing factors of pelvic floor dysfunction.

Simple, yet effective, community based nursing interventions are very much needed to prevent women from encountering pelvic floor dysfunction which will significantly affect their quality of life.

Ethical Clearance

The study was approved by the institutional ethical review board. Consent was obtained from the Head of the institution, and the person in-charge Community Health Centre, and the village leaders. Written informed consent was obtained from the samples after clear explanation of the study purpose, type of data required, nature of commitments, participation, procedure and potential benefits, and the right to withdraw from the study at any point of time was also explained. Confidentiality of all personal details disclosed by the samples and full privacy was assured.

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Conflict of Interest: Nil

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