

Pelvic Floor Disorders among Gynecological Cancer Survivors in Sub-urban Regions of Kanchipuram District–India

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ABSTRACT

Background: Pelvic floor muscle is the group of muscles: layering down the pelvic region; Controlling the bowel movements, urination, and sexual intercourse; working in a balanced and coordinated contraction and relaxation. The inability to control the pelvic floor muscles leads to pelvic floor disorders like urinary incontinence, faecal incontinence, dyspareunia, and pelvic pain. **Objective:** The aim of this study is to find the prevalence of pelvic floor disorders among gynaecological cancer survivors in sub-urban regions of Kanchipuram district, India. **Materials and Methods:** This study employs a nonexperimental study design. The procedure is well explained and informed consent is obtained from the gynaecological cancer survivors based on the inclusion and exclusion criteria. Gynecological cancer survivors who are not under any treatments for the last 1 year has been considered for this study. There were two sets of questionnaires in which one depicts vulvar pain function (Vulvar Pain Functional Questionnaire) and the other relates to pelvic floor symptom botheration (Pelvic Floor Bother Questionnaire). The individual has given enough time to fill the questionnaire. Patients seem necessary are further referred to the outpatient physiotherapy department. **Results:** A moderate amount of Pelvic pain was reported to be felt by at least 64.6% of survivors. Added to it, a moderate level of bothersome was found to be reported by at least 56.2 % of survivors. **Conclusion:** Findings conclude that there is a higher prevalence of pelvic floor dysfunction among gynecological cancer survivors.

KEYWORDS: *Gynaecological cancer survivors, pelvic floor disorders, pelvic pain*

INTRODUCTION

An individual who is beyond the acute diagnosis and treatment phase is considered to be a cancer survivor.^[1] According to the National Cancer Institute of Cancer Survivorship, in US the number of cancer survivors increased to 13.7 million, of which two-third of it was found to be more than 5 years and 40% are alive after a diagnosis period of 10 years.^[1,2] Some of the survivors have beaten cancer yet have poor results along with the burden of illness and pain after diagnosis.^[3]

In the first few years after treatment, pain is the common problem reported by all cancer survivors.^[3] Oncologists and others who provide pain management to survivors may need to use chronic pain management strategies and an interdisciplinary approach to optimize rehabilitation as well as pain relief.^[4]

Pelvic rehabilitation is a key component of regaining quality and not just quantity of life after treatment ends says Yang *et al.*^[5] Pelvic floor dysfunction is a common and less addressed problem among many cancer survivors including incontinence, pelvic pain, constipation, sexual dysfunction and bladder control.^[3-5] In women beyond childbearing age, urinary incontinence and pelvic organ prolapse is found to have the highest prevalence and are also at the highest risk for gynecologic cancer.^[6]

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Women of a broad age spectrum with sexually active life are affected with ovarian, cervical, vulvar, endometrial and vaginal cancers. Manifestations of the treatment sequelae for gynaecological tumours, such as gynaecological surgeries, radiation, and chemotherapy are proven risk factors for pelvic floor dysfunction. These patients are most commonly encountered with pain syndromes such as urinary incontinence, sexual dysfunction, faecal incontinence, pelvic organ prolapse, and various other pain syndromes.^[2]

The patient's quality of life with gynaecological cancers often remains as an underrated subject. Nowadays, pelvic floor disorders are frequently overlooked by many clinicians. Recent studies have reported the cumulative 5 years incidence of pelvic insufficiency fracture diagnosed by magnetic resonance imaging to be 8.2-19.7% after whole pelvic radio therapy.^[7] Oestrogen exposure, obesity, nulliparity, familial factors, smoking, HPV, age are the few associated factors for the cause of pelvic floor cancer.^[5] This study aims to gain knowledge about the prevalence of pelvic floor disorders among gynaecological cancer survivors in sub-urban regions of Kancheepuram district, India. Based on different risk factors for different gynecologic malignancies, it would be reasonable to assume that the prevalence of pelvic floor disorders varies between gynecologic malignancies. Since this hypothesis has not been explored previously in Indian Women, we assessed the prevalence of pelvic pain, urinary incontinence, pelvic organ prolapse and sexual dysfunction by the type of gynecologic malignancy; endometrial, cervical and ovarian cancer survival.

MATERIALS AND METHODS

After gaining Institutional Ethical Clearance, a cross-sectional observational study was carried over; from May 2018 to May 2019 in SRM Medical Hospital and Research Centre; among 150 referred case of gynaecological cancer survivors with pelvic floor disorders from the Department of Obstetrics & Gynaecology; with a consent form drawn for the purpose and duly signed by the survivors before the procedure. Only 130 women satisfied the selection criteria including Age >30 years, document as treatment-free for more than 1 year in a hospital, self-reported history of pelvic pain for more than 3 months. Excluding Women; with vaginal or rectal bleeding; who did not complete the treatment and follow up; who are currently under the treatment protocol and diagnosed for cancer; with recurrence of cancer at present and Women who are pregnant.

For the survey, two sets of questionnaires were taken such as; Vulvar Pain Functional Questionnaire and; Pelvic Floor Bother Questionnaire. Each statement was seeking information regarding how pelvic pain affects their everyday life. They have been instructed to choose the one that best describes their situation. It was also informed that some of the statements that deal with their intimacy are present which will help their health care provider to design the best treatment plan for them and measure their progression of treatment. The confidentiality of each patient's responses was treated with respect.

RESULTS

The collected data were tabulated and analyzed using IBM SPSS version 20.0 software for descriptive and inferential statistics.

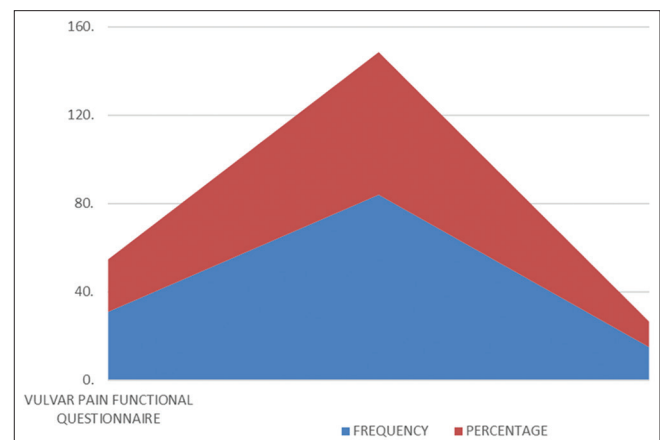
Table 1: Characteristics of Gynaecological Cancer Survivors (sample size=130)

Component	n	Minimum-maximum	Mean±SD
Age	130	34-72	52.65±7.76
BMI	130	17.7-39.60	25.73±4.77

BMI: Body mass index, SD: Standard deviation

Table 2: Frequency and percentage distribution for vulvar pain functional questionnaire and pelvic floor bother questionnaire

Component	Range	Frequency, n (%)
Vulvar pain functional questionnaire	0-13	31 (23.8)
	14-23	84 (64.6)
	24-33	15 (11.6)
	Total	130 (100)
Pelvic floor bother questionnaire	0-15	57 (43.8)
	16-30	73 (56.2)
	31-45	0
	Total	130 (100)



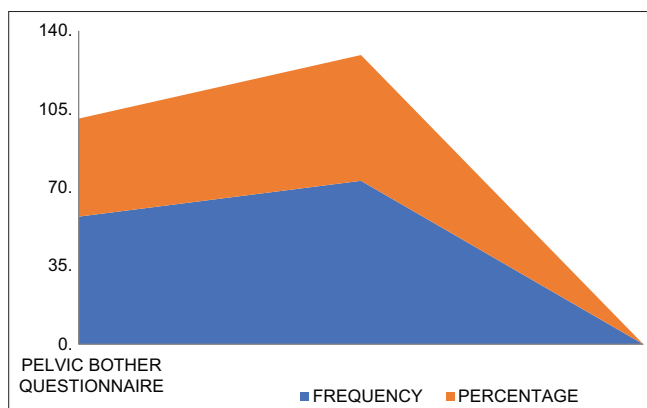
Graph 1: Frequency and percentage distribution of vulvar pain questionnaire

The average age and BMI of the subjects included was 52.6 ± 7.75 and 25.7 ± 4.77 respectively [Table 1]. Table 2 and Graph 1 shows the frequency and percentage of vulvar pain experienced through the Vulvar Pain Functional Questionnaire. The questionnaire was divided into 3 ranges according to the minimum and maximum values denoting greater the range more severe the pain symptoms. The frequency distribution among the three levels of severity are: 0-13 range is 31 (23.8%); 14-23 range is 84 (64.6%); and 24-33 range is 15 (11.6%). Table 2 and Graph 2 shows the frequency and percentage of bothersome because of pelvic floor dysfunction through the pelvic floor bother questionnaire. The questionnaire was divided into 3 ranges according to the minimum and maximum values denoting the higher the range greater the levels of bothersome. The frequency distribution among the levels of severity are: 0-15 range is 57 (43.8%); 16-30 range is 73 (56.2%) and 31-45 range is 0 (0%). Graph 3 shows the percentage of pelvic pain and bothersome among Ovarian cancer survivor (75%, 88.4%), Cervical cancer survivor (85.7%, 94.6%) and Endometrial Cancer survivor (90%, 72.7%) respectively.

DISCUSSION

The present study was the first of its kind to check the prevalence of pelvic floor disorders among gynaecological cancer survivors in the Sub-Urban South Indian Population. These cancer survivors were approached for the presence of any form of Pelvic floor disorders including supportive, sphincteric, and sexual dysfunction with or without pelvic pain.^[8]

The Vulvar Pain Functional Questionnaire was a validated tool to evaluate the level of pelvic pain and its related dysfunction in their daily activities.^[9] The troublesome features of pelvic floor dysfunction are reported by pelvic floor bother questionnaire-a



Graph 2: Frequency and percentage distribution of pelvic floor bother questionnaire

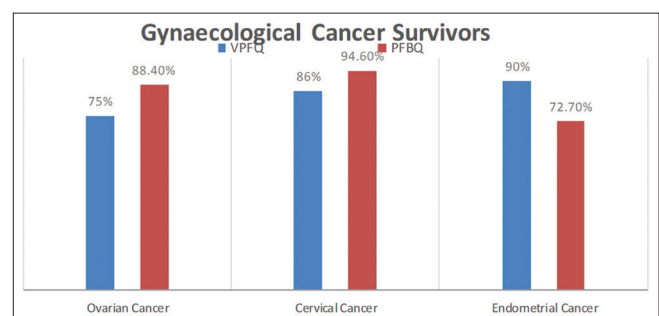
validated nine-item questionnaire for pelvic floor dysfunction.^[10]

Similarly, Rutledge *et al.* conducted a study on Pelvic floor disorders and sexual function in gynecologic cancer survivors: A cohort study with a control and experimental group. Validated questionnaires measured Urinary Incontinence severity with the Sandvik Incontinence Severity Index, pelvic organ prolapse with the question from the Epidemiology of Prolapse and Incontinence Questionnaire, and sexual function with the Pelvic Organ Prolapse/Urinary Incontinence Sexual questionnaire. The study concluded that incontinence and sexual dysfunction were significant problems in gynaecological cancer survivors.^[11]

The present study found that the severity of pelvic floor disorders increased with age by Vulvar Pain Functional Questionnaire and Pelvic Floor Bother Questionnaire. Similarly, Bodean *et al.* research on pelvic floor disorders in gynaecological malignancies confirm the severity of urinary incontinence and sexual dysfunction increases with age and is more in the older population.^[3]

Out of 130, nearly 15 survivors reported severe range (24-33) of pelvic pain from the Vulvar Pain Functional Questionnaire and all of them share a positive history of Gynaecological surgery related to their malignancy. Surgical Intervention for gynaecological malignancy left the survivors with severe pelvic pain in the future.^[12] The data obtained from the Pelvic Floor Bother Questionnaire shows 73/130 survivors were found to have a moderate range (16-30) of bothersome in the form of urine/faeces leakage and dyspareunia. Interestingly none of the survivors reported severe range (31-45) of bothersome with the history of gynaecological malignancy and that may be due to the early diagnosis. The botheration of pelvic floor disorder is just as equal to any other musculoskeletal disorders affecting the quality of life in women and need a timely referral to pelvic floor therapists.^[13,14]

Pelvic pain was reported higher among Endometrial (90%) and Cervical (85.7%) cancer survivors than



Graph 3: Frequency distribution of pelvic pain and bothersome among various gynaecological malignancy survivors. VPFQ: Vulvar Pain Functional Questionnaire, PFBQ: Pelvic Floor Bother Questionnaire

Ovarian (75%) cancer survivors^[15,16] whereas pelvic floor disorders like urinary frequency/urgency, urinary/faecal incontinence, and sexual dysfunction was found to be high among Cervical (94.6%) cancer survivor. ^[14,17,18] Therefore from our observation, we document that among the site-specific gynaecological cancer, Endometrial and cervical cancer survivors suffer more from pelvic pain and relative pelvic floor disorders. Some of the limiting factors found in this study are the upper limit for age inclusion was not defined and Questionnaires that are validated on western cultured women were used and only subjective examination was performed to establish the presence of pelvic floor disorders. Future studies recommended for the comparison of these symptoms among age-matched healthy women population before and after pelvic floor physical therapy intervention and also to categorize the type of pelvic floor dysfunction among the same population.

CONCLUSION

The study concludes with the findings that there is a high prevalence of pelvic floor dysfunction among gynaecological cancer survivors. Moderate amount of pelvic pain was reported to be felt by at least 64.6% of survivors. Added to it, a moderate level of bothersome was found to be reported by at least 56.2% of survivors.

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Conflicts of interest

There are no conflicts of interest.

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