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Patient reported outcomes in chronic pelvic pain

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Abstract
Aim: *This research is a descriptive epidemiological study aimed to investigate the patient reported outcomes and expression of chronic pelvic pain of different etiologies and difference between males and females regarding the impact of pain on different life aspects including social and economic aspects.*
Patient & method: *This study was a descriptive analysis including patients diagnosed with chronic pelvic pain who visited pain management clinic at Assiut University hospital between 2018 and 2023. Five hundred patients diagnosed with CPP were allocated into two groups: 140 males and 360 females. All cases were monitored to assess the visual analog scale (VAS), PESQ, and health VAS scores. During the follow- up, the patients' efficacy evaluation and the administration of analgesics were documented.*
Results*: Regarding the type of pelvic pain in females, it was gynecological in 46.11% of patients, urological in 24.44% of patients; VAS was not significantly different between both patients. PSEQ was markedly elevated in male cases in comparison to female cases, with a P value of less than 0.001.*
Conclusion:
The most common type of pelvic pain was local pelvic pain syndrome, which was present in 87 males (62.14%), and in 132 females (36.67%). The PSEQ was markedly higher in male cases in comparison to female cases, with a P value of less than 0.001 indicating that males can cope better with that type of pain.
Key words: *Chronic pelvic pain, Neuropathic pain, Pelvic pain syndrome and Pudendal neuralgia.*

Introduction

Pelvic pain presents a diagnostic and therapeutic difficulty for urologists, gynecologists, gastroenterologists, and pain specialists. Due to insufficient therapy, it is frequently linked to psychiatric and psychosomatic illnesses, and numerous doctors are visited [1].

Corticosteroids are highly appealing as pharmacological agents for numerous musculoskeletal disorders due to their powerful anti-inflammatory effects [2]. Multimodal analgesia and interdisciplinary strategies are essential components of effective musculoskeletal pain management.

Pharmacological, non-pharmacological, and interventional pain therapies are essential for enhancing patient recovery, well-being, and quality of life [3].

Using an objective, well-defined, and commonly accepted definition for the condition of interest is crucial in epidemiological studies because it makes it possible to derive exact results that can be compared to research conducted in different populations. Regretfully, it doesn't seem like there is yet a universally accepted definition of CPP.

The most often used (and objective) definition of CPP takes into account simply the location and length of the pain, which is defined as persistent or recurrent lower abdomen discomfort that has persisted for at least six months. [4]

For example, the International Association for the Study of Pain [5] has provided a specific definition for `CPP without obvious pathology' (CPPWOP): Pelvic pain that is persistent or recurrent and not well explained by a physical explanation. This diagnostic entity, sometimes known as "pelvalgia" or "the pelvic pain syndrome," has also been utilized in other research. But there are a few issues with this definition. Initially, it

employs basic ideas of pain perception, presuming that: (1) pain can always be directly associated with a disease or tissue injury; and (2) the causes of pain can be simply classified as "non-organic/functional" and "organic/anatomic." Additionally, it makes the assumption that any potential pathology causing pelvic pain is well established and well-known, that laparoscopy is always a reliable means to reliably discover it, and that all endoscopic surgeons, regardless of their background, experience, or level of training, can perform pelvic pain procedures.

In a research conducted by Jamieson and Steege [6], 581 women between the ages of 18 and 45 who were approached in general medicine and obstetrics waiting rooms had their prevalence of pelvic discomfort evaluated. Despite the fact that one- third of these women were going along with patients, the results of their evaluation were combined with those of the patients, rendering them unfit for population wide generalization. Twenty percent of women experienced pelvic pain lasting more than a year, and thirty-nine percent of women reported having some degree of pelvic pain.

The one and only fully community-based study of CPP was conducted by Mathias et al [7]. They used a telephone survey to look into the prevalence of CPP and how it related to functioning and well-being among 5263 randomly chosen women in the US population who were between the ages of 18 and 50. Fifteen percent (95% CI: 13±17%) of these women reported experiencing CPP (of at least six months' duration and discomfort that had occurred within the previous three months).

Patient and method:

This study, a retrospective descriptive analysis, involved 500 patients with chronic pelvic pain diagnoses at the Assiut University hospital; 360 of the patients were female and 140 were male. For every patient, multiple questionnaires were completed. The VAS, PESQ, and Health VAS surveys are among these. The main causes of the persistent pelvic pain, such as urologic, gynecologic, sexual, and anorectal regional local and systemic chronic pain syndromes were taken into consideration when grouping the patients. Regarding the stated results of every questionnaire, two groups—one male and one female—were compared. This study, a retrospective descriptive analysis, involved 500 patients with chronic pelvic pain diagnoses at the Assiut University hospital; 360 of the patients were female and 140 were male. For every patient, multiple questionnaires were completed. These include the VAS, PESQ, and Health VAS surveys. Based on the fundamental cause of their chronic pelvic pain— urologic, gynecologic, sexual, and anorectal regional local and systemic chronic pain syndromes, for example—patients were divided into groups. The stated results of each questionnaire were compared between two groups, one consisting of males and the other of females.

Inclusion criteria: Patients who have been experiencing chronic pain for over six months and individuals aged over 18 years are eligible for this procedure. Patients with one or both sides of regional pelvic pain and pudendal irritation, as evaluated by a pain specialist, and who are clinically appropriate for a pudendal nerve block by a qualified doctor.

Exclusion criteria: The patient's pregnancy, withdrawal of permission, or other unanticipated circumstances, If a patient has concurrent neurological or neurodegenerative conditions such as multiple sclerosis, myasthenia gravis, or spinal cord injury, plans to have pelvic surgery within three months, is pregnant or nursing, has known current pelvic or pelvic organ infections or malignancies (red flags), is receiving concurrent pelvic radiotherapy, has a high risk of bleeding, is currently undergoing corticosteroid therapy or an allergy or sensitivity to lidocaine anesthetic, has active mental health or psychiatric conditions, or has other uncontrolled medical conditions.

Sample Size Calculation: The sample size computation was conducted utilizing G*Power 3 software **Faul et al.,** calculated minimum sample of the cases was 500 patients, 140 male and 360 female [8].

Methods

The patients took part in a face-to-face interview, then provided written informed consent to allow their medical data to be collected, analyzed, and shared, and completed a demographic questionnaire during appointments. Each patient underwent questionnaires to evaluate pain and its effect on his different life aspects and daily activities and social life.

Ethical Consideration:

Before the patient could participate in the trial, formal informed consent was obtained. Every gathered piece

of information was private and used exclusively for scientific research. Every study participant had the complete right and freedom to withdraw from the research at any time without affecting the medical treatment he or she received. There were no additional clinical or procedural risks to this study. This study altered the patient's intensive care, monitoring, and care plan.

Statistical analysis

The statistical analysis was performed utilizing SPSS v26 (IBM Inc., Chicago, IL, USA). The normality of the data distribution was evaluated using the Shapiro-Wilk test and histograms. Quantitative parametric data were expressed as the mean and standard deviation (SD). Quantitative nonparametric data were expressed as the median and interquartile range (IQR). Qualitative variables were expressed as percentages and frequencies (%).

Results:

Age of male cases varied from 17 to 85 years with average value (± SD) of 47.11 (±15.52) years (Tabe1).

Table 1: Age of male patients

		Male patients (n=140)
Age (years)	Mean ± SD	47.11 ± 15.52
	Range	17 - 85

Age of female cases varied from 17 to 81 years with average value (± SD) of 42.26 (±13.88) years (Table 2).

Table 2: Age of female patients.

		Female patients (n=360)
Age (years)	Mean ± SD	42.26 ± 13.88
	Range	17 - 81

According to pelvic pain of male patients, our results showed that pelvic pain syndrome was present in 121 (86.43%) patients, chronic pelvic pain was present in 8 (5.71%) patients, chronic abdominal pain was present in 5 (3.57%) patients, and widespread pain or systemic pain was found in six cases (4.29%).(table 3).

Table 3: Site of pelvic pain of male patients

Male patients (n=140)	
Pelvic pain syndrome	121 (86.43%)
Chronic pelvic pain	8 (5.71%)
Chronic abdominal pain	5 (3.57%)
Widespread pain or systemic pain	6 (4.29%)

Based on the location of pelvic pain in female patients, our findings revealed that 246 (68.33%) had local pelvic pain syndrome, 56 (15.56%) had chronic pelvic pain, 17 (4.72%) had chronic abdominal pain, 41 (11.39%) had widespread or systemic pain. (Table 4).

Table 4: Site of pelvic pain of female patients

Female patients (n=360)	
Pelvic pain syndrome	246(68.33%)

Chronic pelvic pain	56 (15.56%)
Chronic abdominal pain	17 (4.72%)
Widespread pain or systemic pain	41 (11.39%)

Type of pelvic pain was urological in 94 (67.14%) patients, abdominal/bowel in 23 (16.43%) patients, musculoskeletal in 7 (5%) patients, sociological in 1 (0.71%) patient, post-surgical in 2(1.43%) patients, in peripheral nerves in 7 (5%) patients and other in 5 (3.57%) patients. (Table 5).

Table 5: Type of pelvic pain of male patients.

Male patients (n=140)	
Gynecological	0 (0%)
Urological	94 (67.14%)
Abdominal/Bowel	23 (16.43%)
Musculoskeletal	7 (5%)
Sexilogical	1 (0.71%)
Post surgical	2 (1.43%)
Peripheral nerves	7 (5%)
Other	5 (3.57%)

The type of pelvic pain was gynecological in 166 (46.11%) patients, urological in 88 (24.44%) patients, abdominal/bowel in 66 (18.33%) patients, musculoskeletal in 14 (3.89%) patients, sexilogical in 4 (1.11%) patients, post-surgical in 5 (1.39%) patients, peripheral nerves in 4 (1.11%) patients, and other in 1 (0.28%) patient (Table 6).

Table 6: Type of pelvic pain of female patients

Female patients (n=360)	
Gynaecological	166 (46.11%)
Urological	88 (24.44%)
Abdominal/Bowel	66 (18.33%)
Musculoskeletal	14 (3.89%)
Sexilogical	4 (1.11%)
Post surgical	5 (1.39%)
Peripheral nerves	4 (1.11%)
Other	1 (0.28%)

Concerning the comparison between PSEQ of the studied patients, our results revealed that PSEQ was markedly elevated in male cases in comparison to female cases, with a P value of less than 0.001 (Table7).

Table7: Comparison between PSEQ of the studied patients

Male patients (n=140)		**Female patients (n=360)**	**P value**
PSEQ	**Median**	26	19	**<0.001***

	IQR	14 - 37	10 - 28	

*: significant as P value ≤ 0.05, PSEQ: Pain self-efficacy.

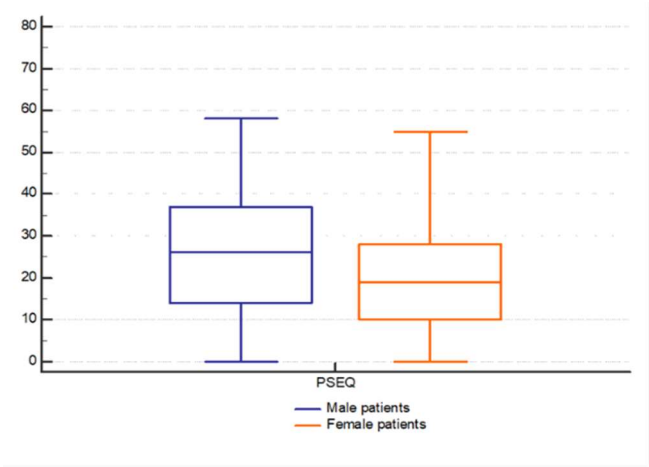

Figure1: PSEQ of the studied groups

Based on a comparison of the PCS of the studied patients, our results revealed that PCS was insignificantly different between both patients (Table 8).

Table 8: Comparison between PCS of the studied patients

P		Male patients (n=140)	Female patients (n=360)	value
PCS	**Median**	30.5	31	0.562
	IQR	21 - 40	20.75 - 41	

PCS: Pain catastrophizing scale.

This table showed that Health VAS was not significantly different between both patients (Table 9).

Table 9: Comparison between health VAS of the studied patients

		Male patients (n=140)	Female patients (n=360)	P value
Health VAS	**Median**	50	50	0.433
	IQR	32.25 - 65	30 - 65	

VAS: Visual analogue scale.

The results showed that interference was insignificantly different between both patients (Table 10).

Table10: Comparison between interference of the studied cases

		Male patients (n=140)	Female patients (n=360)	P value
Interference (%)	**Mean ± SD**	48.42 ± 23.13	51.89 ± 22.83	0.129
	Range	0 - 93	0 - 90	

Discussion

Our results showed that the age of male cases varied from 17 to 85 years, with an average of 47.11 ± 15.52 years. In consistent with Klotz SG et al., who aimed to compare outcomes of pelvic pain between male and female, they reported that the age of male cases ranged from 20–80 years, with a mean of 48.33 ± 15.28 years [9]. Also, agreed with Quaghebeur J et al., who aimed to compare between male and female cases with pelvic pain, they demonstrated that the age of male patients was 46 and ranged from 24–77 [10].

The current study showed that the age of female cases varied from 17 to 81 years, with an average value of 42.26±13.88 years. In accordance with Klotz SG et al., reported that the age of female cases ranged from 18–84 years with average of 49.62 ± 18.33 years [9].

As well, agreed with Quaghebeur J et al., found that the age of female cases was 49 years, varied from 27 to 61 [10].

The most common areas of discomfort were the penis in 90.3% of cases, the perineum in 77.8% of cases, and the rectum in 70.8% of cases, according to data that support Anderson RU et al.'s assessment of the location of pelvic pain and related symptoms in men. Penile pain was triggered by trigger points in the rectus abdominis and puborectalis/pubococcygeus muscles in almost 75% of cases [11]. In terms of the type of pelvic pain in males, it was urological in 94 (67.14%) patients, abdominal/bowel in 23 (16.43%) patients, musculoskeletal in 7(5%)patients, sexilogical in 1 (0.71%) patient, post-surgical in 2 (1.43%) patients, peripheral nerves in 7 (5%) patients, and others in 5 (3.57%) patients. According to Fall M.et al.'s study on pelvic pain and its effects on men and women, men experience urological, musculoskeletal, and neurological discomfort the most frequently [12].

Additionally, I concurred with Hunter CW et al.'sgoal of providing a basic overview of the pathophysiology of pelvic pain and the relevant neuroanatomy in connection to the range of available therapeutic choices. They revealed that musculoskeletal, abdominal/bowel and urological pain were the most prevalent types of pelvic pain in men [13].

In females, 166 (46.11%) had gynecological pelvic pain, 88 (24.44%) had urological pelvic pain, 66 (18.33%) had abdominal or bowel pain, 14 (3.89%) had musculoskeletal pelvic pain, 4 (1.11%) had sex-related pelvic pain, 5 (1.39%) had pain after surgery, 4 (1.11%) had pain from peripheral nerves, and 1 (0.28%) had pain from something else. In agreement with Fall M et al., they discovered that gynaecological, musculoskeletal, and peripheral nerves were the most prevalent causes of pelvic pain in females [12].

As well, Ross V et al., enhanced treatment and results for numerous patients experiencing persistent pelvic pain; they demonstrated that the most common type of pelvic pain in females was gynecological, gastroenterologic, muscular, and neurological [14]. Concerning to comparison between (pain self-efficacy) PSEQ of the studied patients, our results revealed that The PSEQ was markedly elevated in male cases in comparison to female

cases, with a P value of less than 0.001.

In the same line with Varela AJ et al., who aimed to evaluate the function of PSEQ in cases with chronic pelvic pain; findings indicated a considerably higher prevalence in male cases in comparison to female cases, with a P value of <0.001[15]. Additionally, Kovács-Szabó Z et al., who aimed to assess the Pain Severity Index (PSEQ) among women suffering from chronic pelvic pain. They revealed that PSEQ was a reliable and valid measurement among women related to pelvic pain, mean of PSEQ-HU was 36.18 ± 17.04 [16].

Based on the comparison of PCS between the studied cases, our results found no significant difference among both cases in terms of PCS. In accordance with Klotz SG et al., they reported that there was no significant difference among both patients as regard PCS with a p value of 0.28 [9].

In contrast with Chen A et al., who aimed to assess the symptomatology of pelvic pain in CPP patients utilizing standardized questionnaires; the study involved 184 participants (mean age 42 years, N = 23 male). A greater No. of pain comorbidities was associated with PCS (P < .001) [17].

In the comparison between the health VAS of the studied patients, our results showed that the health VAS was not significantly different between both patients. Muñoz-Gómez E et al., who aimed to evaluate outcomes of pelvic pain, reported that no significant difference was found among both cases [18].

In contrast with Giannantoni A et al., who aimed to evaluate VAS between male and female cases with pelvic pain, they demonstrated that highly statistically significant difference was found among the studied group as regard VAS with a p value
<0.001[19].

Our results revealed that no significant difference was found in interference between both cases under study. In supporting Quaghebeur J et al., revealed that there was no significant difference between both patients as regard interference [10].

Conclusion

The PSEQ was markedly elevated in male patients compared to female ones. A comprehensive strategy that addresses systemic etiology and psychological amplification is advised. Further investigation is required regarding modifiable risk factors and therapeutic approaches in this patient demographic.

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