International Journal of Life Sciences, Biotechnology and Pharma Research Vol. 13, No. 8, August 2024 Online ISSN: 2250-3137
Print ISSN: 2977-0122

DOI: 10.69605/ijlbpr_13.8.2024.58

ORIGINAL RESEARCH

Effect of chronic pelvic pain on quality of life of women and its association with obesity

Dr. Rahul Saxena[1], Dr. Manish Gupta[2], Dr. Arushi Saxena[3], Dr. Sandhya Jain[4], Dr. Nilima Shankar[5]

[1]Assistant Professor, Department of Physiology, Varun Arjun Medical College & Rohilkhand Hospital, Shahjahanpur, U.P., India
[2]Professor, Department of Physiology, University College of Medical Sciences and GTB Hospital, New Delhi, India
[3]Assistant Professor, Department of Anaesthesiology Varun Arjun Medical College & Rohilkhand Hospital, Shahjahanpur, U.P., India
[4]Director Professor, Department of Obstetrics and Gynecology, University College of Medical Sciences and GTB Hospital, New Delhi, India
[5]Professor and Head (Retd.), Department of Physiology, University College of Medical Sciences and GTB Hospital, New Delhi, India

Corresponding author
Dr. Arushi Saxena
Assistant Professor, Department of Anaesthesia, Varun Arjun Medical College & Rohilkhand hospital, Shahjahanpur, U.P., India
Email: arushi.dr1702@gmail.com

Received: 03 July, 2024 Accepted: 21 August, 2024

ABSTRACT

Context: Chronic pelvic pain (CPP) is a poorly understood common ailment of females. It is a burden on women's health with a significant detrimental impact on their quality of life (QOL). The presence of other co-morbidities such as obesity may further worsen the effect of CPP on their QOL. **Aim:** To study the effects of CPP on quality of life in females of reproductive age group and to determine any association with Body Mass Index (BMI). **Settings and Design:** An analytical cross-sectional study in a tertiary care setup. **Subjects and Methods:** Sixty female patients of CPP in the age group of 18–45 years were recruited from the gynecology outpatient department. Age-matched healthy 30 female attendants accompanying CPP patients were recruited as controls. **Outcomes measures**: Pain scores; visual analogue scale (VAS) score and QOL by the World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire. Anthropometric parameters: height, weight, BMI. **Statistical Analysis:** Unpaired t-test, chi-square test, Pearson correlation coefficient. p-value < 0.05 was considered significant. **Results:** QOL in CPP patients was significantly lower ($p<0.001$) in all domains i.e., Physical, Psychological, Social, and Environmental of WHOQOL-BREF. No significant association was found between the pain scores and various QOL domains. No significant association between BMI and pain scores or between BMI and QOL domains was observed. **Conclusions:** Chronic pelvic pain has a significant negative effect on the QOL of women with a maximal impact on physical and psychological domains. Our study failed to establish any association between BMI, VAS score, and QOL of CPP patients. We can say that the presence or absence of obesity does not have a significant influence on the pain score and QOL of CPP patients.

Keywords: Chronic pelvic pain; pain scores; Quality of life; WHOQOL-BREF; Obesity, Chronic pain.

INTRODUCTION

In women, chronic pelvic pain (CPP) is defined as "persistent, noncyclic pain perceived to be in structures related to the pelvis and lasting more than six months." [1]Non-cyclic pelvic pain, dysmenorrhoea, and deep dyspareunia constitute its main symptom complex. [2]

It is a common condition of females in the reproductive age group with unclear pathophysiology.[3]The annual prevalence of chronic pelvic pain in women in primary care was found to be 38.3/1000 in women of age group 15 – 75 years in a study conducted in the United Kingdom a rate comparable to that of back pain(41/1000).[4]In Asian countries, its prevalence varies from 43.2% in Thailand, 8.89% in Pakistan to 5.2% in India.[5]

Often specific etiology remains unknown but CPP may occur as a result of gynecological, urological,

DOI: 10.69605/ijlbpr_13.8.2024.58

gastrointestinal, endocrine, musculoskeletal, neurologic systems, andpsychological and sociocultural factors and complex interactions among them.[6]

CPP is a burden on reproductive age group women with a direct negative impact on their social and personal lives.[7]Studies have found CPP to be detrimental to women's quality of life (QOL) and personal health. It not only affects their economic condition bycausing loss of working hours[8]but also increases their expenditure on healthcare such as diagnostics and therapeutics for their pain which has a damaging impact on their functional capacity and QOL. [9]

A cross-sectional study by Santiago et al shows a strong association between central obesity and chronic painful conditions.[10]It is observed higher BMI & obesity also has anadverse effect on the physical and psychosocial aspects of QOL.[11]

Through our research, we would like to study the effect of CPP on the QOL of female patients. There is a paucity of data on the role of obesity (BMI) in influencing the pain score and QOL of CPP patients.So, we will investigate any association between the above parameters.

SUBJECTS AND METHOD

This is a cross-sectional analytical study.The study was conducted after obtaining approval and permission fromthe institute's ethics committee.

The study was conducted in the Department of Physiology and Obstetrics and Gynaecology, University College of Medical Sciences and GTB Hospital, New Delhi. Sixty women with CPP were recruited from the Gynecology Outpatient Department, Guru Teg Bahadur Hospital, Delhi-95.Age-matched normal healthy 30 female attendantsaccompanying CPP patients were recruited as controls.

Inclusion criteria: Females of CPP; Age: 18–45 years.

Exclusion criteria: Subjects with obvious gynecological andnon-gynecological causes of CPP;Pregnant females/pregnancy in the past 12 months; severe low backache;any other medical disease complicating CPP.

All subjects had undergone complete physical and clinical assessment for the outcome measures. Before participation, all the subjects were explained the purpose of the study in detail and written informed consent was taken.

OUTCOME MEASURES

Pain assessment by Visualanalogue scale. Visual analogue scale (VAS) is the most extensively used pain measurement tool. It is a one-dimensional measurement tool that can be applied to measure pain intensity and pain relief.[12]VAS comprises of a 10 cm straight line with verbal indicators that define boundaries. The score is obtained by measuring the distance in millimeters from left to right.

Quality of life: WHOQOL–BREF questionnaire: The WHOQOL-BREF is the short 26-item assessment tool for the evaluation of four QOL domains: Physical health, Psychological, Social, and Environmental QOL. The domain scores are scaled in a positive direction i.e., higher scores suggest better quality of life. We used a transformed score which creates domain scores within the range of 0–100.[13] We used the Hindi version of the WHOQOL-BREF which holds satisfactory psychometric properties that can be used for drug trials and intervention studies in an Indian setting.[14]

Anthropometric parameters: Height (H) was recorded by a Stadiometer in standing posture without footwear in meters. Weight (W) was recorded by an electronic weighing machine in Kilograms.

Body Mass index (BMI) = W/H^2 (kg/m^2); Normal BMI = 18.0-22.9 kg/m^2, Overweight = 23.0-24.9 kg/m^2, Obese>25 kg/m^2. Guidelines for diagnosis of obesity for India.[15]

Statistical analysis

Data were analysed by IBM SPSS software version 20 (by IBM Corporation, USA). Unpaired- t test to compare Anthropometric parametersand Quality of life. Chi-square test to compare distribution of subjects in various BMI categories, Pearson correlation coefficient to measure linear correlation between VAS score and various domains of WHOQOL-BREF.

Data handling: MS Excel datasheet.
Power of the study: 90%,
Level of significance: $p < 0.05$

RESULTS

Themean ± standard deviation (SD) of the age of participants inthe CPP group was 31.75±6.23 years and in the control group was 30.63 ± 6.45 years the difference was statistically not significant (p=0.869). Anthropometric parameters, height, weight,and BMI between CPP patients werestatistically non-significant(**Table 1).**Pain scores were assessed only in the CPP group and the mean VAS score was found to be 66.25 ± 7.23.

In our study CPP group 20% had normal BMI, 35% were overweight and 45% were obese. In the control group, 20% had normal BMI, 44.33% were overweight and 33.67% were obese. The number of obese women was higher in the CPP group than in the control but there is no significant difference between the two groups (p=0.706). There was no statistically significant difference in the composition of the CPP group and control group. **Table 2**

The WHOQOL-BREF transformed scores in different domains in CPP patients were significantly lower (p<0.001) as compared to the control group. The

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lower scores depict a poorer QOL in CPP patients than in the control group. **Table 3 and figure 1**:

Table 4: Results of the Pearson correlation indicated that there is a non-significant small negative relationship between VAS score and psychological, social, and environmental domains.

Table 5: Represents the Correlation between BMI & VAS scores and various domains of WHOQOL-BREF. There is no statistically significant relationship between the above variables.

	CPP (n = 60)		Control (n = 30)		p-value unpaired t-test
	MEAN	± SD	MEAN	±SD	
Age (years)	31.75	6.32	30.63	6.45	0.869
Height (meters)	1.48	0.07	1.45	0.06	0.554
Weight (kgs)	55.35	7.78	51.58	6.36	0.288
BMI (kg/m^2)	25.08	2.62	24.37	1.75	0.070

Table 1: Comparison of the age and anthropometric parameters of CPP patients with normal controls.

	CPP(n=60)		Control(n=30)	
BMI	No. of subjects	%	No. of subjects	%
Normal BMI (18.0-22.9 kg/m^2)	12	20	6	20
Overweight (23-24.9 kg/m^2)	21	35	13	44.33
Obese (>25 kg/m^2)	27	45	11	36.67

Table 2: The chi-square statistic is 0.6966. The p-value is 0.706.

WHOQOL-BREF Domain scores	CPP (n = 60)		Control (n = 30)		p-value unpaired t-test
	MEAN	± SD	MEAN	± SD	
Physical	40.41	8.14	81.54	6.9	< 0.001
Psychological	45.55	10.82	79.13	6.4	< 0.001
Social	52.08	15.16	81.94	9.31	< 0.001
Environmental	63.33	7.80	76.67	7.23	< 0.001

Table 3: Comparison of WHOQOL-Bref scores between CPP patients and control group.

Table 4: Correlation between VAS score and various domains the Pearson correlation coefficient.	Pain score Mean VAS score = 66.25 ± 7.23	
WHOQOL-BREF Domain	Pearson correlation coefficient (r)	p-value
Physical	0.0052	0.969
Psychological	-0.1201	0.361
Social	-0.1363	0.299
Environmental	-0.1033	0.432

Table 5: Correlation between BMI, VAS score and various domains the Pearson correlation coefficient.	BMI (kg/m^2)= 25.08 ± 2.62	
	Pearson correlation coefficient (r)	p-value
VAS score	-0.0271	0.837
WHOQOL-BREF Domains		
Physical	-0.0723	0.583
Psychological	0.0743	0.573
Social	-0.123	0.350
Environmental	-0.0817	0.535

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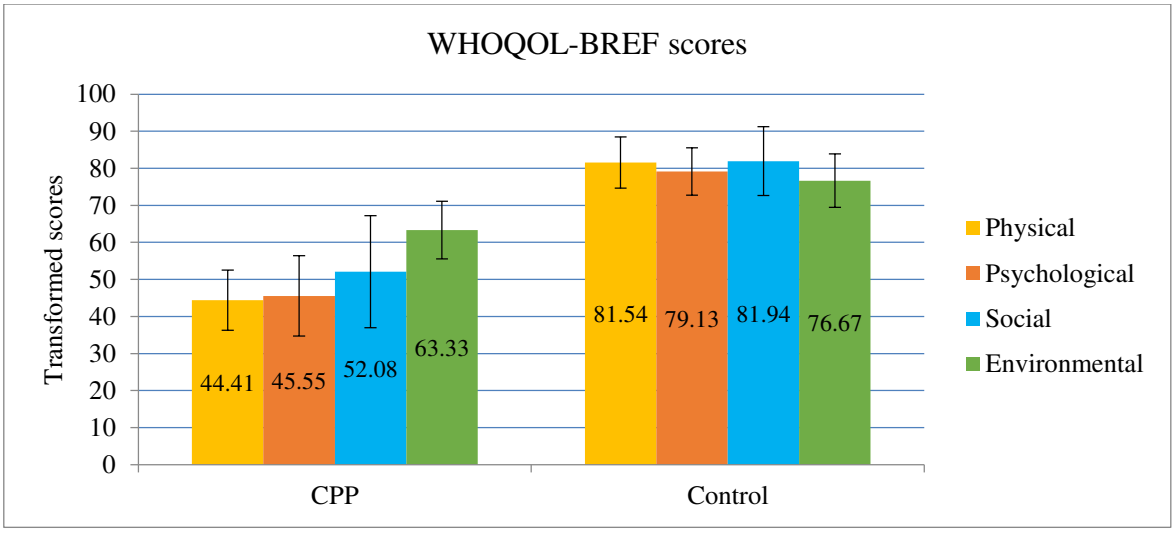

Figure 1: Comparison of WHOQOL-BREF scores between CPP patients andnormal controls.

DISCUSSION

In our study, QOL in CPP patients was affected in all domains i.e., Physical, Psychological, Social, and Environmental as assessed by WHOQOL-BREF. The scores in these domains were significantly lower in CPP patients as compared to normal healthy controls. Lower scores are suggestive of poor QOL in CPP patients. There have been several studies that also reported similar changes in QOL in CPP patients. Romão et al found that women with CPP had significantly lower scores in the Physical, Psychological, and social domains of WHOQOL-Bref as compared to normal controls. Their study also revealed that higher levelsof depression and anxiety were associated with lower QOL scores.[16] Higher psychological distress and poorer QOL were associated with higher pain intensity in patients with chronic neuropathic pain.[17] In another study by Tripoli etal CPP due to endometriosis or any other gynecological cause led to a significantreduction of QOL as compared to healthy women.[18]

The cause of CPP does not affect the QOL status, it is the higher pain intensity that has been associated with lower QOL scores especially, in the psychological domain.[19] Contrary to the above study, we could not find any significant correlation between the pain scores and various QOLdomains in our study it may be because of our smaller sample size. No significant correlation was also found between BMI and pain scores or BMI and QOL domains. No significant difference between the proportions of obese, overweight, and normal BMI women between the two groups. This data suggests that the effect on QOL is primarily due to CPP and the presence or absence of obesity does not influence the pain score and QOL of CPP patients. In our study physicaland psychological domains were much more impaired than the social andenvironmental domains. A study done by Khanna et al has shown similar findingswhere physical and psychological QOL are impaired to a larger extent in activedisease conditions as compared to Social and Environmental QOL.[20]

Effective management of CPP requires treatment of the underlying cause as well as treatment of chronic pain. Medical or surgicaltreatments can be done for patients in whom a definitive diagnosis cannot be reached. But in females whereetiology remains unknown (61% of women with CPP), a multidisciplinary approach is required i.e. addressing psychological factors, dietary, social, and environmental factors in addition to standard treatment.[21],[22]Nowadayscomplementary and alternative health approaches such as yoga, acupuncture, meditation, vitamins, minerals, herbs, special foods,and diets are employed along with conventional treatment for managing the complexCPP with promising results leading to significant reduction in pain and improvedQOL of females with CPP.[23],[24]

CONCLUSION

From our study, we can conclude that chronic pelvic pain has a significant negative effect on the physical, psychological, social, and environmental QOL of women, withmaximal negative effectsin physical and psychological domains. Our study could not establish any association between BMI and VAS score and QOL of CPP patients. We can say that in our study presence or absence of obesity does not have a significant influence on the pain score and QOL of CPP patients.

Limitation of the study: Our sample size was small, better results would have been obtained with a larger sample size. Information received from a small sample size tends to be skewed slightly.

Source of funding: Nil
Conflict of interest: Nil

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REFERENCES

1. Speer LM, Mushkbar S, Erbele T. Chronic Pelvic Pain in Women. Am Fam Physician. 2016 Mar 1;93(5):380-7. PMID: 26926975.
2. Yuan Ch-Ch. Laparoscopic uterosacral nerve ablation and chronic pelvic pain. J Chin Med Assoc. 2006; 69: 101-3.
3. Bordman R, Jackson B. Below the belt: Approach to chronic pelvic pain. Can Fam Physician 2006; 52: 1556-62.
4. Zondervan KT, Yudkin PL, Vessey MP et al. Prevalence and incidence of in primary care of chronic pelvic pain in women: Evidence from a national general practice database. Br J ObstetGynaecol 1999; 106: 1149-55.
5. Latthe P, Latthe M, Say L, et al. WHO systematic review of prevalence of chronic pelvic pain: a neglected reproductive health morbidity. BMC Public Health 2006; 6:177.
6. Howard FM. Chronic pelvic pain in women. Am J Manag Care. 2001;7(10):1001-11.
7. Laursen BS, Bajaj P, Olesen AS, Delmar C, Arendt-Nielsen L. Health related quality of life and quantitative pain measurement in females with chronic non-malignant pain. Eur J Pain. 2005; 9(3): 267-75.
8. Grace V, Zondervan K. Chronic pelvic pain in women in New Zealand: comparative well-being, comorbidity, and impact on work and other activities. Health Care Women Int 2006; 27: 585–99.
9. Hutton D, Mustafa A, Patil S et al. The burden of Chronic Pelvic Pain (CPP): Costs and quality of life of women and men with CPP treated in outpatient referral centers. PLoS One. 2023 Feb 9;18(2):
10. Sá KN, Baptista AF, Matos MA, Lessa Í. Chronic pain and gender in Salvador population, Brazil. Pain. 2008 Oct 31;139(3):498-506.
11. Kushner RF, Foster GD. Obesity and quality of life. Nutrition. 2000 Oct;16(10):947-52.
12. McCormack HM, Horne DJ, Heather S. Clinical applications of visual analogue scales: a critical review. Psychol Med. 1988; 18: 1007–19.
13. The WHOQOL group. WHOQOL-BREF: Introduction, Administration, Scoring and Generic Version of the assessment. Field Trial Version. Geneva: WHO; 1996.
14. Saxena S, Chandiramani K, Bhargava R. WHOQOL-Hindi: a questionnaire for assessing quality of life in health care settings in India. World Health Organization Quality of Life. Natl Med J India. 1998; 11(4): 160-5.
15. Misra A, Chowbey P, Makkar BM et al; Concensus Group. Consensus statement for diagnosis of obesity, abdominal obesity and the metabolic syndrome for Asian Indians and recommendations for physical activity, medical and surgical management. J Assoc Physicians India. 2009 Feb;57:163-70.
16. Romão AP, Gorayeb R, Romão GS, Poli-Neto OB, dos Reis FJ et al. High levels of anxiety and depression have a negative effect on quality of life of women with chronic pelvic pain. Int J ClinPract. 2009; 63(5): 707-11.
17. Reis FJ, Lopes D, Rodrigues J, Gosling AP, Gomes MK. Psychological distress and quality of life in leprosy patients with neuropathic pain. Lepr Rev. 2014; 85(3): 186-9.
18. Tripoli TM, Sato H, Sartori MG, de Araujo FF, Girão MJ, Schor E. Evaluation of quality of life and sexual satisfaction in women suffering from chronic pelvic pain with or without endometriosis. J Sex Med. 2011; 8(2):497-503.
19. Souza CA, Oliveira LM, Scheffel C et al. Quality of life associated to chronic pelvic pain is independent of endometriosis diagnosis -- a cross-sectional survey. Health Qual Life Outcomes. 2011; 9: 41.
20. Khanna S, Pal H, Pandey RM, Handa R. The relationship between disease activity and quality of life in systemic lupus erythematosus. Rheumatology (Oxford). 2004; 43(12): 1536-40.
21. Mathias SD, Kuppermann M, Liberman RF, Lipschutz RC, Steege JF. Chronic pelvic pain: prevalence, health-related quality of life, and economic correlates. ObstetGynecol 1996; 87: 321-7.
22. Ortiz DD. Chronic pelvic pain in women. Am Fam Physician. 2008; 77(11):1535-42.
23. Chao MT, Abercrombie PD, Nakagawa S, Gregorich SE, Learman LA, Kuppermann M. Prevalence and Use of Complementary Health Approaches among Women with hronicPelvic Pain in a Prospective Cohort Study. Pain Med. 2015; 16(2): 328-40.
24. Saxena R, Gupta M, Shankar N, Jain S, Saxena A. Effects of yogic intervention on pain scores and quality of life in females with chronic pelvic pain. Int J Yoga 2017;10:9-15.