Italian Journal of
Gynæcology & Obstetrics
December 2018 - Vol. 30 - N. 4 - Quarterly - ISSN 2385 - 0868

Psychological determinants of chronic pelvic pain related to endometriosis: the importance of a multidisciplinary approach

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ABSTRACT

Chronic Pelvic Pain is a common disease, particularly in reproductive-aged women, and it is often associated with several clinical conditions such as irritable bowel syndrome, interstitial cystitis/painful bladder syndrome or gynecological cancer. Among gynecological diseases, endometriosis is the most frequently associated with chronic pelvic pain.

The aim of this work is to underline the influence of psychological factors on the relationship between endometriosis and pelvic pain in order to reduce as much as possible the impact of these diseases on quality of life and psychological well-being of women affected.

Keywords: pelvic pain; endometriosis; psychology; quality of life.

SOMMARIO

Il dolore pelvico cronico è un disturbo comune, in particolare nelle donne in età fertile, ed è spesso associato a diverse condizioni cliniche come la sindrome dell'intestino irritabile, la cistite interstiziale o il cancro ginecologico. Tra le patologie ginecologiche, l'endometriosi è la più frequentemente associata a dolore pelvico cronico. Lo scopo di questo lavoro è quello di sottolineare l'influenza dei fattori psicologici sulla relazione tra endometriosi e dolore pelvico al fine di ridurre il più possibile l'impatto di questi disturbi sulla qualità della vita e sul benessere psicologico delle donne colpite.

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DOI: 10.14660/2385-0868-101

Chronic Pelvic Pain (CPP) is a common condition, particularly in reproductive-aged women, and can be defined as a nonmalignant pain perceived in structures related to the pelvis; constant or recurring over a period of 6 months[1,2]. The etiology of CPP is controversial and it can result from the interaction of gastrointestinal, urinary, gynecologic, musculoskeletal, neurologic, and endocrine factors[3,4]. It is estimated that CPP has an incidence of approximately 3.8% but this percentage may increase to 40% in infertility samples[2]. In this regard, a recent systematic review by Ahangari has estimated the prevalence of CPP among women worldwide between 6% and 27%. However, there is still no agreement on a univocal definition of chronic pelvic pain[5].

The European Association of Urology proposed comprehensive guidelines for the diagnosis and treatment of chronic pelvic pain describing the current knowledge about pathophysiology and psychosocial aspects, as well as classification, diagnosis, and treatment of this disease[6].

In most cases, it is not possible to identify a specific cause or a definitive treatment for the cure of CPP. In at least one-half of cases, pelvic pain is associated to other clinical conditions such as irritable bowel syndrome, interstitial cystitis/ painful bladder syndrome, uterine fibroids, ovarian cysts/polycystic ovarian syndrome, ectopic pregnancy, endometriosis, or pelvic adhesions[7–17]. The presence of both endometriosis and interstitial cystitis is not unusual[11,18].

Furthermore, CPP is frequently found in association with sexual dysfunction as an adverse effect of gynecological cancer treatments[19–26]. These women often report increased vaginal dryness, decreased sexual desire and arousability, and pain during intercourse[20,21].

The pathophysiology of CPP in these patients is still unclear but it is possible to hypothesize that internal scarring and adhesions secondary to surgery and radiation therapy may be a potential cause of pain and consequently of dyspareunia[26–30].

More specifically, recent studies have underlined that cervical cancer survivors report CPP after radiotherapy in 38% of cases and pain is usually associated with anxiety, depression, and reduced quality of life[27,31,32].

In the light of what has been said so far, we can state that CPP is a significant health problem in women of reproductive age and it strongly compromises quality of life and psychological well-being[1,33].

Regarding the possible treatments for chronic pelvic pain, current guidelines recommend behavioral modifications and conservative treatments as first-line therapies. In this regard, complementary and alternative therapies have proven to be effective in treating this disease. A recent review by Arnouk et al.[34] underline that pelvic floor muscle physiotherapy, biofeedback, acupuncture and cognitive behavioral therapy are effective options for the treatment of pelvic floor disorders, particularly with respect to pelvic pain. Also the study by Leong[35] confirm the need for further investigation regarding the use of alternative and non-pharmacological therapies in the treatment of chronic pelvic pain such as meditation, hypnosis and dietary supplementation.

Among gynecological diseases, endometriosis is the most frequently associated with chronic pelvic pain[36–38].

Endometriosis is a chronic and progressive gynecological disease characterized by the presence of endometrial glands and stroma outside the uterus[39–41]. Usually, the ectopic tissue is located in the peritoneal cavity, most often in the pelvis, but endometriosis has been reported in nearly all body compartments[42–47].

This disease has a prevalence of about 6-10% in women in reproductive age and of 50% among infertile women and has a significant impact on the quality of life of women affected[48–50].

Pathogenesis of endometriosis is still unclear but in the last few years several hypotheses have been formulated regarding the etiology of this disease. More specifically, it has been underlined that inflammation may have a central role in the development of endometriosis with a particular reference to the overproduction of a series of inflammatory mediators such as prostaglandins, metalloproteinases, cytokines, and chemokines[51–59]. It is also assumed that hormonal, genetic, and environmental factors may be involved in determining the disease.

Endometriosis can have three different clinical presentations: peritoneal endometriosis, ovarian endometriosis (endometriomas), and deep infiltrating endometriosis (DIE). DIE is considered the most severe form of endometriosis and is defined as a lesion that penetrates for more than 5 mm under the peritoneal surface[60,61]. Although effective medical therapies can be used to controll symptoms of DIE, radical surgical excision of the lesions is usually necessary to improve patient symptoms and quality of life[62–66].

It has been estimated that 37% to 74% of women undergoing laparoscopy for CPP are affected by

endometriosis[67]. Women with endometriosis may suffer from a wide variety of pelvic and abdominal pain symptoms such as dysmenorrhea, dyspaurenia, nonmestrual (chronic) pelvic pain, pain at ovulation, dyschezia, and dysuria[68,69].

Understanding the exact nature of the relationship between pain and endometriosis is difficult because pain measurement is based on subjective evaluations and the mechanism by which endometriosis causes pain is not well understood[70].

Furthermore, there is not a clear characterization of pain typology and topology in women suffering from endometriosis[68]. In this regard, recent studies about this topic have demonstrated that uterosacral lesions are positively associated with dyspareunia, ovarian and peritoneal lesions with dysmenorrhea, bladder and peritoneal lesions with dysuria, and deep vaginal lesions with dyschezia. However, these data are not definitive and need further investigation[68,70].

Intensity of pain symptoms do not always relate to the stage of endometriosis: women with mild endometriosis may have intense pelvic pain while women with more severe endometriosis may suffer less from chronic pain[72–75]. For this reason, it has been hypothesized that psychological factors, stress response and emotional factors may influence the perception of pain in these women[72,76–79].

Several studies have investigated the relationship between pelvic pain and psychological diseases in women with endometriosis[72,73,80,81]. Women with endometriosis show significantly higher levels of somatization, depression, sensitivity and anxiety than healthy women[82–86]. According to these data, it is possible that the presence of anxiety and depressive symptoms may be related to the intensity of pain, even if it is not clear which is the cause and which is the consequence[87,88]. More specifically, anxiety and depression could increase pain perception both emotionally and cognitively, determining less tolerance to pain and greater sensitivity to physical sensations in general[80,89].

However, studies about this topic have obtained controversial results: it is unclear if depression, anxiety and emotional distress determine an increased perception of pain or if pain cause psychological distress and psychopathological symptoms[90–92].

In this regard, the recent study by Carty et al. highlights that women with chronic urogenital pain conditions show high levels of lifetime trauma, relational stress, and emotional conflicts. These Authors have developed and tested the effects on patients' somatic and psychological symptoms of a life stress emotional awareness expression interview which has proven effective in improving the symptoms of these patients[93].

In the light of these considerations, we believe that a multidisciplinary approach is necessary in the management of patients with endometriosis-associated pain. A psychological assessment is important to identify women at risk of developing symptoms of anxiety and depression in order to provide them an adequate psychological support. The aim is to reduce as much as possible the impact of endometriosis and chronic pelvic pain on quality of life and psychological well-being of these patients.

ACKNOWLEDGEMENTS

Authors are grateful for the insightful suggestions provided by Dr. Daniele Mollaioli, aimed to improve the manuscript.

DECLARATION OF INTEREST

The authors report no declarations of interest. The authors alone are responsible for the content and writing of the paper. No specific funding was obtained.

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