

CO-RELATION OF ENDOMETRIOSIS WITH PSYCHOSOCIAL WELL-BEING AND COMORBIDITIES—AN OVERLOOKED SITUATION

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Abstract

Endometriosis is a persistent disease fueled by estrogen that leads to chronic inflammation and affects roughly 15 to 20% of women experiencing infertility worldwide. In Pakistan, however, the condition is frequently overlooked because of social stigma, misconceptions about its symptoms, and widespread ignorance. This investigation aimed to explore the social and emotional burdens borne by women living with the disease, their understanding of it, and their adherence to management plans. We circulated a questionnaire to 20 women with verified diagnoses and compared their answers to those of 30 women without the disease. The results were revealing: only 30% of the patients had come across the term “endometriosis” before receiving their diagnosis. The emotional toll was striking: 65% reported feelings of stigma and psychological strain, 75% were navigating infertility, and 65% confronted some form of family or social prohibition. Notably, the unmarried women reported infertility at a higher rate (83.3%) compared to their married counterparts (62.5%). Although 80% of the patients expressed a preference for medical management, a quarter had not approached a healthcare provider at all. Emerging evidence indicates that exposure to endocrine-disrupting environmental chemicals—such as parabens and bisphenol A—together with certain genetic susceptibilities, may contribute to the disease’s onset. The hypothalamic-pituitary-adrenal axis is also impacted by the inflammatory response linked to chronic pain, which results in increased levels of cytokines like TNF- α , IL-6, and IL-8. This may account for the increased incidence of anxiety and depression in patients. In order to decrease diagnostic delays and enhance the quality of life for women with endometriosis, this study emphasizes the necessity of a multidisciplinary approach to diagnosis and management in addition to greater public awareness.

Introduction

Endometriosis is a benign estrogen dependent inflammatory condition that agitates 15-20 % of sterile women. Despite its prevalence worldwide it often renders undiagnosed in most women particularly in Pakistan where cultural stigma and societal taboo (1) plays an essential role and leads to poor prognosis of this disease. Normalizing heavy menstrual pain and limited exposure to healthcare facilities induces its misdiagnosis as gastrointestinal disorders and fatigability

despite its miscellaneous nature transcends beyond physical pain and hinders many aspects of person's psychosocial life.

From neurological perspective the researches show that chronic pain can alter the body stress response mechanism by affecting the hypothalamic pituitary adrenal axis which greatly regulates the cortisol inflammatory response influencing the release of certain markers (2) like interleukin-6 (IL-6) and interleukin-8 (IL-8) tumor necrosis factor alpha (TNF- α). A systemic review and analysis published in the journal of women's health conducted a study in 110 women, 45% showed great signs of anxiety and depression than the women not susceptible to this condition linked to this chemokine response of the body.

Endocrine disrupting chemicals account for 42% undiagnosed approach to this condition. Research study was conducted that rendered exposure to many local cosmetics mainly skin whitening creams widely used in Pakistan contained parabens and mercury which have bisphenol A, a widely recognized endocrine disruptor, also pesticides like endosulfan which was banned but used illegally in livestock rearing. A report analysis conducted in 860 poultry farms showed that the given feed to them, 48% of it had myco-estrogenic chemicals and in our many daily consumed foods mostly container packed items and plastic bottles have these notorious agents called xenoestrogens (3) like DEP (diethyl phthalates) that disrupt the estradiol mediated inflammatory response.

Global studies stipulate women with endometriosis on an average susceptible to delayed diagnosis (4) ranging from 4-11 years due to late marriage and ignorance in family planning leading to poor prognosis of this condition. Since endometriosis is traced during the assessment of impotency and infertility, women with delayed marriages and delayed conceptions are facing reproductive challenges viable to this condition. A substantial study conducted in Agha Khan Hospital Karachi detected, that women undergoing laparoscopy for infertility 20% of them had endometriosis. This condition is also diagnosed late due to invasive diagnostic approach to it.

Studies estimated the inheritability pattern of this condition which postulated that 45-50% cases with a pleiomorphic variant DGKB rs12666606 which is a common type of single nucleotide polymorphism (SNPs) (5) disrupts the allelic sequencing of normal sex chromosome gene expression contributing to longstanding infertility in these women. A new term was introduced by Dr. Marc Possover in Switzerland namely "Neuropelveology" (6) which proclaims the observance and understanding of pelvic nerve compression by the inflammatory response during this underlying condition furthering into pelvic inflammatory disease (PID) and inflammatory bowel disease (IBD) like symptoms and can also lead to other systemic organs dysfunction.

In general, many research suggests that endometriosis is a complex condition requiring multidisciplinary approach to its treatment. It was also revealed that women with this condition (n=78) felt isolated (n=35), shame and stigma (n=58) which can further exacerbate this issue and reduce quality of life (7). Struggling with infertility and facing decline in health can lead to grief, loss and emotional trauma. While endometriosis is also rendered as idiopathic sometimes, but its relation to the psychoneuroimmunity could not be ignored which suggests the interconnectedness of pro-inflammatory markers released in stress and anxiety with the comorbid conditions due to altered immune cell response of body. Based on the analysis, it can

be concluded that endometriosis is a very serious condition if not treated in the long run ultimately can lead to severe anxiety and depression.

Methodology

This cross sectional study aims to investigate the relationship between endometriosis and psychological health. We collected the data using the standardised tool Endometriosis Health Profile 30(EHP-30) which is used to re-unit the emotional health in the patients of this peculiarity. Data is recruit from self-report questionnaire in 30 normal individuals from women of reproductive ages ranging from 15-35 and from the gynaecological department of hospital in women of conceiving age. We analysed their psychosocial status by conducting this survey.

Table: 1 Demographics and awareness

Category	Endometriosis group (n=20)	Control group (n=30)
Married	8(40%)	N/A
Unmarried	12(60%)	N/A
Awareness before diagnosis	6(30%)	11(38%)
Painful menstruation	–	16(53%)
Medication for menstrual pain	–	13(43%)
Stress during menstrual cycle	–	14(46%)

Explanation

The findings particularly show limited awareness of endometriosis before diagnosis, with only 30% of patients informed. In contrast, control participants commonly reported stress, painful menstruation and use of medication, which indicates overlapping but less recognized menstrual health challenges.

Table: 2 Psychosocial Impact and Co-morbidities in Endometriosis Patients

Parameter	Married (n=8)	Unmarried (n=12)	Total (n=20)
Stigma and stress observed	5 (62.5%)	8(66.7%)	13 (65%)
Infertility experienced	5 (62.5%)	10(83.3%)	15 (75%)
Family/ societal taboo experienced	6 (75%)	7 (58%)	13 (65%)

Explanation

Endometriosis patients reported a high psychosocial impact, with 65% individuals facing stigma or societal taboos and 75% experiencing infertility. Targeting both married and unmarried groups, highlighting the condition's burden on mental health and social well-being.

Table: 3 Treatment and Compliance in Endometriosis Patients

Treatment approach	Number of patients (n=20)	Percentage (%)
Medical treatment	16	80%
Surgical treatment	2	10%
Not seeking treatment	5	25%

Explanation

Most endometriosis patients (80%) relied on medical treatment, while only 10% underwent surgery. Notably, 25% did not seek any treatment, reflecting the gaps in care and management compliance strategy.

Discussion

Out of 20 women diagnosed with endometriosis, 60% were unmarried and 40% were married. Only 30% reported prior awareness of the condition before diagnosis, compared to 38% in the control group. Psychosocial burden was significantly high among the patients; 65% reported stigma and emotional stress, while 75% experienced infertility-related challenges. Among these individuals, 83.3% of unmarried women and 62.5% of married women reported with infertility. Additionally, 65% experienced societal or familial taboo, with 75% of married participants and 58% of unmarried participants affected. In terms of treatment approach, 80% received medical management, 10% underwent surgical intervention, and 25% did not seek any treatment. The control group showed a notable incidence of painful menstruation (53%), medication usage for menstrual pain (43%), and stress during menstrual cycles (46%), indicating that such symptoms are prevalent even in undiagnosed populations. These findings highlight not only the diagnostic delay but also the emotional and reproductive burden faced by women suffering from endometriosis.

Conclusion

This investigation annotates that endometriosis extends far beyond a gynecological pathology, imposing substantial psychosocial and reproductive burdens on affected women. The pervasive diagnostic delays, paucity of awareness, and interlinked sociocultural stigmatization collectively exacerbate its morbidity and psychological sequelae. These findings underscore the necessity for heightened public health literacy, early diagnostic vigilance, and integration of psychosocial support. A multidisciplinary, evidence-based framework remains the requisite to mitigate the detrimental effects and improve the quality of life and long-term outcomes in this neglected unit.

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