

Endometriosis: Evaluation and management in a low-resource country

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ABSTRACT

Background: Endometriosis is a chronic debilitating gynaecologic condition that negatively affects the health, economic, social and psychological lives of women. Though a gynaecological condition, it can affect other systems in the body.

Objective: To describe the presentation, evaluation and treatment of endometriosis among gynaecological patients at a tertiary centre in Ilorin, Nigeria.

Methods: A retrospective descriptive study of all women managed for endometriosis over a three and half year period at a tertiary centre. A list of all individuals with the condition was compiled, the case files were retrieved and the relevant data extracted. The result was presented in tables.

Results: Endometriosis constituted 1.3% of gynaecological admissions and 0.6% of gynaecology clinic visit during the study period. It affected reproductive-age women with mean age 32.8 years and modal age 31-35 years (35.3%). The women were mostly nulliparas (13;76.5%) with normal menstrual cycle (13;76.6%) and duration of menstruation (16;94.1%). Eleven (64.7%) had multiple gynaecological complaints and additional extra-pelvic lesions respectively. Sixteen (94.1%) had coexisting co-morbidity, of these 9 (56.3%) was in the thoracic region. The common medical treatment offered was gonadotrophin-releasing-hormone analogues (8; 47.1%), 6(35.3%) had medical while 11(64.7%) has combined medical and surgical management; diagnosis was by histology in 11(64.7%).

Conclusion: Endometriosis remains a disease of reproductive-age women commonly associated with coexisting non-gynaecologic manifestations necessitating combined medical and surgical management.

INTRODUCTION

Endometriosis is a chronic debilitating disorder characterised by the presence of endometrial glands and stroma outside the uterus¹⁻⁴. It is often under-reported, under-diagnosed and under-treated although it affects reproductive age women of all ethnic and social groups globally³. It presents a challenge to

professionals regarding diagnosis, treatment and follow up².

The etiology and pathogenesis of endometriosis remain largely unclear⁴ but several explanations have been offered for the disorder. Implantation of viable endometrial cells and metaplasia of coelomic epithelium appear to be reasonable

explanations. However, neither theory can account for all aspects of the disease suggesting inadequacy of the theories and possibility of involvement of several mechanisms⁵. Also, the explanations are unable to explain occurrence and progression in affected women compared to others. In contrast, the endometriotic disease theory⁶ considers intermittent implantation to be a normal, physiological event until genetic insults interferes resulting in progression to disease state. An alternative explanation is that endometriosis is heterogeneous and not a single disease⁷. In addition, classification of endometriosis provides minimal correlation of disease classification with pain severity suggesting the need for a more validated classification. Endometriosis has been largely under-reported and under-diagnosed especially in low-resource countries. This may be due to poor health seeking culture, limitation in access to health facility, limited personnel and unavailable health facilities in such countries. This has resulted in paucity of information on endometriosis although it affects women in these countries. Women with endometriosis are prone to emotional difficulties and anger about disease recurrence and uncertainty about the future^{1,8}. Also, it impacts negatively on the sexual relationship, social life, education and employment⁹ with loss of up to 10.8 work hours per week in some women⁸.

This study is aimed at providing information on the evaluation and management of women with endometriosis in a low-resource country.

METHODOLOGY

Study design: Descriptive retrospective study

Study setting: Obstetrics and gynaecology department, University of Ilorin Teaching Hospital, Ilorin, Nigeria.

Study population: Participants were women who were evaluated and managed for endometriosis during the study period. The inclusion criteria were presentation at the hospital, evaluation, diagnosis and treatment for endometriosis. The exclusion criteria included women managed for other gynaecological disorders apart from endometriosis.

Study tool, variables, sample size, data collection and management: The study tool was a data collection

sheet designed for the study due to its retrospective design. The record of all gynaecological clinic attendees and admissions were reviewed and a list of clients managed for endometriosis was compiled. Generally, patients presented at the gynaecology clinic while those with complications presented at the gynaecology emergency room. The variables considered were clinical (history and physical examination), histological, supportive laboratory investigations, treatment modality and the outcome. Records were made of the biosocial characteristics, presenting complaints, findings at physical evaluation, investigations, treatment modalities including medical (analgesia, hormonal agents, chemical pleurodesis) and surgical (laparoscopy, laparotomy, thoracotomy, closed thoracotomy tube drainage). The study was a total population study such that all women with the diagnosis of endometriosis during the study period constituted the sample size.

Data analysis approach

The case files and other clinical data sources were retrieved and relevant information were extracted, the results were presented in tables of frequency and percentages.

Ethics

Institutional approval was obtained before the commencement of the result and the information obtained was used solely for the purpose of the study.

RESULTS

There were a total of 21 women with endometriosis during the study period representing 1.3% (21/1,655) of the total gynaecological admissions and 0.6% (21/3,616) of total new gynaecological clinic visits. However, only 17 out of the 21 case files were available and included in the analysis constituting an 81% retrieval rate. The age range of participants was 14 to 45 years (modal age group 31 to 35 years; mean age 32.8 years) while 10(58.8%) were less than or equal to 35 years. Fifteen (88.2%) were of low parity (76.5% were nullipara and 11.7% primipara), 11(64.7%) had tertiary education, menarche was within normal range in all participants, 2(11.7%) each had poly or oligomenorrhea while 1(5.9%) had prolonged duration of menstruation as shown in table 1.

Table 1: Biosocial and gynaecological characteristics of participants

Parameter	Frequency n = 17	%
Age		
Mean age= 32.8years		
14 to 20	1	5.9
21 to 25	1	5.9
26 to 30	3	17.6
31 to 35	6	35.3
36 to 40	4	23.5
41 to 45	2	11.8
Parity		
0	13	76.5
1	2	11.7
2	1	5.9
3	0	0
4	0	0
5	0	0
6	1	5.9
Level of education		
None	3	17.7
Primary	2	11.7
Secondary	1	5.9
Tertiary	11	64.7
Menarche (years)		
11	2	11.7
12	6	35.3
13	4	23.5
14	3	17.7
15	1	5.9
16	1	5.9
Menstrual cycle (days)		
<21	2	11.7
21-35	13	76.6
>35	2	11.7
Duration of menstruation (days)		
2-7	16	94.1
>7	1	5.9

From table 2, all participants had gynaecological complaint(s), the commonest was dysmenorrhea (14; 82.4) and 11(64.7%) had multiple complaints. Nine (52.9%) had non-gynaecological complaints; of these 5(55.6%) had single while 4(44.4%) had multiple non-gynaecological complaints. All participants had evidence suggestive of pelvic endometriotic sites while 11(64.7%) had additional extra-pelvic sites; the commonest extra-pelvic site was the chest (8,

72.7%). Sixteen (94.1%) had coexisting co-morbidity and pleural effusion (6; 37.4%) was the commonest. The commonest mode of diagnosis was histology in 11(64.7%) while diagnosis was based on strong

Table 2: Presentation, evaluation and diagnosis of endometriosis

Parameter	Frequency	%
Gynaecological complaints*	17	100.0
-Dyspareunia	1	5.9
-Low abdominal pain	6	35.3
-Infertility	8	47.1
-Dysmenorrhea	14	82.4
-Single complaint	6	35.3
-Multiple complaints	11	64.7
Non-gynaecological complaints*	9	52.9
- Umbilical mass	1	11.1
-Hematochezia	1	11.1
-Emphysema	1	11.1
- Melaena	1	11.1
-Cough	2	22.2
-Chest pain	4	44.4
-Dyspnea	7	77.8
-Single complaint	5	55.6
-Multiple complaints	4	44.4
Suspected sites of endometriosis from clinical evaluation		
Pelvis	17	100.0
Extra-pelvis	11	64.7
-GIT	1	9.1
-anterior abdominal wall	2	18.2
-chest	8	72.7
Co-existing co-morbidity (n=16)		
-Emphysema	1	6.3
-Pneumomediastinum	1	6.3
-Hemothorax	1	6.3
-Chronic pelvic pain	3	18.7
-Endometrioma	4	25.0
-Uterine fibroid	5	31.3
-Pleural effusion	6	37.4
Mode of diagnosis see methods		
Strong clinical suspicion	6	35.3
Histology	11	64.7

*Some participants had multiple complaints
GIT: Gastrointestinal tract

clinical suspicion in 6(35.3%).

Table 3 shows that 6(35.3%) had medical management

alone while 11(64.7%) had combination of medical and surgical management. The commonest medical management was gonadotropin releasing hormone analogue in 8(47.1%) while 7(41.2%) had laparotomy. Findings at laparotomy included severe pelvic adhesion in 4(57.1%) while 4(57.1%) had

Table 3: Modes of management, treatment modalities and surgical findings at laparotomy

Parameter	Frequency	%
Mode of management		
Out-patient	4	23.5
In-patient	13	76.5
Treatment modality*		
VAT	1	5.9
Pleurectomy	1	5.9
Progestogen	2	11.8
Thoracotomy	2	11.8
Analgesia	3	17.7
Chemical Pleurodesis	6	35.3
CTTD	7	41.2
Laparotomy	7	41.2
GnRH analogue	8	47.1
Findings at laparotomy (n=7)		
Pelvic adhesion		
-Mild	1	14.3
-Moderate	2	28.6
-Severe	4	57.1
Sites of endometriotic deposits*		
-Pouch of Douglas	1	14.3
-Omentum	1	14.3
-Bowel	2	28.6
-Pelvic side wall	2	28.6
-Ovaries	4	57.1
-Uterus	4	57.1

*Some participants had multiple parameters

VAT: Video Assisted Thoracotomy

CTTD: Closed Thoracotomy Tube Drainage

endometriotic deposits on the uterus and ovaries respectively.

DISCUSSIONS

This study shows that endometriosis represented 1.3% of the gynaecological admissions and 0.6% of gynaecological clinic visits. The mean age was 32.8 years, participants were mostly of reproductive age with low parity and tertiary education; menarche, menstrual cycle and duration of menstruation were unaffected by endometriosis in the participants.

The symptoms were mostly multiple in affected individuals, co-existing morbidity was common, all participants had evidence suggestive of pelvic endometriotic deposits while the commonest extra-pelvic site was the chest. Strong clinical suspicion was the basis for diagnosis in most affected individuals and majority had combined medical and surgical management.

The precise prevalence of endometriosis has been difficult to assess due to variations in presentation, available facilities for diagnosis, treatment as well as follow up. Also, the various settings for the assessment influence the prevalence. Population based prevalence ranged from 1.5%¹⁰ to 10%¹ while facility-based report suggested 6-15%¹⁰. The prevalence from this study is lower than other hospital-based studies possibly due to limited availability of facilities and their affordability by the clients.

Endometriosis is majorly a disease of reproductive-age women¹⁰, previously reported age ranges were 17 to 53 years⁹, 22 to 48 years¹¹ and 25 to 60 years¹² as well as a mean age of 37.7 years¹² similar to the result of index study. The preponderance in the reproductive age is related to the endocrinology of the disease as an estrogen-dependent disorder¹³. The association between and low parity in this study corroborated the relationship with infertility which was present in almost half of the participants. Endometriosis has been identified as a leading cause of infertility¹³ with 30-50% infertility rate among affected women in another study⁴.

The association of endometriosis with tertiary education in this study may be because higher education improves health awareness, health-seeking behaviours and ability to afford the cost of care. The management of endometriosis is cost-intensive¹⁴, this is more relevant in low-resource countries where individuals bear the cost of health care due to limited coverage of health insurance schemes. This study did not suggest effect of endometriosis on menarche, menstrual cycle or duration of menstruation. While this has not been addressed in previous reports, it will be worthwhile for future researchers to evaluate for a possible relationship.

Despite endometriosis being a chronic debilitating disorder, 20-25% of affected individuals are

asymptomatic and the symptoms are variable when present¹⁰. The complaints are typically pain and infertility⁴; the pain is chronic and may occur during menstruation, sexual intercourse or defecation in addition to lower abdominal or back pain². The report is similar to this study where pain (dysmenorrhea [82.4%], lower abdominal pain [35.3%]) and infertility (47.1%) were the two commonest symptoms. A study reported the common pain in endometriosis as dysmenorrhea (60-80%), chronic pelvic pain (50-60%) and deep dyspareunia (40-50%)⁴.

Although extra-pelvic sites of endometriosis are recognised, the report on the location varies across study reports. A study reported sites on surgical scars (11.43%), vagina (3.84%) and appendix (3.84%)¹¹. Others include gastrointestinal and urinary tracts, upper and lower respiratory system, diaphragm, pleura and pericardium¹⁵, inguinal canal, extremities and central nervous system¹⁶. Endometriosis of episiotomy site is uncommon and presents as cyclical pain at the site of episiotomy or perineal tear¹⁷.

Laparoscopy is the reliable diagnostic test for intra-abdominal endometriosis¹⁰ while histology is confirmatory. However, strong clinical suspicion remains an important tool especially where clients are unable to afford the cost of laparoscopy as obtains in low-resource countries. This is demonstrated in this study with only 64.7% participants having histology and 35.3% of diagnosis based on strong clinical suspicion. Histological samples were obtained from laparotomy, pleurectomy and thoracoscopy. None of the participants in the study had laparoscopy due to financial constraint while others opted for laparotomy to allow treatment for other concurrent conditions like uterine fibroid and endometrioma. Increased availability and affordability of laparoscopy where available will be an additional step towards the management of endometriosis.

In the management of endometriosis, there is no cure nor guarantee against recurrence¹⁴. Thus, most current treatments are not curative but focuses on managing the clinical symptoms⁴. The therapeutic option depend on the extent of the disease, the patient's needs as well as desire to maintain the reproductive capacity. The options include observation, surgical, medical or combined therapy¹⁵. Generally, the aim

of therapy is targeted towards relief of symptoms, resolution of existing endometrial implants and prevention of new foci of ectopic endometrial deposits⁴. The removal or suppression of endometrial deposits could be achieved by medical or surgical options to alleviate the pain¹³ although most women require combined treatment³.

Medical treatment is good for pain relief¹ but it is not recommended for those trying to conceive as it does not improve pregnancy rate and it delays fertility¹⁰. Available options include analgesia, hormonal agents in form of combined estrogen and progestogen, progestogens like medroxy progesterone acetate (MPA), hormone impregnated intrauterine devices, androgens and gonadotrophin releasing hormone analogues (GnRHa). Reports indicate that combined oral estrogen/progestogen pills (COCP), oral and depo MPA and Mirena are as effective as GnRHa and can be used on long term¹⁰. Oral progestogens are well-tolerated with few side effects, they can be used repeatedly or continuously on long term basis and are preferred for pain relief when fertility is not desired¹. Depo-MPA is safe and cost effective; however, it is not recommended for women desiring fertility. The use of COCP stems from the observation of reduced pain during pregnancy among women with endometriosis and it can be used indefinitely¹.

GnRHa causes constant stimulation of pituitary receptors resulting in down-regulation of follicle stimulating hormone (FSH) and luteinizing hormone (LH) secretion causing profound hypo-estrogenic state; however its use is limited to six months due to the side effects¹.

Majority of women in this study received combined medical and surgical management with appreciable improvement in symptoms. In addition, specific co-morbidity especially those resulting from respiratory system deposits were managed with specific surgical interventions.

Irrespective of treatment, recurrence remains a major problem in the management of endometriosis. A study reported that most pain symptoms recur 6 to 12 months once the medication is stopped³ while another noted a 20-50% recurrence of symptoms within five years after surgical or medical treatment¹⁰. However, recurrence was not evaluated for in this study.

Conclusions: women with endometriosis in this

study had appreciable co-morbidity from ectopic sites which constituted an additional burden to the care. We recommend improved research activities about this disorder in low-resource countries to better describe its pattern of presentation and treatment limitations in order to formulate an appropriate management protocol for care in these settings.

Limitations

The study is limited by the small sample size while the diagnosis was based on strong clinical suspicion in many cases due to inability of the patients to complete the spectrum of the evaluation and treatment. Also, there is currently no protocol for the management of endometriosis at the study centre.

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