



VARIED PRESENTATION OF PID: A CROSS SECTIONAL OBSERVATIONAL STUDY

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ABSTRACT **Background:** Pelvic inflammatory disease (PID) is a clinical condition where in the uterus, oviducts and the adjacent structures are infected due to the ascending infection from the lower genital tract. The aim of our study is to report the varied clinical symptoms that point towards PID and investigate the major risk determinants for the Dakshin Kannada population, in a cross-sectional study. **Method:** Two hundred adult women with symptoms suggestive of pelvic inflammatory disease that came in the Outpatient Department of Gynaecological Department of the KVG Hospital were interviewed and their medical history and symptoms, including contraceptive use were noted down and analysed. Results and correlations were then statistically tested. **Results:** most of the women in our study were aged between 31-35years, majority of them married (87%). They exhibited seven common symptoms of PID namely pain abdomen(75%), vaginal discharge (48.5%) and others like heavy menstrual bleeding, dysmenorrhoea, dyspareunia, burning micturition and menorrhagia. Our study population was well aware of contraceptive usage and only few (9.5%) did not use any method of contraception. **Conclusion:** Our study gives an idea on the common presenting complaints in women with pelvic inflammatory disease. The most common presentation being pain abdomen (75%) followed by vaginal discharge(48.5%) among other symptoms. The study also shows that most of the women were aware of contraceptive usage and practices. The most commonly affected women were middle aged (31-35 years) and married.

KEYWORDS :

Introduction

Pelvic inflammatory disease (PID) is a clinical condition where in the uterus, oviducts and the adjacent structures are infected due to the ascending infection from the lower genital tract¹. It is recognized that there is wide variation in many symptoms among women with this condition, which makes the diagnosis of PID difficult. Pelvic infection is one of the most common, serious infections in non-pregnant women or reproductive age^{2,3}. It presents a range of clinical manifestations from totally asymptomatic to endometritis, parametritis, tubo-ovarian abscess, salpingitis, oophoritis, pelvic peritonitis, perihepatitis (Fitz-Hugh-Curtis syndrome). PID is the cause of about 30% of infertility cases and 50% of ectopic pregnancies, therefore it presents a significant public health and economic burden, for women in the reproductive age³. Severe disease is defined as severe systemic symptoms or the presence of tubo-ovarian abscess⁴. It is caused by persistent pathogenic infections that permits the microorganisms to ascend from the initial infection point (the vagina and the endocervix) to the endometrium or beyond⁵. Due to financial and technical difficulties, PID prevention programs based on pathogen screening are not available or reliable in many countries, thus the actual burden of PID may be even greater than anticipated⁵. A self-reporting USA survey, in 2013–2014, estimated the PID incidence to 4.4%⁶, a slight decline from previous reports⁷. A study done in Maharashtra in 2018 showed the most common age group affected by PID was of 20–24 years belonging to lower socio economic class and majority of whom were illiterate⁸. While the incidence of PID is correlated strongly with the prevalence of sexually transmitted diseases, a fraction of the infections might be of endogenous origin. The use of intrauterine contraceptive devices and abortions procedures, contribute to the higher occurrence risk. A study in India linked the low socioeconomic status, illiteracy, the use of intrauterine device, the number of sexual partners and the young age of marriage with the increased occurrence of PID³. PID is reported to occur in 1% of the 15–25 year age group of young adults around the world and affects around 24%–32% of women in India. In developed countries, the annual incidence is estimated to be 10–13 per 1000 women, with 20 per 1000 women being in the age group of 20–24 years⁴.

Causes of PID:

Neisseria gonorrhoea and *Chlamydia trachomatis* (*C. trachomatis*) have been identified as common causative agents

C. trachomatis is the most commonly identified cause accounting for 14%–35% of cases, while *Gardnerella vaginalis*, anaerobes and other organisms commonly found in the vagina may also be implicated. *Mycoplasma genitalium* has been associated with upper genital tract

infections in women and is a very likely cause of PID. Genital tuberculosis is one of the causes of PID in India. The insertion of an intrauterine device (IUD) increases the risk of developing PID but only for 4–6 weeks after insertion. This risk is probably highest in women with pre-existing gonorrhoea or *C. trachomatis*. The risk factor include Instrumentation of the uterus / interruption of the cervical barrier as in medical termination of pregnancy or insertion of IUD within the past 4 months, hysterosalpingography, In vitro fertilization, intrauterine insemination (IUI), hysteroscopy. Other risk factors of the general population include a young female of age less than 25 years, menstruating women, multiple sexual partners, recent new partners, past history of sexually transmitted infections (STIs) in the patient or their partner, tampons used and forgotten, poor menstrual hygiene, bacterial vaginosis.

Pelvic inflammatory disease is one of the common diseases seen in the gynaecological clinics throughout the world. Several million women worldwide have symptomatic PID each year and similar number probably have asymptomatic PID⁹. The problem of morbidity and mortality in women due to reproductive tract infections is largely ignored because women themselves are reluctant to discuss the gynecological problems with others. Social stigma attached to an illness is sometimes greater for a woman than a man and therefore a woman is more likely to hide her illness. Some of the reasons for refusing to attend the clinic are socioeconomic factors and fear of internal check-up¹⁰.

Aims and objectives:

Identify the various presenting symptoms of PID. The use of contraception in women diagnosed with PID

Materials and methods

This is a cross-sectional observational study conducted between August 2021 and March 2022. This study focuses on the PID symptoms' range and risk factors, in the women of Dakshin Kannada presenting to KVG Medical College and Hospital. The data were collected using a questionnaire filled by researcher, during a short interview in the OPD. The questionnaire contained an informed consent form and medical history questions.

Population Sample

Two hundred non-pregnant women presenting with symptoms of PID were included in the present study.

Inclusion Criteria:

Women were to provide an informed written consent to participate in

the study. They had to be 18 years old or above, confirmed non-pregnant women, women with no known history of previous genital infections, none of the participants having a prior PID diagnosis.

Exclusion Criteria:

Healthy participants with no other health comorbidities. Any pregnant women were excluded from the study. Exclusion criteria were patients that refused to participate, women below 18years of age, pregnant women. Moreover, patients that had a recent (within 6 months) history of abortion or childbirth, were excluded.

Results

In the present study majority of the study population consisted of women aged between 31-35years (table 1), and 87% of them married (figure 2). The women in our study exhibited seven of the most common symptoms associated with Pelvic Inflammatory Disease, namely: vaginal discharge, pain abdomen during menstruation, painful intercourse, pain abdomen, heavy menstrual bleeding, burning micturition and menorrhagia. Table 2 shows the prevalence of each of these symptoms and conditions. Vaginal discharge and pain abdomen were the most common symptoms affecting more than 45% of women, while heavy menstrual bleeding was a close third; a symptom closely related to PID, affected more than 40%.

The most common symptom in three fourth of the study population was pain abdomen. 48.5% of the study population presented with PV discharge followed by 45% who presented with heavy menstrual bleeding. In the OPD setting most of these women presented with the chief complaint of pain abdomen.

To comment upon the contraception usage in the study population, thorough history of the type of contraception or lack thereof was noted. 46% of the study population used barrier method followed by 33.5% who used OCP. 9.5% of them did not use any contraceptive method and depended only on early withdrawal to avoid pregnancy.

87.5% of the study population were married and 12.5% were unmarried. This led us to know that usage of contraception was not necessarily a protective or a preventive factor for Pelvic Inflammatory Disease in our study population, although it demonstrates at the same time the awareness and availability of contraceptive methods in this community where more than 90% of these women were using some form of contraception.

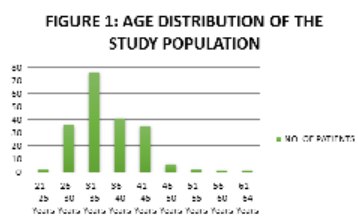


TABLE 1: AGE DISTRIBUTION OF THE STUDY POPULATION

| SNO. | AGE DISTRIBUTION | NO. OF PATIENTS | PERCENTAGE |
|------|------------------|-----------------|------------|
| 1 | 21 – 25 Years | 2 | 1 % |
| 2 | 26 – 30 Years | 36 | 18 % |
| 3 | 31 – 35 Years | 76 | 38 % |
| 4 | 36 – 40 Years | 41 | 20.5 % |
| 5 | 41 – 45 Years | 35 | 17.5 % |
| 6 | 46 – 50 Years | 6 | 3 % |
| 7 | 51 – 55 Years | 2 | 1 % |
| 8 | 56 – 60 Years | 1 | 0.5 % |
| 9 | 61 – 64 Years | 1 | 0.5 % |

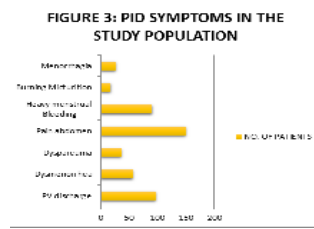
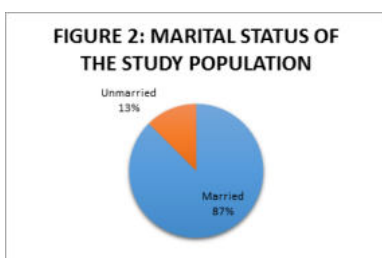


TABLE 2: PID SYMPTOMS IN THE STUDY POPULATION

| SNO. | PID SYMPTOMS | NO. OF PATIENTS | PERCENTAGE |
|------|--------------------------|-----------------|------------|
| 1 | PV discharge | 97 | 48.5 % |
| 2 | Dysmenorrhea | 57 | 28.5 % |
| 3 | Dyspareunia | 36 | 18 % |
| 4 | Pain abdomen | 150 | 75 % |
| 5 | Heavy menstrual Bleeding | 90 | 45 % |
| 6 | Burning Micturition | 17 | 8.5 % |
| 7 | Menorrhagia | 26 | 13 % |

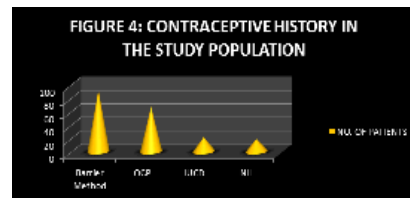


TABLE 3: CONTRACEPTIVE HISTORY IN THE STUDY POPULATION

| SNO. | CONTRACEPTIVE USAGE | NO. OF PATIENTS | PERCENTAGE |
|------|---------------------|-----------------|------------|
| 1 | Barrier Method | 92 | 46 % |
| 2 | OCP | 67 | 33.5 % |
| 3 | IUCD | 22 | 11 % |
| 4 | NIL | 19 | 9.5 % |

Discussion

PID is a very common ailment of married women in India. In the present study too we find maximum of the patients to be married women (figure 2). The disease commonly affects married women of different age groups. In this study maximum number of patients was observed in age group of 31-35years. These data are in agreement with the findings reported by L Westrom¹¹.

Contraceptives play an important role in predisposing women to acquisition of PID. Non-use of contraception is a risk factor for PID, whereas barrier methods can decrease the risk of STD acquisition and subsequent development of PID¹². Barrier method was the most common method of contraception used by most of the couples in present study. This was followed by IUCD users. Association of IUCD to PID was also found by other authors¹³. In the present study, abdominal pain was the chief complaint (75.00%), followed by abnormal discharge PV (48.50%) which is in accordance with findings of a study done by Shinde et al¹⁸.

Female sterilization, contamination and unhygienic practices of tubal ligations in the rural areas have also been known to cause PID, although in the present study we could not find any such association¹⁴. The study sample in our study were well aware of contraceptive usage and 90.5% of the women in our study used some form of contraception, which is a higher rate than in patients in a study by Vanamala et al⁴.

Conclusion

In the present setting, smart patient management is becoming the rule in health care. One way to be methodical in health care delivery is to understand and address the most important health issues. PID is obviously an underdiagnosed and under reported disease that silently plagues women, worldwide. It is noted that women of this community have more often than not come to accept the discomforts arising from PID as a part of their lives which also contributes to its under reporting and gives us a window into the barriers created by local cultural beliefs and the stigma attached to visiting the hospital for a complain as mentioned above. It is interesting to note that women came to accept the disease discomfort as part of their life, not actually seeking

treatment. Our data also suggest that the women experienced mild chronic symptoms, suggesting that chronic or subclinical PID is more prevalent, while acute PID is rare, which is consistent with the literature. However, the distribution of symptoms in relation to age and parity is different, because the literature states that younger women have higher PID prevalence, while in our study the symptoms are equally distributed among ages, with no significant statistical difference. Our study gives an idea on the common presenting complaints in women with pelvic inflammatory disease. The most common presentation being pain abdomen (75%) followed by vaginal discharge(48.5%) among other symptoms. The study also shows that most of the women were aware of contraceptive usage and practices. The most commonly affected women were middle aged (31-35 years) and married. The main limitations of our study are the limited number of participants and the single location which gives us only a glimpse of the entire Indian picture. Therefore, we need to expand our resources to research more centres across the nation and poll more women with different socio economic backgrounds.

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