

# Pelvic Inflammatory Disease: How frequent it is Among the Women Presenting with Low Back Pain.

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## ABSTRACT

**Background:** Low back pain (LBP) is an emerging public health problem and treating this condition is also challenging due to its vast differential diagnosis. Pelvic inflammatory disease (PID) is one of the most frequently encountered condition among the females with some serious consequences if not treated. Aim & Objective: The present study is conducted to detect the incidence of PID among the females presenting with LBP. **Methods:** A prospective epidemiological study conducted from April 2017 to March 2018 at Burdwan Medical College & Hospital. All female patients attending Orthopaedic OPD with chief complaints of LBP were initially evaluated, out of them 300 patients without underlying skeletal/ neurological pathology were further evaluated at Gynaecology OPD to detect PID. **Results:** In this study out of 300 females presenting with low back pain 234 (78%) patients had PID. Among the patients presenting with low back pain- majority (35.0%) were in the age group of 40-50 years; 62.0% belonged to low socioeconomic status; 54.33% were illiterate; 25.33% of them were obese & 43.0% pre-obese; 34.67% had used oral contraceptives & 55.67% used intrauterine device; 51.33% patients had inflammatory PAP smear report. Majority of the patients who had vaginal discharge along with low back pain belonged to the age group of 40-50. **Conclusion:** PID is a significant risk factor for LBP, specially among the women of reproductive age group.

**Keywords:** Low back pain (LBP), PAP smear, Pelvic inflammatory disease (PID), Vaginal discharge.

## INTRODUCTION

Low back pain is an emerging public health problem all over the world. Low back pain is experienced in 60-80% of adults at some point in their lifetime. Anderson estimated annual worldwide incidence of low back pain in adults to be 15% and point prevalence to be 30%.<sup>[1]</sup> In India prevalence of low back pain has been found to range from 6.2% to 92%, with increase of prevalence with age and showing female preponderance.<sup>[2]</sup> In India nearly 60% people suffer from significant back pain at some point of their lifetime.<sup>[3]</sup>

Pelvic inflammatory disease (PID) is a spectrum of infection and inflammation of the upper genital tract organs (uterus-endometrium, fallopian tubes, ovaries, pelvic peritoneum and surrounding structure-parametrium). PID has a high morbidity: 20% of the affected women become infertile, 40% develop chronic pelvic pain, 1% of those who conceive have an ectopic pregnancy.<sup>[4]</sup>

Hospital admission rates due to PID ranges from 3% to 10% in India.<sup>[4]</sup> Hence PID is a common public health problem with serious impact on women's health and wellbeing.

## MATERIALS AND METHODS

A prospective epidemiological study was conducted from April 2017 to March 2018 at Burdwan Medical College & Hospital. All female patients attending Orthopaedic OPD with chief complaints of low back pain were initially evaluated to elicit the underlying cause of low back pain. After taking informed consent patients were thoroughly interviewed and clinically examined in presence of female attendant. Then relevant blood reports and radiological investigations were done.

Exclusion criteria:

Patients with evidence of subacute/chronic osteomyelitis, including tubercular lesions; inflammatory arthropathy; Disc prolapse; Traumatic causes of Low back pain; Neuropathies & Spinal pathologies causing Low back pain.

After checking with the exclusion criteria 300 patients, who did not found to have underlying skeletal and/or neurological pathology were referred to Gynaecology OPD for further

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evaluation. At Gynaecology OPD patients interviewed and clinically examined and necessary investigations (cervical PAP smear,Ultrasound of lower abdomen and pelvis) were done.

Study results were evaluated to determine the incidence of PID among the patients presenting with the complaint of Low back pain.

Statistical Analysis: All parameters were expressed in percentage.

RESULTS

Table 1: Age distribution of the patients presented with Low back Pain

Age in years	No of patients	Percentage
20 - 30	68	22.67
30 - 40	91	30.33
40 - 50	105	35.0
>50	36	12.0

Maximum number of female patients presenting with low back pain belonged to the age group of 40-50 years, comprising of 35.0% of the total study population.

Table 2: Socio-demographic characteristics of the patients presenting with Low back pain

Demographic parameters	Number of patients	Percentage
<b>Socio-economic status</b>		
High	22	7.33
Middle	92	30.67
Low	186	62.0
<b>Educational status</b>		
Illiterate	163	54.33
Literate	137	45.67
<b>Work satisfaction status</b>		
Satisfied with work	243	81.0
Unsatisfied with work	57	19.0

Majority of the patients 62.0% belonged to low socio-economic status. Most of them were illiterate comprising 54.33% of the total study population. Though maximum number of patients 243 (81.0%) were satisfied by their work they were doing, may be its household work or any kind of employment. Out of the 57 patients who were not satisfied at their work only 8 had to change the job.

Table 3: Relationship of Obesity with Low back pain

BMI(Body Mass Index)	No of patients	Percentage
Obese (BMI ≥ 30)	76	25.33
Pre-obese (BMI 25-29.9)	129	43.0
Non-obese (BMI ≤ 25)	95	31.67

In the present study 129 patients (43.0%) were pre-obese and 76 patients (25.33%) were obese.

Table 4: Relationship of Smoking with Low back pain

Smoking status	No of patients	Percentage
Smoker	29	9.67
Non-smoker	271	90.33

Maximum patients (90.33%) were non-smokers in the present study.

Table 5: Association of PID with OCP and IUD use

Contraceptive method	No of patients	Percentage
<b>Oral Contraceptive Pills</b>		
Used OCP	104	34.67
Not used OCP	196	65.33
<b>Intra-uterine device</b>		
Used IUD	167	55.67
Not used IUD	133	44.33

In the present study 104 patients (34.67%) gave history of using oral contraceptive pills. Whereas 167 patients (55.67%) gave history of using intra-uterine device as a contraceptive measure.

Table 6: Duration of vaginal discharge associated with different age groups

Age group (years)	Duration of discharge			Total no of Patients with Vaginal discharge
	< 6 months	6- 12 months	>12 months	
20 - 30	38	21	2	61
30 - 40	25	42	3	70
40 - 50	29	53	5	87
>50	3	9	4	16

Table 7: Pap smear report of the patients with PID

Pap smear report	No of patients	Percentage
Inflammatory cells	154	51.33
Non inflammatory cells	146	48.67

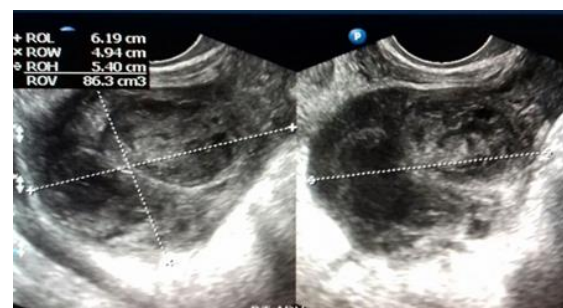


Figure 1: Ultrasound image showing right sided Tubo-ovarian mass, in a 42 year old patient presenting with chronic pelvic pain, vaginal discharge and low back pain.



Figure 2: Ultrasound image showing Left sided Hydrosalpinges, in a 38 years old patient presenting with features of PID along with low back pain

Maximum number of patients (87) presented with complaint of backache along with vaginal discharge belonged to the age group of 40-50 years. Out of 234 patients diagnosed to have PID, Pap smear report showed presence of inflammatory cells in 154 patients (51.33%). No Pap smear report showed any features of dysplasia or malignancy.

### DISCUSSION

- In the present study incidence of low back pain shows an increase with age and maximum incidence was noted in the age group of 40-50 years, comprising 35.0% of the total study population. Leino P et al study and Bindra et al study similarly revealed that the incidence of low back pain increases with age and it was more prevalent among females.<sup>[2,5]</sup>
- 62.0% of the study population belonged to low socioeconomic status and 54.33% were illiterate. Croft et al study,<sup>[6]</sup> showed that women in the lowest income category and with no formal educational qualification are more likely to report low back pain. Mathew et al study and Sindhu et al study also reported increased incidence of low back pain among the people of low socioeconomic status.<sup>[7,8]</sup>
- Out of 300 patients only 19% reported that they were not satisfied with their job, whereas majority (81.0%) were satisfied with their work. Hoogendoorn et al study revealed that low social support in the workplace and low job satisfaction are risk factors for low back pain.<sup>[9]</sup> Hartrigsen et al study found moderate evidence for no association between low back pain and perception of work,<sup>[10]</sup> organisational aspect of work and social support at work.
- In this study 25.33% patients were found to be obese and 43.0% were pre-obese. Similary Shiri R et al study reported that obesity and overweight have a strong association with seeking care for low back pain and chronic low back pain.<sup>[11]</sup> Lake JK in their study described obesity as a contributing factor to low back pain.<sup>[12]</sup>
- Only 9.67% of our study population were smokers. But Alkherayf F,<sup>[13]</sup> in their study showed that the prevalence of chronic low back pain was 23.3% in daily smokers and 15.7% among non-smokers. Ernest E et al study,<sup>[14]</sup> also reported that smoking contributes as a risk factor to backache.
- Among the patients presented with low back pain 34.67% gave history of using oral contraceptive pills for prolonged period. But U. Wreje,<sup>[15]</sup> in their study stated that OCP users recorded a significantly higher incidence of low back pain. Similarly Martin V et al in their study showed that certain back disorders occur more frequently in OCP users.<sup>[16]</sup>
- Out of total 300 of study population 55.67% gave history of intrauterine device use. Timothy M M Farley and Richard Steen in their study stated that

PID among IUD users is most strongly related to insertion process and to the background risk of sexually transmissible disease.<sup>[17,18]</sup>

- Majority of the patients who had vaginal discharge along with low back pain belonged to the age group of 40-50 years, which was similar to the results of Sachdeva PK et al study.<sup>[19]</sup>
- Number of patients with the inflammatory cells in their Pap smear report was 154 (51.33%) in the present study. Verma et al study [20] have found 10.7% of SIL (squamous intraepithelial lesions) in the women complaining of vaginal discharge and pain in the lower abdomen. Mishra et al study showed alarmingly high incidence of 28.6% of SIL, though majority of them were of low grade among the women diagnosed with PID.<sup>[21]</sup>

### CONCLUSION

Low back pain is one of the most common cause of disability in patients younger than 45 years. It is difficult to treat persistent, non-specific low back pain. Pelvic inflammatory disease is one of the most common serious infection of women of reproductive age group with some serious sequale if left untreated.

The present study showed that pelvic inflammatory disease is a major risk factor for low back pain. Hence female patients presenting with low back pain along with vaginal discharge should be examined clinically and also be investigated to detect underlying gynaecological pathology. These patients diagnosed with PID should also be adequately treated for PID along with other conventional treatment for back pain.

### REFERENCES

1. Anderson GB. Epidemiological features of Chronic Low-back Pain. *Lancet*. 1999;354:581-585.
2. Bindra S, Sinha A.G.K. and Benjamin A.I.E. Epidemiology of Low back pain in Indian Population:A Review. *Int J Basic App Medical Sci*. 2015; 5(1):166-179.
3. Suryapani R. Backache borne of modern life style. *The Tribune*. 1996:16.
4. Jonathan DC Ross. P. Pelvic Inflammatory Disease. *BMJ Clin Evid*. 2008;2008:1606.
5. Lino PI, Berg MA, Puushka P. Is back pain increasing? Results from National surveys in Finland during 1978/9-1992. *Scandanavian J Rheumatol*. 1994;23(5):269-276.
6. Croft PR, Rigby AS. Socioeconomic influences on back problems in the community in Brittain. *J Epidemiol Community Health*. 1994;48:2-12.
7. Mathew AC, Safar RS, Anithadin TS, Banu MS, Ravi Shankar SL, Rai BD, Chacko TV. The prevalence and correlates of low baack pain in adults:A cross sectional study from Southern India. *Int J Med Public Health*. 2013;3:342-346.
8. Sindhu A, Sidhu G, Jindal RC, Banga A and Nishat S. Sociodemographic profile of LBP- Saharanpur spine. *Pb J Orthopaed*. 2012;8(1):45-9.
9. Hoogendoorn WE, van Poppel MN, Bongers PM, Koes BW, Bouter LM. Systematic review of psychosocial factors at work and private life as risk factors for back pain. *Spine*. 2000;25(16):2114-25.

10. Hartrigsen, Lings S, Leboeuf-ydl CL Bakkesteig. Psychosocial factors at work in relation to low back pain and consequences of low back pain; A systematic,critical review of prospective cohort studies. *BMJ: Occupational Environmental Medicine*.Vol 61,Issue 1.
11. R Shiri, J Karppinen, P Leino- Arijas, S Solovieva, E Viikari-Junura. The Association Between Obesity and Low back pain: A Meta-Analysis. *American Journal of Epidemiology*.Jan 2010;vol171(2):135-154.
12. Lake JK, Power C, Cole TJ. Back pain and obesity in the 1958 British birth cohort cause or effect. *J Clin Epidemiol*. 2000;53(3):245-50.
13. Alkherayf F, Agbi C. Cigarette smoking and Chronic Low back pain in the adult population. *Clin Investigative Medicine*. 2001;32(5):E 360-7.
14. Ernest E. Smoking a cause of back trouble? *Oxford Journals Medicine Health Rheumatol*. 1992;32(3):239-42.
15. U. Wreje, D Isacson, H Aberg. Oral contraceptives and back pain in women in a Swedish community. *Int J Epidemiol*.1997;26(1):71-74.
16. Martin V, Rosemary P, Mant J. Oral contraception and other factors in relation to back disorders in women: Findings in a large cohort study. *Contraception*. 1999;60(6):331-5.
17. Timothy MM, Farley JH, Rowe PJ, Meirik O, Rosenberg MJ, Jian-Huachen. Intrauterine devices:an international perspective. *The Lancet*. 1992;339(8796):785-788.
18. Steen R, Shapiro K. Intrauterine Contraceptive Devices and Risk of Pelvic Inflammatory Disease. *Reproductive Health Matters*. 2004;12:23,136-143.
19. Sachdeva PK, Dahiya A, Singh R. Incidence of Pelvic inflammatory disease in backache in females. *Int J Reprod Contracept Obstet Gynecol*. 2016;5:3322-5.
20. Verma I, Jain V, Kaur T. Application of Bethesda System for cervical cytology in unhealthy cervix. *J Clin Diagn Res*. 2014;8:OC26-30.
21. Misra JS, Srivastava AN, Sharique A, Srivastava KR. Cervical Cytology Associated with Pelvic Inflammatory Diseases. *J Cytol Histol*. 2015;6:343.

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