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# Prevalence of Low Back Pain and its Associated Factors in Reproductive Age Group Female Patients Attending Gynaecology OPD

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## ABSTRACT

***Background:*** *Low back pain related disability and work absence accounts for high economical costs in modern society. A prevalence of 28-80% has been found with increase of prevalence with age and female preponderance.*
***Methods****: The present study was conducted on 125 non pregnant women complaining of low back pain attending OPD Department of Obstetrics and Gynaecology, Era's Lucknow Medical College and Hospital during the period of 6 months. A brief questionnaire was used to screen, among the respondents, the occurrence of low back pain in the past year.*
***Results****: Low back pain was associated with high BMI, high waist circumference, more number of children, irregular and prolonged duration of menstruation, young maternal age at first birth and with history of abortion.*
***Conclusions****: Hormonal and reproductive factors are associated with low back pain. Keywords: Hormonal factors, Reproductive factors, Reproductive female*

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## INTRODUCTION

Low back pain is characterized as torment and inconvenience, restricted underneath the costal edge or more the second-rate gluteal folds, with or without alluded leg torment. Interminable low back pain is characterized as low back torment holding on for no less than 12 weeks, unless indicated generally. A simplified and practical classification, which has gained international acceptance, is to divide low back pain into three categories-the so called "diagnostic triage":[1] 1. Specific spinal pathology 2. Nerve root pain pain/radicular pain 3. Non-specific low back pain Low back pain is common disorder, affecting around one-third of UK adult population each year. About 20% of people of low back pain (that is 1 in 15 of population) will consult their GP about it. The presence of low back pain during pregnancy is widely reported.[2-5] One systematic review identified 56 population prevalence studies of low back pain (Walker 2000). Thirty studies were of acceptable quality. Point prevalence of low back pain ranged from 12-33%. The two reviews on low back pain in school children and adolescents reported a prevalence approaching that reported for adults.[6,7] Low back pain fluctuates over time with frequent recurrences and exacerbations. The first review reported that, after a first episode of low back pain, the proportion of patient who still experienced pain after 12 months was on average 62% (range 42-75%), the percentage who experienced relapses of pain was 60% (range 44-78%) and the percentage who had relapses of work absence was 33%

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(range 26-37%).[8,9] Factors which are associated with low back pain are young age at menarche, irregular or prolonged menstruation, past pregnancy, young maternal age at first birth, and duration of oral contraceptive use, hysterectomy and use of estrogens during menopause.[10]. Back pain is a commonly described symptom of the premenstrual syndrome.[11] The aim and objectives of the study was to study the hormonal and reproductive factors associated with low back pain in reproductive female.

## METHODS

The present study is a prospective study conducted on 125 subjects suffering from low back pain and attending OPD Department of Obstetrics and Gynaecology at Era's Lucknow Medical College and Hospital over a period of 6 months.

Women who have attained physiological menopause and Subjects who were not able to communicate because of dialect or hearing problems were excluded from our study. Study protocol: A brief questionnaire was used to screen, among the respondents, the occurrence of low back pain in the past year. The questions included occurrence of low back pain, demographic factors and reproductive health history. Low back pain was identified among subjects who have back pain lasting for more than a day in an area between the lower coastal margin and the gluteal folds with or without radiation into leg to below the knees during the past one year. The anthropometric measurements included measures of body height (cm) and weight (kg) using standard measurement equipment's. Waist and hip circumference (cm) were assessed using a measuring tape while the subject was standing. Other factors evaluated were occupation, education and smoking. Sociodemographic profile, menstrual and obstetric history were noted and also the use of oral contraceptives.

## RESULTS

Majority of patients were in age range of 41-50 years and least in 61-70 years of age group. Out of 125 patients, 45.6% belongs to socioeconomic class 1 and 2. Only 35 patients had education of university and above. In our study, 56.4% patients had height below median (153 cm) whereas 35.6% had their heights above median. Similarly, 55.4% had weight below median (60 kg) and only 44.8% had weight above median.

Patients with BMI (>25kg/m$^2$) were n=74 and n=51 had BMI below 25 kg/m$^2$ (Table 1). 60 out of 125 had waist circumference of <80 cm and 65 had more than 80 cm. Their waist-hip ratio is <0.8 in 66 patients.

Majority of patients had more than two parity (64.8%). Patients with vaginal and caesarean delivery were 58 and 67 respectively. 75 patients out of 125 had irregular menstruation. Majority of them (64.8%) had duration of flow of more than 8 days. 82 patients had premenstrual syndrome. 69.2% patients had undergone sterilization and 41.2% were using oral contraceptives. 80 patients had history of abortion and 38.8% patients had pelvic organ prolapse.

**Table: Patients information**

| Group | Patients |
|---|---|
| **Incidence**<br>No. of cases | 125 |
| **Age-wise Distribution**<br>20-30 years<br>31-40 years<br>41-50 years<br>51-60 years<br>61-70 years | <br>15<br>38<br>45<br>21<br>6 |
| **BMI**<br>BMI (>25kg/m$^2$)<br>BMI (<25kg/m$^2$) | <br>74<br>51 |
| **Mode of Delivery**<br>LSCS<br>Vaginal | <br>67<br>58 |

## DISCUSSION

The study showed that hormonal and reproductive factors like irregular or prolonged menstrual cycle were associated with low back pain. Estrogen related factors like past pregnancy, young maternal age at first birth, oral contraceptive use were specifically associated with low back pain. Young age at menarche was also associated with low back pain. As we know from our prior knowledge that increased estrogen results in increased laxity of joints and ligaments. This will leads to LBP. Like results from other studies, association was found between the number of children and low back pain.[12,13] A previous population based survey found a linear association between the number of live births and chronic low back pain. Results from our study suggest that there is association between the parity and low back pain. In a population based survey among women younger age at first pregnancy was also associated with a high prevalence of ever having low back pain.[13] In 1995, Brynhildsen et al reported that many health professionals believe that there is an association between oral contraceptive uses with low back pain, despite the lack of scientific evidence.[14] Unlike this study our study showed no association between oral contraceptive use and LBP. Although LBP is positively correlated with menstruation in women and back pain is a common symptom of the premenstrual syndrome, there are only few studies describing the association between the menstrual pattern and musculoskeletal disorders.[12, 15]

## CONCLUSION

Our study concludes that hormonal and reproductive factors like an irregular or prolonged menstrual cycle are associated with low back pain, suggesting that these factors are associated with musculoskeletal pain in general.

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