"LOW BACK PAIN IN AMONG HOUSEWIFES DURING NON WORKING"

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ABSTRACT

The study aims to study the prevalence of LBP among housewives during non-working hours, the effectiveness of exercises on LBP, and the effectiveness of exercises on LBP among women. The hypothesis is that there is a significant difference in the occurrence and severity of LBP among housewives during non-working hours compared to their pain levels during working hours.

Pregnancy-related pelvic girdle pain, a different syndrome, originates in the lumbar spine region with or without radiation to the leg and without a specifically defined pain structure. The exact mechanisms leading to the development of pregnancy-related low back pain remain uncertain, but several classification systems have been identified for physiotherapists. A study evaluated the inter-rater reliability of a standardized classification system for pregnancy-related lumbopelvic pain, revealing 87% agreement between the two examiners for the classification of non-specific lumbopelvic pain into lumbar pain and PGP in pregnant women.

Studies have reported a wide range of prevalence of pelvic girdle pain and pregnancy-related low back pain. In Western countries, the point prevalence was 58.5%, while in non-Western countries it was 54.4%. A prospective cohort study by Gutke et al found that muscle dysfunction was associated with pelvic girdle pain, which should be considered when developing treatment strategies. A cross-sectional multicenter study by Albert et al found that factors such as history of low back pain, surgery, anxiety, stage of pregnancy, and depression were more strongly associated with pregnancy-related low back pain.

INTRODUCTION

Low back pain (LBP) is usually defined as pain, muscle tension, or stiffness localized below the costal margin and above the inferior gluteal folds, with or without leg pain (sciatica). LBP occurs in about 60–80% of people at some points in their lives, and can begin in childhood. It is a disorder with many possible etiologies, with many definitions, and occurring in many groups of populations. The vast literature available on prevalence of LBP is not only heterogeneous, but also sometimes contradictory. This variability may be due to differences among study factors such as the age of the sample, the definition of LBP, and the strategy for extracting data. The prevalence can be described in terms such as point prevalence (the number of persons in a defined population who have LBP at a particular point in time, usually the time the survey was carried out), period prevalence (the number of persons who have LBP at any time during a specified time interval), and lifetime prevalence (the number of persons who have LBP at some points in their life). LBP has also been shown to be associated with certain psychosocial factors,

including presence of psychological conditions, maladaptive coping strategies, poor job satisfaction, higher physical work demands, poor general health or functional level, tobacco use, obesity, receipt of workers' compensation or disability/sick leave, and unresolved litigation or compensation issues related to the back pain. There may be also cultural differences in the pain perception or reporting, with some ethnic minorities having the attitude that pain is to be endured without complaint .

REVIEW OF LITERATURE

In a study done by Ostgaard et al,it was stated that lumbar pain during pregnancy originates in the lumbar spine region with or without radiationto the leg, and without a specifically defined pain structure. It is a different syndrome than pregnancy related pelvic girdle pain. Pregnancy related low back pain is dull in character and is experienced when the patient is in forward flexion. There is restriction of spine movement in the lumbar region, and palpation of the erector spinae muscles exacerbates pain. The pain resembles the back pain that occurs in the non-pregnant state. Wu et al coined the term lumbopelvic pain which includes PGP, PLBP, and their combination.

The exact mechanisms that lead to the development of pregnancy related pelvic girdle pain remain uncertain. A variety of approaches [9] have been proposed that suggest hormonal, biomechanical, traumatic, metabolic, genetic and degenerative etiologic implications. Pregnancy related low back pain, seems to be a result of quite a few factors [10] such as mechanical, hormonal and others.

Few studies classified pelvic girdle pain into five subgroups such as pelvic girdle syndrome, symphysiolysis, one sided sacroiliac syndrome, double sided sacroiliac syndrome, miscellaneous. In addition, several classification systems for low back pain patients have been identified, which are relevant for physiotherapists.[56-59] The Mechanical Diagnosis and Therapy (MDT) has been identified as a well described classification system.

In a study done to evaluate the inter-rater reliability of a standardised classification system for pregnancy-related lumbopelvic pain, 31 consecutive pregnant women with non-specific lumbopelvic pain were evaluated by two examiners and classified into lumbar pain, PGP, or combined pelvic girdle and lumbar pain.

In a cross-sectional study, 325 pregnant women, ranging from 16 to 42 years were interviewed using a questionnaire and two trained physical therapists performed the posterior pelvic pain provocation test on all women with lumbopelvic pain.

In a cross-sectional descriptive study done in an Australian Public Hospital Antenatal Clinic, prevalence and nature of lumbopelvic pain (LPP) wereinvestigated. High prevalence rates of 71% were self-reported by women during the third trimester of pregnancy and an association was found between the reporting of LPP, multiparity, and a previous history of LPP, thereby concluding that LPP is a potentially significant health issue during pregnancy.

Ostgaard et al undertook a prospective study of back pain in 855 pregnant women at their regular visits to a maternity care unit. The authors relied on history information only (women identified the location of pain on a pain drawing). Based on their pain drawings, three groups of pain were distinguished; high back pain, low back pain and SIJ pain. In week 30 of gestation the point prevalence of low back pain and sacroiliac pain was about 32% and SIJ pain alonewas about 19%. No physical examination was performed to confirm the pain presentation.

In a study by Albert et al., the risk factors for developing pelvic girdle pain in pregnant women were history of previous low back pain, trauma of the back or pelvis, pluripara, higher level of stress, job dissatisfaction. In another study,[15] persistence of pelvic girdle pain postpartum was found to be due to risk factors such as a high pain score in pregnancy, high number of positive pain provocation tests, low mobility index, and belonging to the lowest social group. Furthermore, a few other studies stated that risk factors for lumbopelvic pain during and after pregnancy were smoking, low endurance of back flexors, higher body mass index, hypermobility, strenuous work, type of delivery, breastfeeding, previous lumbopelvic pain during and after pregnancy.

OBJECTIVES:

- To study the association of low back pain with sociodemographic factors among women
- To study the prevalence of low back pain with associated factors among women
- To study the Effectiveness of Exercises on Low Back Pain among women within the Experimental Group.
- To effectiveness of Exercises on low back pain among women between the Experimental and Control group

HYPOTHESIS:

Alternate Hypothesis:

There is a significant difference in the occurrence and severity of low back pain among housewives during non-working hours compared to their pain levels during working hours.

Null Hypothesis:

There is a significant difference in the occurrence and severity of low back pain among housewives during non-working hours compared to their pain levels during working hours.

MATERIALS AND METHODS

The target population was the women in age group of 20-65 years residing in India.

Method of data collection

The interview was conducted by the principle investigator in the houses of the subjects. Initially rapport was developed with the study subjects. The written informed consent was obtained and the purpose of an interview was explained to each study subject.

In the first step, socio demographic factors were collected and low back pain among women was assessed in the preceding month based on Numerical Pain Scale rating from 0 to 10. Body height and weight of each subject was taken by standard methods. A modified **Oswestry Low Back Pain Disability Questionnaire** was used to measure the disability level and WHO-BREF questionnaire was used to assess the QOL among women who reported low back pain. The interview lasted for 30-45 min for each study subject. Average of 6-8 women was interviewed each day.

Design: A descriptive- correctional study design was used in this study.

Setting: The study was done within the outpatient clinics in Hospital.

Subjects: A purposive sample of 65.

Gender: Female

MATERIALS USED FOR THE STUDY:

1. Data collection sheets.
2. Self-report questionnaires such as the modified version (2.0) of theOswestry Disability Index (ODI)

INCLUSION CRITERIA:
1. All the women who had achieved confirmedby an obstetrician.
2. All the women who were expected asdetermined by an obstetrician.

EXCLUSION CRITERIA:
1. Women were excluded if they had a systemic locomotor system disease such as epiphyseal dysplasia, arthrogryposis, gigantism, etc.

2. Women with a verified diagnosis of spinal problems such asspondylolisthesis and spinal fracture.
3. Hip pathologies such as arthritis, osteoporosis.
4. Women with a history of neoplasm; or previous spinal, pelvic or femursurgery.
5. Women who were unwilling to participate or who did not give consent.
6. Gynaecological problems where the woman was advised complete bedrest.

TOOL: Oswestry Low Back Pain Disability Questionnaire

This Questionnaire was developed by **Fairbank and Pynsent, (2000)**, it was used to assess the severity of pain and how back pain is affecting the patient`s ability to control everyday life activities and measure a patient permanent functional disability. The scale included ten sections namely, pain intensity, personal care (washing, dressing, etc.), lifting , walking , sitting , standing , sleeping, sex life ,social life and travelling .

The total score for each section is 5, it is ranged from zero to 5, if the first statement is marked the section score equal zero, if the last statement is marked it equal 5. The score achieved by the older adults was calculated as percentage from the score of his category representing 100%. According to Oswestry questionnaire the degree of the older adult's disability was classified into five categories:

Results

All the 250 subjects participated in the study. Out of 65 study subjects, 35.6% (*n* = 89) of the women were in the age group of 20-65 years..

The significant associations were found between low back pain and demographic variables such as age, lower education, marital status, less income, delivery type, and number of children, durations of sweeping the house, washing clothes and washing vessels per day, menopausal status, and co-morbid condition [Tables 1 and 2]. Furthermore, there was a significant difference between the mean score of level of disability with age, education, and occupation of the women ($P < 0.05$). A significant).

Statistical Methods

Descriptive (frequency and percentage), and inferential statistics (paired t test, independent t test and chi square) were used for analysis of the study.

Table 1: Association of low back pain with sociodemographic factors among women

Background variables	Low back pain		*t* or *F*	*P*
	Mean	**SD**		
Age (in years)				
30-40	1.55	2.624	7.451	0.001
40-50	1.98	2.527		
50-65	3.14	3.012		
Marital status				
Unmarried	0.0	0.0	−2.646	0.009
Married	1.99	2.670		
Housewives	2.00	2.788	0.727	0.484
Others (widow, separated)	3.26	3.185		
Education				
Illiterate	3.41	2.986	7.047	0.001

Primary/secondary	1.98	2.708		
Higher secondary/ college	1.17	2.188		
Religion				
Hindu	2.17	2.802	−0.407	0.685
Christian	2.56	2.506		

SD: Standard deviation, *P* value < 0.05 is considered as significant difference was also found between mean scores of QOL and education (*P* < 0.05).

Table 2: Prevalence of low back pain with associated factors among women

Background variables	*n*	Low back pain		*t* or *F*	*P*
		Mean	SD		
Type of delivery					
Duration of sweeping house (min/day)					
Nil	3	1.06	1.732	5.759	0.004**
≤10	185	1.86	2.664		
>10	62	3.19	2.969		
Duration of washing clothes (min/day)					
Nil	3	2.33	4.041	5.818	0.001***
<15	15	1.80	2.783		
15-30	118	1.48	2.538		
>30	114	2.96	2.842		
Duration of washing vessels (min/day)					
Nil	3	4.00	3.606	2.718	0.045*
<10	105	1.68	2.574		
10-15	50	2.18	2.960		
>15	92	2.71	2.831		
Menopause					
Yes	88	3.06	2.969	3.742	0.000***
No	162	1.71	2.572		
BMI					
<18.5	8	0.75	2.121	1.135	0.336
18.6-24.9	127	2.08	2.727		
25-29.9	98	2.47	2.912		
>30	17	2.00	2.716		
illness					
No	214	1.88	2.691	4.303	0.000***
Yes (DM, HTN, asthma)	36	3.97	2.720		

Table : 3 Effectiveness of Exercises on Low Back Pain among women within the Experimental Group.

Variable	Test	Mean	SD	t Value	P Value
Low back pain	Pre test	5.75	1.12	5.9379	P<0.001
	Post test	3.80	0.95		

Table: 4 Effectiveness of Exercises on low back pain among women between the Experimental and Control group

Variable	Group	Mean	SD	t Value	P Value
Low back pain	Experimental	3.80	0.95	4.3397	P<0.001
	Control	5.30	1.22		

DISCUSSION

The prevalence of low back pain is a common problem among middle aged women. Out of 65 samples experienced moderate level of low back pain, and among that belonged to the age group of 20-40 years.

A study done at Rural Bangladesh revealed that the mean age of occurrence of low back pain was 40 years and 70% were housewives. Female vulnerability is due to their occupation (housewife) which involved bending and twisting movements of the spine¨

In the present study majority of the women **12(60%) had moderate level of pain**, 8(40%) had severe pain and **none experienced mild pain.** But after the exercises, nobody experienced severe pain, 7(35%) had mild pain and 13 (65%), experienced moderate level of pain.

Moreover the effectiveness of exercises within the experimental and between the control group was found to be highly significant at P<0.001 level.

The findings were supported by a study conducted in **2021** on the efficacy of muscle strengthening exercises among patients with low back pain. The results revealed that after the muscle strengthening exercises the level of pain as measured by the numeric rating scale was reduced after the intervention, and there was no significant improvement in the level of pain in the control group.\ The present study findings found that the most (60.9%) of the women with low back pain experienced moderate disability and 12.3% of them with minimal disability and 23.8% of them experienced severe disability, only 2.8% of them experienced crippled. These findings are consistent with the study conducted by Koley S and Sandhu NS (2009).

CONCLUSION

Most of the women experience low back pain in their daily lives. Lack of exercises can aggravate this condition. Exercises offer a real potential for improving the health status and quality of life. Hence every woman should spare time to do exercises on a regular basis which goes a long way in their lives that is cost effective and prevents complications.

The present study identified a high prevalence of PGP amongst the subgroups of LBP both during pregnancy and postpartum in Indian women. The clinical natural course of women with combined (LPP) pain showed the lowest recovery rate among the subgroups of LBP. Our findings suggest that factors such as age category of 26-30 years

and a history of LBP before pregnancy were significantly associated with increased risk of developing LBP when analysed for disability and factors such as score ≥4 were significantly associated with increased risk of developing PGP when analysed for pain intensity. Risk factors for LBP when analysed for pain intensity and for PGP when analysed for disability were not significant, but further study is needed before definitive conclusions may be drawn. Furthermore, identification of the factors associated with the subgroups of LBP may open up new possibilities for the prevention and treatment of the subgroups of LBP.

Interestingly, in our study, a greater degree of fear-avoidance beliefs and activity limitations were seen among pregnant women with LBP, indicating that women who are pregnant are more cautious about carrying out physical activities.

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