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Research Article

**PREGNANCY RELATED LOW BACK PAIN**<sup>1</sup>Dr Hassan Zia, <sup>2</sup>Dr Sohaib Khalid, <sup>3</sup>Dr Narmeen Zafar<sup>1</sup>MBBS, Frontier Medical College, Abbotabad.<sup>2</sup>MBBS, Akhter Saeed Medical and Dental College, Lahore.<sup>3</sup>MBBS, Central Park Medical College, Lahore**Article Received:** December 2019 **Accepted:** January 2020 **Published:** February 2020**Abstract:**

*One of the commonest complain during pregnancy is low back pain. It is defined as musculoskeletal pain which is due to muscular stiffness between 12th rib and inferior gluteal folds and/or symphysis pubic. It may or may not be associated with leg pains. The postnatal period defined as the first six weeks after birth is critical to the health and survival of a mother and her new-born. A time period after the delivery of child which remains around six months; during this phase anatomical and physiological changes take place and allows a women to adjust in non-pregnant life. It was an observational cross-sectional study. Total 108 pregnant females of 3<sup>rd</sup> trimester were recruited into the study via simple random sampling. Participants were examined for the inclusion and exclusion criteria. Inclusion criteria contain pregnant women in their 3<sup>rd</sup> trimester of age group ranges between 20-35 years. Back pain before pregnancy, Systemic diseases/ known other gynaecological diseases, Known spinal/congenital deformities, Psychiatric diseases, pre-eclampsia, or females having congenital problems were excluded from the study. As PLBP appeared the most common problem, therefore its evaluation and proper care should be included in antenatal care programs as well as preventive health programs. In order to alleviate PLBP and reach the standard criteria of WHO for quality of life, researchers have to study further in large population and improve mother's life. PLBP adversely affect their quality of lives, limit their routine activities and productivities and even make them physically disable. Younger aged women with first parity are more prone to sever PLBP. Finally, this study underscore the fact that such worse condition of pregnant women over here is always ignored by both parties, patients as well as by the doctor.*

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**INTRODUCTION:**

One of the commonest complain during pregnancy is low back pain. It is defined as musculoskeletal pain which is due to muscular stiffness between 12th rib and inferior gluteal folds and/or symphysis pubic. It may or may not be associated with leg pains. The postnatal period defined as the first six weeks after birth is critical to the health and survival of a mother and her new-born. A time period after the delivery of child which remains around six months; during this phase anatomical and physiological changes take place and allows a women to adjust in non-pregnant life. During the postpartum period, hormone levels fluctuate causing musculoskeletal issues such as excessive joint mobility, weakness of core stabilizers, and altered spinal mobility and function. Many common problems occur during the state such as backache, bowel problems, perineal pain, joint mobility, mastitis, psychological problems, postpartum haemorrhage, thromboembolism, postnatal anaemia. Excessive literature has done related to LBP during pregnancy. Approximately 80% women suffer from low back pain during pregnancy. Major complains are reported after the first pregnancy. It affects activities of their daily life and 10% are not able to work. 20% women undergo pain during 20-28<sup>th</sup> week of gestation. Another study reported that 38% women suffer pain 3 months in their postpartum phase. Most common reason of sick leave is low back pain in pregnant females.

Low back pain occurring during pregnancy is known as Pelvic related low back pain. The nature of pain has dull characteristic. The intensity of the pain increases in case of forward bending and it limits the spine movement. The pain is very common during pregnancy and it remarkably and influences the activity of daily life. According to literature the prevalence of low back pain is higher in cesarean as compared to normal vaginal delivery. Many studies have been conducted concerning the LBP during pregnancy but still the aetiology is under debate. The most familiar mechanism is linked with the mechanical factors occurring during pregnancy due to weight gaining during pregnancy, to the increase of the abdominal sagittal diameter and the consequent shifting of the body gravity center anteriorly, increasing the stress on the lower back. Studies suggest that an anterior shift is associated with pubic symphysis problems. Many factors like physiological, mechanical, hormonal and circulation changes cause PLBP during pregnancy. Hormonal changes stretch ligaments and muscles attached to pelvic joints for accommodation of developing infant. All lumbar and pelvic joints become more flexible. Lumbar lordosis that develops at later stages of pregnancy, gravity shifting, postural changing, and workload

lead towards PLBP. The expanding uterus exerts pressure on inferior vena cava that results in venous congestion and hypoxia in lumbar spine and pelvis. PLBP has been known and described many centuries ago. LBP and PGP is very similar it can be differentiated by applying anterior drawer test<sup>8</sup>. The risk factors associated with low back pain are history of previous low back pain, high BMI, younger age, heavy work load, multiple pregnancies, low back pain during periods, and smoking. The aim of the study is to find out the prevalence low back pain and to assess the impact on quality of life.

**MATERIALS AND METHODS**

It was an observational cross-sectional study. Total 108 pregnant females of 3<sup>rd</sup> trimester were recruited into the study via simple random sampling. Participants were examined for the inclusion and exclusion criteria. Inclusion criteria contain pregnant women in their 3<sup>rd</sup> trimester of age group ranges between 20-35 years. Back pain before pregnancy, Systemic diseases/ known other gynaecological diseases, Known spinal/congenital deformities, Psychiatric diseases, pre-eclampsia, or females having congenital problems were excluded from the study. The participants who met the inclusion criteria were enrolled into the study. A written informed consent was taken and the purpose of the study was well explained into their first language before. Back pain was evaluated by using a Performa which contains demographic data, gynaecological history and Pain rating scale. The quality of life was measured by using WHO quality of life Questionnaire and the Oswestry Low Back Disability Index. Pain was measured by visual Analog Scale (VAS) and Numeric Pain Intensity Scale. Functional Pain scale was also used to evaluate the severity of pain affecting their daily activities. Categorical variables were explained by percentages while numerical variables by histogram, mean, minimum and maximum. One-sample t-test was applied to reach the significance of different variables. All calculated data was enumerated according to validated scoring methods of each tool. Statistical analysis was done by SPSS software (version 22). Informed written consent was taken from all patients. Information will be kept confidential at any stage. The study was approved by ethical review board.

**RESULTS:**

Out of 108 participants 12 women were excluded from the study because they did not met the inclusion criteria. Rest 96 were enrolled. Mean age of these 96 participants were 22.48 (18-35) years. Mean duration of pregnancy was 7.09 (6-10) months. All the recruited women were housewives and the education level of 48 participants were under matric whereas 30 were above matric.

Younger aged women 21-29 years (n=27) 41.9% were having high prevalence of PLBP than youngster and middle aged. Among 96 participants women of 3<sup>rd</sup> trimester 69 (66.24%) had pregnancy related low back pain. Females who were having back pain during last three weeks of pregnancy were considered as PLBP. There was a remarkable difference in the quality of life of women who were

having PLBP and without backache. All of these 66 participants, KATZ activity of daily life was resulted in three (4%) women totally dependent whereas 63 (94%) were independent. Women who were not having low back pain they were totally independent. Among 72 overweight participants 55 (81.2%) were having PLBP.

Age category	Age	PLBP		Total
		No%	Yes%	
Adolescent	<21	10 (33.3)	19 (28.8)	29
Young	22-29	17 (56.7)	27 (40.9)	44
Middle-aged	>29	3 (10.0)	20 (30.3)	23
Total			66 (100)	96

Categories	Pregnancy related low back pain	
	No%	Yes%
Normal	6 (20)	8 (12.1)
Obese	3 (10)	5 (7.6)
Overweight	23 (71)	52 (79.9)
Total	30	66

Out of 96 participants, 30 were having no pain, 17 were having mild pain, 36 were suffering from moderate pain, 12 were having severe pain and only one was having worst pain. According to WHOQOL-BREF values mean value of physical domain was  $94.00 \pm 20.01$ . Mean value of psychological domain was  $76.64 \pm 21.327$ . The mean value of Environment domain was 128.303. out of 66, 21 women were in V category of Oswestry low back pain disability, 30 were in IV category, 13 were in III category whereas 1 was in II category and only one was in I category.

### DISCUSSION:

The prevalence PLBP exists among 90%. Severity tends to increase as the pregnancy starts up to nine months of pregnancy. Among the observed factors that lead to PLBP are young age first pregnancy, strenuous activities, over weight and height ranges 155-164cm. Average prevalence rate of pregnancy related LPB is 50%. According to Oswestry Disability Index, (ODI) n=30 (45.5%) are crippled (60%-80%)<sup>10</sup>. This is closer to a study done on Beninese women 33.33%. But another study mentioned it as 80% whose daily 3 activates are worsen by their PLPB. The result of this study, i.e., n=21 (31.8%) women bound to bed, is close to Sabino J's study (30%)<sup>11</sup>. Younger women had greater prevalence of PLBP than adolescent, middle aged and aged women. The relation of PLBP with BMI is controversial. Mostly overweight women n=53 (80.3%) complaint about PLPB<sup>12</sup>. Morgen *et al.* also found that women between BMI 24 and 30 had PLBP. Some of the studies reported that BMI is not a risk factor for

PLPB but this study strongly suggests that greater the weight of pregnant women, greater will be the chances for PLBP<sup>14, 15</sup>. Due to different criteria and tools used for pain intensity, very little data is found for comparison purpose. Two studies mentioned 33.3% and 44% women with moderate pain. Whereas this study revealed n=36 (37.5%) suggesting that this moderate intensity of pain is more common and much enough to affect their routine lives. Quality of life (QoL) of n=66 women with PLBP was measured in four domain and their score were transformed to meet the standard results of WHO18. The domains were Physical, Psychological, Social Relationship and Environmental. Study limitations included difficult patient relation while interviewing, small sample size and language barrier. In order to meet the standard of social and psychological relationship with this region, and of course, according to the guidelines of WHOQOLBREF, few questions were omitted and the syntax of this tool was modified. It is recommended for gynecologists that they primarily educate their patients with PLBP for its prevention. Postural education, physical and alternative therapy and use of support belt, postural pillows and heating pad should always be encouraged.

As PLBP appeared the most common problem, therefore its evaluation and proper care should be included in antenatal care programs as well as preventive health programs. In order to alleviate PLBP and reach the standard criteria of WHO for quality of life, researchers have to study further in large population and improve mother's life. PLBP

adversely affect their quality of lives, limit their routine activities and productivities and even make them physically disable. Younger aged women with first parity are more prone to sever PLBP. Finally, this study underscores the fact that such worse condition of pregnant women over here is always ignored by both parties, patients as well as by the doctor.

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