

Low back pain during pregnancy

LOW BACK PAIN DURING PREGNANCY

By

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ABSTRACT

**Objectives:** To assess the severity of low back pain during pregnancy included prevalence, risk factors, and impact on daily living and to study its association with other variables. **Material and Methods:** A pre-designed questionnaire was distributed to pregnant women participating in various prenatal care clinics at Prince Rashid Ben Alhassan hospital, Jordan. A total of 500 surveys were returned from May 2008 through October 2009. At each demographic details and issues related to their problems was obtained. **Results:** Completed questionnaires were obtained from 500 members over a period of one year. Two hundred eighty-five (57%) reported LBP during their current pregnancy. The prevalence was not affected by other variables like gestational age, height, age, and history of LBP without pregnancy. The occurrence of LBP was significantly correlated with the body weight (pain vs. no pain;  $64.7 \pm 9.9$  kg. vs.  $58.6 \pm 10$  kg;  $p = 0.003$ ). The majority reported that LBP during pregnancy caused sleep disturbances (62%) and impaired daily living (56 %). **Conclusion:** A large number of pregnant women suffer from LBP and it can be a cause of significant disability. To reduce this incidence particular attention should be given to maintained proper body weight.

**Key words:** low back pain, pregnancy, prevalence.

INTRODUCTION

Back pain is a major cause of disability worldwide and it is second only to common cold as a reason to seek medical advice. LBP is a major cause of sickness, disability and absence from work <sup>(1)</sup>. The frequency of LBP reported over a given period (prevalence) depends on the exact wording of the question. In various studies, between 14-30% of people reported some back pain or trouble on the day of the interview and 30-40% in the previous month <sup>(2)</sup>.

Back pain is a common complaint of pregnant women, and it can affect women of child bearing age whether pregnant or not. Approximately 70% of women will report low back pain at some point in their lives <sup>(3)</sup>. However, during pregnancy alone, the incidence of back pain is reported by 50-80% of women <sup>(4)</sup>. This is generally characterized as axial or para-sagittal discomfort in the lower lumbar region and is musculoskeletal in nature. This can be due to a combination of mechanical, hormonal, circulatory, and

psychosocial factors. Treatment options are often poor, as the cause of back pain is not always fully understood. Furthermore, treatments that are available usually have a low success rate and consist mainly of life style adjustments and bed rest <sup>(5)</sup>.

Such discomfort can have a substantial impact on life during pregnancy and may be of variable intensity and duration. Fortunately, in most cases, low back pain resolves itself quickly after partum and does not cause any lasting issues <sup>(6)</sup>. However, if discomfort is persistent or not of classic presentation, less common causes such as infection and preterm labor must be considered expeditiously to avoid serious consequences <sup>(7)</sup>.

The present survey was undertaken with the aim of assessing the severity of low back pain during pregnancy included prevalence, risk factors, and impact on daily living and to study its association with other variables.

METHODS

A pre-designed questionnaire was distributed to pregnant women

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participating in various prenatal care clinics at Prince Rashid Ben Alhassan hospital, Jordan. A total of 500 surveys were returned from May 2008 through October 2009.

The first part of the questionnaire consisted of the following questions: age, sex, height, weight, and gestational age. The second part consisted of questions related to LBP, particularly its occurrence in the past, and in the past month and week. The subjects were also asked whether they had to stop work during the episode of LBP. Further questions consisted of need for specialist consultation, investigations and surgery for LBP.

To ensure confidentiality, subjects were asked not to mention their names on the questionnaire. They were identified numerically when the data was transferred to the computer. The data was analyzed using standard statistical tests with the help of SPSS version 10 software.

RESULTS

Two hundred eighty-five (57%) reported LBP during their current pregnancy. Prolonged standing and rest were found to be the most significant aggravating and relieving factors

(73.6% and 85.8%, respectively). A total of 7% (35/500) subjects reported stopping work due to pain while 16.4% (82/500) consulted a specialist for it. Various investigations were performed in 10.4% (52/500) of subjects while one (0.2%) subject had undergone surgery for LBP.

The association between occurrence of LBP and other variables like age, height, weight, and gestational age were also analyzed and the results are presented in Table 1. We found that the prevalence was not affected by other variables like gestational age, height, age, and history of LBP without pregnancy. The occurrence of LBP was significantly correlated with the body weight (pain vs. no pain;  $64.7 \pm 9.9$  kg. vs.  $58.6 \pm 10$  kg;  $p = 0.003$ ). We did not find any effect of sitting or standing position during surgery on the occurrence of LBP.

The majority reported that LBP during pregnancy caused sleep disturbances 310/500 (62%) and impaired daily living 280/500 (56%). Nearly 30% of respondents stopped performing at least one daily activity because of pain and reported that pain also impaired the performance of other routine tasks.

Table 1: Different variables in subjects with and without low back pain.

Variable	Low back pain	No Low back pain	P value
Age (years)	$32.05 \pm 9.9$	$32.39 \pm 10.7$	NS
Height (cm)	$160.01 \pm 0.51$	$157.58 \pm 0.2$	NS
Weight (kg)	$64.7 \pm 9.9$	$58.6 \pm 10$	0.003
Gestational age (weeks)	34.2	33.8	NS

DISCUSSION

Back pain is ubiquitous in today's society and is particularly common during pregnancy. There are multiple factors contributing to these symptoms during pregnancy including pelvic changes as well as alterations to loading. Potential imaging modalities

are limited during pregnancy due to the desire to limit ionizing radiation exposure to the fetus<sup>(8)</sup>. Treatments are generally conservative, and alternative modalities may also be considered. Low back pain associated with pregnancy does generally resolve postpartum<sup>(9)</sup>.

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This survey reports a 57% prevalence of LBP during their current pregnancy. We have found the weight of the subject to have a significant association with occurrence of LBP while other variables like age, height, and gestational age had no effect on the occurrence of LBP. The only study of low back pain in a similar group of subjects has reported a prevalence of 72 %<sup>( 10)</sup>. The higher incidence reported could be due to the fact that these authors had also included pain in the thoracic spinal region along with LBP.

The present study has demonstrated differences in body weight of subjects who did or did not have low back pain. Subjects who reported low back pain weighed significantly more ( $64.7 \pm 9.9$  kg. vs.  $58.6 \pm 10$  kg;  $p = 0.003$ ) than subjects who did not have low back pain which is comparable to other studies<sup>(11, 12)</sup>. Obesity is known to increase both the direct vertical compressive load on the spine and the anteriorly acting loads, which through the action of the muscles creates very large joint reaction forces.

The present study also demonstrates that LBP had a significant impact on the individual with 7% having to stop work and 16.4% needing specialist consultation. These figures are lower than those reported by Dolan and Martin<sup>(10)</sup>. In their study, 20% of the subjects reported taking time off work due to back pain and 8.4% underwent surgery. In contrast, only one (0.2%) subject in the present survey underwent surgery for low back pain. This may reflect differences in the management approaches in the two populations.

A few limitations of the present study must be recognized. The questionnaire did not attempt to identify the common activity, which led to back pain nor did it attempt to have own perception of the origin of LBP. The length of time

off work and the treatment taken would have added to the relevance of the survey.

We have established that there is a high prevalence of LBP during pregnancy. In some cases it can cause significant disability and a need for specialist consultation and investigations. Though we recognize the need for further work in this area with respect to medical personnel, available evidence from literature suggests that biomechanical factors do have an impact on the incidence of LBP. Attention must be paid to good ergonomic practices and particularly to control of weight as this was identified in the present study as an important factor.

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