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RESEARCH ARTICLE

PREVALENCE OF LOW BACK PAIN DURING PREGNANCY IN AL REFAEE GENERAL HOSPITAL PROVINCE, IRAQ

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ABSTRACT

Background: Low back pain is a common problem in pregnancy. Objective: The aim of this study was to determine the prevalence of low back pain during pregnancy and to delineate the factors associated with the development such symptoms. **Material and Methods:** A cross-sectional study was conducted on 178 pregnant women attended the gynecological wards and orthopedic wards in Alrefaee General Hospital, Iraq. From September 2016 to September 2017. Data was collected utilizing a self- administered structured questionnaire to determine the prevalence and the risk factors associated with low back pain during pregnancy. **Results:** The prevalence of low back pain during pregnancy was 55 % (98 pregnant women out of 178). Pain occurs mostly in the third trimester of pregnant women aged between 25- 34 years. Urban housewives during gravida 2 are more susceptible to moderate low back pain especially in lumbar region. **Conclusion:** Low back pain during pregnancy is a common problem that causes hardship in this population. Further studies are required in the areas of prevention and treatment.

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INTRODUCTION

Low back pain (LBP) is one of orthopedic health problem in the world that affects both older and younger adults (Brennan *et al.,* 2007). It is considered a common musculoskeletal symptom that may be either acute or chronic, caused by a variety of diseases and disorders that affect the lumbar spine, sacro –coccyx, pelvis and neighboring organs, especially the area between first thoracic vertebrae and gluteal folds and often radiates into anterior chest wall and the thighs (Ayanniyi *et al.,* 2006). Low back pain (LBP) is a common complaint among pregnant women characterized as axial or para-sagittal discomfort in the lower lumbar region, generally seen during the middle and late stages of pregnancy (Mogren *et al.,* 2003). The prevalence of low back pain during pregnancy varies from 20% to 90%, mostly above 50% and significantly increased after cesarean section as compared to normal vaginal delivery (Katonis *et al.,* 2011). The severity of pain during pregnancy ranges from mild discomfort to debilitating pain that interferes with daily activities, causing difficulties with household work, child rearing and job performance, low back pain disappears spontaneously after delivery in most cases without any lasting problems (Ansari *et al.,* 2010). Back pain mainly occur due to several physiological changes in the pregnant body, including mechanical and structural changes to the spine and hips to facilitate pregnancy and childbirth, as well as changes in posture, walking, hormones and circulation (Sabino *et al.,* 2008).

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Weight gain is the main cause of postural changes, leading to instability of the sacroiliac joints and increased spinal flexibility resulting in the worsening of low back pain (Wang *et al.,* 2004). In addition, shifting of the gravity center forward due to the increase the size of abdomen and breasts also leads to posture changes, such as reduction in plantar arch, knee hyperextension, and pelvic anteversion. These changes generate stress in the lumbar lordosis and consequent tension in the paraspinal muscles (Katonis *et al.,* 2011). Lower back pain can be reduced and prevented by adopting a posture that corrects hyperlordosis that normally appears during gestation due to the expansion of the uterus in the abdominal cavity. Physical exercise contributes to adopting a new posture, which makes physical activity and daily work easier for pregnant women (Hartmann *et al.,* 1999). In the present study, we aimed to determine the prevalence of low back pain during pregnancy and to delineate the factors associated with the development such symptoms.

MATERIALS AND METHODS

A descriptive, cross-sectional study on low back pain was conducted on 178 pregnant women attended the gynecological and orthopedic wards in alrefaee General Hospital, Iraq, from September 2005 to September 2006. A self- administered structured questionnaire was distributed to all pregnant women which sought information about back pain in relation to age, time of onset of pain, residence, jobs, severity pain, site of pain and gravida.

We excluded any pregnant women had back pain due to labor, abortion, premature uterine contraction and those with psychiatric disorders. Statistical analysis: The data was analyzed using standard statistical tests with the help of SPSS version 16 software. Chi square test was done to find the associations between variables. Ethical Consideration: The study was approved by ethical committee of the research project in alrefaee general hospital Thi-Qar gover net. Each pregnant women was informed about the objectives of collected data and getting a verbal consent of the subject to share in the study.

RESULTS

In this study, out of total 178 pregnant women, only 98 (55%) had low back pain. Regarding age of participants, the prevalence of low back pain mostly occurred with ages between 24-35 (58.16%) years, followed by ages between 15-24 (27.55%) and 35-45(14.28%) years respectively (Table 1). The low back pain mostly occurred in the third trimester (36.73%), followed by second (33.67%) and first (11.22%) trimesters. In addition, pain occurs in urban women (74.48%) more than rural women (25.15%), also it is occurs more frequently in housewives (74.5%), followed by teachers (13.3 %), sedentary jobs (9.18%), doctors (2.04%), and barbers (1.02%) (Table 1). According to severity, 7 (7.14%) of participants had mild pain, while 42 (42.86%) of participants had moderate pain and 15 (15.3%) of participants had severe pain (Table 1). Regarding the site of pain, lumbar area is more affected (31.63%), followed by coccygeal (25.51%), sacral (15.3%), thoracic (14.28%) and sacro-coccygeal areas (3.06%) respectively. The pain highly occurs in gravida 2 (25.51%), followed by gravida 1(22.45%), gravida 4 (18.37%), gravida 3 (13.27%), gravida 5 (10.2%), gravida 8 (7.1%) gravida 7,11 and 17 (1.02%) respectively (Table 1).

In this study, the prevalence of low back pain during pregnancy was found to be 55%, mostly occurred in younger mothers. Nearly similar results were obtained by other authors, they found that 54.1% of pregnant women had low back pain, and noted that younger mothers were more likely to have low back pain than older mothers (Mazicioglu *et al.,* 2006). The different results in prevalence rate among different countries can be attributed to sample sizes, cultural difference, lifestyle, education and socioeconomic status of women. As well as to genetic factors which considered as predisposing factors for disc degeneration (Kawaguchi *et al.,* 2002). In our study, pain onset occurred most often in the third trimester of pregnancy, most of pregnant women felt moderate pain in the lumbar area. This results are in agreement with the results of another study which revealed that the pain onset was most frequently reported in the third trimester of pregnancy, and half of pregnant women had moderate pain in the low back area (Ansari *et al.,* 2010). This possibly due weight and hormonal changes in third trimester, with the increase body weight following pregnancy, the belly increases in diameter shifting of the body gravity center anteriorly to spine and increase the stress on the lower back causing lower back pain in pregnancy (Sabino *et al.,* 2008). In addition weight gain causes an increase in axial loading of spine, leading to decreased in intervertebral discs height and compression of the spine resulting in lower back pain after activity (To *et al.,* 2003). Hormonal changes during pregnancy cause softening of ligaments and the joints particularly of the pelvis to enable the fetus to pass easily through birth canal, leading to increased joint looseness and decreased spine stability making it more susceptible to stress and pain (Ayanniyi *et al.,* 2006). Other study showed the compression of great vessels by the gravid uterus decreases spinal blood flow and may cause low back pain, particularly in the last half of pregnancy (Katonis *et al.,* 2011).

Table 1. Relation between variables and low back pain among pregnant women (n= 98)

Variables	Low back pain			Variables	Low back pain		
	Number	Percentage	Total		Number	Percentage	Total
Age				Severity of pain			
15-24	27	27.55%		Mild	7	7.14%	
25-34	57	58.16%	100%	Moderate	42	42.86%	100%
35-45	14	14.28%		Severe	15	15.3%	
Onset of pain				Not recognized	34	34.69%	
3rd trimester	36	36.73%		Site of pain			
2nd trimester	33	33.67%		Thoracic	14	14.28%	
1st trimester	11	11.22%	100%	lumbar	31	31.63%	
Before pregnancy	8	8.16%		sacral	15	15.3%	100%
Not recognized	10	10.22%		Coccygeal	25	25.51%	
Residence				Sacro-coccygeal	3	3.06%	
Rural	25	25.51%	100%	Gravida			
Urban	73	74.48%		G1	22	22.45%	
Job				G2	25	25.51%2	
House wife	73	74.5%		G3	13	13.27%	
Teacher	13	13.3%		G4	18	18.37%	
Sedentary	9	9.18%	100%	G5	10	10.2%	100%
Doctor	2	2.04%		G7	1	1.02%	
Barber	1	1.02%		G8	7	7.1%	
				G11	1	1.02%	
				G17	1	1.02%	

DISCUSSION

Low back pain is a common complaint amongest women during pregnancy, having a great impact on their quality of life, mainly occur due to weight gain and combination of mechanical, circulatory, hormonal, psychosocial, occupational factors.

In this study, it was found that housewives accounted for the majority of women who suffer from low back pain during pregnancy, which is consistent with previous study that showed the housewives were mostly complaints of low back pain during pregnancy. This can be explained that low back pain can occur if any job involves lifting and carrying heavy objects, or if anyone spends a lot of time sitting or standing in

one position or bending over (Barua *et al.,* 2015). This study found that prevalence of low back pain in urban women during pregnancy was higher than that of rural women, which is consistent with another study showing high rates of lower back pain in urban women, this may be due to sedentary lifestyle, obesity, prolong sitting job, psychological disorders and lack of physical activity of urban women compared to rural women (Awan *et al.,* 2011). In this study, the gravidity was not associated with the prevalence of low back pain, possibly due to a few pregnant women who had gravida more than 5, which is agree with previous study which showed that increased parity was not associated with current back pain (Stapleton *et al.,* 2002). In conclusion, this study has revealed a relatively high prevalence rate of low back pain during pregnancy. Further studies are required in the areas of prevention and treatment.

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