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Original Research Paper

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Prevalence of low back pain among pregnant women in Hail

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ABSTRACT

*Background: Back pain (BP) is a major complaint encountered in clinical practice world-world. The problem of back pain in pregnancy has attracted attention of clinicians and researchers from all over the world. There is no doubt that back pain is one of the most common problems associated with pregnancy and consequently it has been accepted as almost inevitable. Hormonal changes that occur during pregnancy cause softening of ligaments and the joints, particularly of the pelvis. This may be the cause of pain in the lower back and posterior pelvis. Aim: The aim of this study was to determine the prevalence of Low Back Pain among Pregnant Women in Hail, KSA. Methodology: Cross-sectional descriptive study using self-administered uestionnaire. Quatelet Index (wt/ht^2) was used to measure BMI. Chi square test were done to estimate the correlation of Low Back Pain during Pregnancy and relevant variables. Results: Correlation between Stage of Pregnancy and Low Back Pain during Pregnancy. In 1st trimester total n=7(10%) has Low Back pain, n=21(30%) has in 2nd trimester and the maximum number are in 3rd trimester n=42(60%). Chi square test (χ2) χ2=21.910a, the standard deviation (df) df=4 and the significance (p) p= 0.000***. So this study shows that when the Stage of Pregnancy increases the Low Back Pain increases. Conclusion: Lower Back Pain in pregnancy is a common disorder, affecting slightly more in 3rd trimester of pregnant women. It is commoner in pregnancy than outside pregnancy. LBP often causes considerable physical dysfunction, poor work performance.*

KEYWORDS : Low Back Pain, Pregnancy, Prevalance, Hail-KSA, Treatment.

Introduction:

The problem of back pain in pregnancy has attracted attention of clinicians and researchers from all over the world (Golighty, 1982; Nwuga, 1982;Fast et al; 1987; Ostgaard et al; 1994; Davidson and Hansen, 2000; Sanya and Olajitan 2001). According to May, (2000) there is no doubt that back pain is one of the most common problems associated with pregnancy and consequently it has been accepted as almost inevitable (Fung et al; 1993; MacEvilly and Buggy, 1994).

Changes to the musculoskeletal system which occur during pregnancy include changes in posture, spinal or pelvic pain as well as lengthening of the abdominal and pelvic floor muscles (Mac Evilly and Buggy, 1996). The cause of back pain during pregnancy remains debatable and often there are several factors involved (Darry et al., 2007).Changes in the female's postural alignment are natural occurrences as pregnancy develops. Pregnancy results in an increase in overall body mass and a change in the centre of gravity. As the pregnancy progresses, the posture adapts to the changing weight and subsequent forces imposed on the body (Mac Evilly and Buggy, 1990; Darry et al., 2007).

Hormonal changes that occur during pregnancy cause softening of ligaments and the joints, particularly of the pelvis, to enable the foetus to pass through the birth canal more easily (Calguneri et al., 1982; Szlachter et al., 1982; Brynhildsen et al., 1998). This results in increased joint looseness and decreased stability. This, in conjunction with lengthening of the abdominal muscles, compromises the stability of the spine and results in excess mobility of the joints (Calguneri et al., 1982; Szlachter et al., 1982). This may be the cause of pain in the lower back and posterior pelvis (Calguneri et al., 1982; Szlachter et al., 1982; Brynhildsen et al., 1998). Health care providers can help you identify and manage any back or pelvic pain during the pregnancy. This may include antenatal classes, yoga or consultation with a physiotherapist or other health care professional.

Method:

This cross-sectional study was carried out at Public and Private Hospital of Hail. The target population of this study consists of 70 pregnant ladies. The sample was randomly selected from the hospitals of Hail. A questionnaire was used to access the Prevalence of low back pain among pregnant women. Biosocial data obtained included maternal age, gestational age, type of delivery, number of children, working status, and type of work/profession. Variables relating to the LBP obtained included Body Mass Index, type of delivery, history of low back pain, frequency, stage of pregnancy, duration and severity of the pain, effect of posture on pain, physical dysfunction experienced during the painful episode, effect on work performance as well as the treatment options sought for the relief of the LBP.

Body weight was measured without shoes and with minimal clothing to the nearest 100 g using a calibrated scale (GIMA Pegaso Electronic Body Scale-Italy). Height was measured to the nearest cm while the subject was in the full standing position without shoes using a calibrated stadiometer attached to the body weight scale. BMI was calculated as a ratio of weight in kg by height squared in meters. For measurement of pain Visual Analog Scale was used.

The Social Package for Social Sciences (SPSS) version 18.0 (SPSS Inc, Chicago, IL, USA) will be used to analyze the entered data. Descriptive statistics such as Chi square test, correlation, graphs as well as percentages will be used to describe the participants.

Result:

Demographic characteristics of the subjects that participated in the study are given in table: 1. we studied 70 subjects with their stage of pregnancy, Low Back pain frequency.

In table I there is correlation between Stage of Pregnancy and Low Back Pain during Pregnancy. Here the chief complaint is Low Back Pain frequency, whether the participant has someday, most of the day or every day pain. In 1st trimester total n=7(10%) has Low Back pain, n=21(30%) has in 2nd trimester and the maximum number are in 3rd trimester n=42(60%).

The correlation between Stage of Pregnancy and Low Back Pain during Pregnancy is done by Chi square test (χ2) χ2=21.910a, the standard deviation (df) df=4 and the significance (p) p= 0.000***. So this study shows that when the Stage of Pregnancy increases the

Low Back Pain increases.
The normal value for p≤0.05

Table 1: Correlation between Stage of Pregnancy and Low Back Pain during Pregnancy

Stage of Pregnancy	Low Back Pain Frequency During Pregnancy				P Value
	Someday	Most of the Day	Every Day	Total	
1st Trimester	4	2	1	7(10%)	0.000***
2nd Trimester	5	12	4	21(30%)	
3rd Trimester	3	11	28	42(60%)	
Total	12	25	33	70(100%)	

In table 2 there is correlation between the Physical Activity and Low Back Pain during Pregnancy. This shows that physically active pregnant females n=21(29.57%) has less low back pain than moderately active females n=28(40%) experience pain most of the day.

The correlation between Physical Activity and Low Back Pain Frequency during Pregnancy is done by the Chi square test ($\chi 2$), the significance (p) p= 0.000***.

The normal value for p≤0.05

Table 2: Correlation between Physical Activity and Low Back Pain during Pregnancy

Physical Activity	Low Back Pain Frequency during Pregnancy			Total	P Value
	Someday	Most of the Day	Every Day		
Sedentary	1	5	0	6	P = 0.000*** (S)
Minimally Active	2	10	3	15	
Moderately Active	7	17	4	28	
Active	18	3	0	21	
Total	28	35	7	70	

In physical activity of the pregnant female (figure 3). Only n=21 female are Active whereas n=28 was moderately active, n=15 was minimally active and n=6 was sedentary in their pregnancy period.

In Figure no.3, it shows percentage of females who are suffering from Low Back Pain in their previous Pregnancies. 59% (Maximum) of female had Low Back Pain in their previous Pregnancies where as 41% had no Low Back pain.

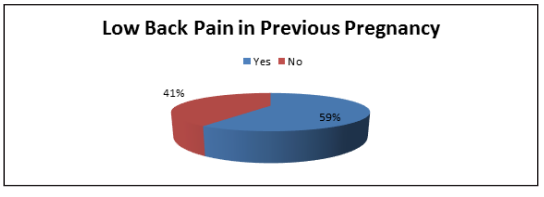

Figure 3: Low Back Pain in Previous Pregnancy

In the co-relation of exercise with before and during pregnancy, we found that before pregnancy n=27 were doing exercise daily whereas during pregnancy only n=1 was doing. n=9 were doing exercise 3 time per week before pregnancy compare to this group, n=7 was doing exercise during their pregnancy. Out of n=70 sample, n=9 was doing 2 time per week before pregnancy and n=17 was doing during pregnancy. n=23 someday before pregnancy, n=44 was during pregnancy, whereas n=2, n=1 was doing exercise before and during pregnancy.

DISCUSSION:

LBP in pregnancy is a common disorder, commoner than outside pregnancy (Mac Evilly and Buggy, 1996). LBP in pregnancy is exacerbated by the softening of the ligaments and joints of the lumbosacrum occasioned by the elevated progesterone and relaxin amongst others in pregnancy (Mac Evilly and Buggy, 1996; Kristiansson et al., 1996; Ayanniyi et al., 2006; Endresen, 1995; Ostgaard, 1996; Darry et al., 2007). Movements across these joints can become very painful particularly in pregnancy; this is worsened by the exaggerated lordosis of pregnancy, increased load on the lower spine and the upper femoral heads (Joanne et al., 1987). The effect of these anatomical changes and the resultant LBP can lead to considerable physical dysfunction and poor work performance as well as absenteeism (Darry et al., 2007).

Occupation type which entails prolonged standing or sitting such as teaching, trading, typist, office clerks, laboratory technicians and market women featured more in those with LBP than professions such as medicine, quantity surveying and accountancy. The explanation could be partly because the latter are of executive cadre doing less physically strenuous jobs than the former (Paul et al., 1994). This information is pertinent in identifying those who are at risk of developing LBP in pregnancy.

Conclusion

LBP in pregnancy is a common disorder, affecting slightly more in 3rd trimester of pregnant women. It is commoner in pregnancy than outside pregnancy. LBP often causes considerable physical dysfunction, poor work performance. It is advocated that obstetricians' and physiotherapists caring for such pregnant women need to collaborate further in order to enhance pain relief in these women. It is also suggested that a physiotherapy unit be established at the Obstetrics and Gynecology Department of each Hospital specifically de-signed to treat pregnant women among other functions.

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