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PREVALENCE AND PATTERN OF BACK PAIN IN PREGNANT FEMALES

Gynecology

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ABSTRACT

Introduction: Back pain (BP) is an important problem during pregnancy. It has a negative impact on the quality of life of expecting mothers. About [1-3] 50% of pregnant women experience back pain during antenatal period. BP can present either as pelvic pain(PP), pain in lumbar area(LBP) and high back pain(HBP). It is a very crippling pain and should be diagnosed early, so that appropriate treatment can be started thus improving the quality of life of pregnant women

Aim To study the prevalence and pattern of back pain in pregnant females.

Material and methods A closed end questionnaire was designed to get information of maternal age, history of pregnancy, gestational age, occupation / profession and about back pain history (frequency, duration, severity, effort and posture, physical dysfunction, effect on work, treatments options sought, site of pain). A total of about 250 pregnant women attending the obstetrics and gynaecology department of KM Medical College, Mathura were registered for the study.

Results: 99 (52.1%) had BP and 91 (47.9%) had no back pain. In relation to three types of BP namely LBP, PP & HBP majority was in the group of LBP (66.67%) followed by PP (23.22 %) and HBP (10.10 %). The evidence of BP was highest in the third trimester of pregnancy.

Conclusion: LBP in pregnancy is very common in females. It is a very crippling pain and should be diagnosed early, so that appropriate treatment can be started thus improving the quality of life of pregnant women.

KEYWORDS

low back pain, pregnancy, antenatal review.

Introduction

Back pain (BP) is an important problem during pregnancy. It has a negative impact on the quality of life of expecting mothers. About [1-3] 50% of pregnant women experience back pain during antenatal period. BP can present either as pelvic pain(PP), pain in lumbar area(LBP) and high back pain(HBP). It is a very crippling pain and should be diagnosed early, so that appropriate treatment can be started thus improving the quality of life of pregnant women. At times it has been found that BP can be relieved by postural modification; also for a long time back pain in pregnancy seem to be invisible and forgotten in contemporary ANC. It was concluded that back pain in pregnancy is a real problem and it should not be dismissed as trivial and it should be attended very meticulously and should be included in ante natal check-ups.

Review of literature

During the course of pregnancy there are various changes that the musculoskeletal system of the human body undergoes[4]. Low back pain is a common / major complaint encountered amongst women word wide[5]. Until the 70s low back pain was not investigated. The first report of estimated evidence of 48 % in 1977[6] is only underlined by the published increase to 54.8% in 1994[7].

Low back pain is not a diagnosis but a symptom that occurs in various conditions. [8] Back pain is considered to be a symptom of variety of changes and disorders, affecting the lumbar spine, the sacro-coccyx, pelvis and the neighboring organs [(9-17)]. Many women experience their first episode of back pain during pregnancy while at least half of all pregnant women experienced back pain at some time during pregnancy while some may have post partum pain also [(18-19)].

In 1962 Walde was the first who recognized the difference between LBP and PP. Various authors [(20-22)] have indentified three sub-types of back pain in pregnancy depending on the site, which are high back pain (HBP), lower back pain (LBP) and pelvic pain (PP). Pregnancy results in an increase in body [(10,14,15,16)] mass and a change in its centre of gravity which shifts anteriorly. With increasing pregnancy, the body adapts to these changes and the postural alignment is taken care of [23] with the exaggeration of the lumbar curve [5]. Another consequence of mechanical alteration during pregnancy is the response of inter vertebral discs in axial loading leading to decreased height and compression of the spine. This results in major compression of pregnant women's spine with LBP after activity, which also takes longer to recover, in relation to women without LBP [14].

LBP and PP are two different types of pain but a small group of patients suffer from the combined pain. PP is common during pregnancy and post partum period and is described as deep, stabbing unilateral or bilateral, recurrent or continuous pain, presenting between the post iliac crest and gluteal fold, possibly radiating to postero-lateral thigh, to the knee and calf but not to the foot [24]. It is believed that females who have experienced back pain in the past are more likely to report back pain during pregnancy and in females who have reported LBP during previous pregnancies are at a more risk of developing LBP during subsequent pregnancies [(25-26)]. Undertaking physical activity and maintaining a good level of physical activity / fitness is likely to reduce the risk of developing LBP[27].

Material and Methods

A total of about 250 pregnant women attending the obstetrics and gynaecology department of KM Medical College, Mathura were registered for this study. The main architect of this study was a researcher administered closed end questionnaire, which was so designed so as to get information of maternal age, history of pregnancy, gestational age, partly, occupation / profession and about back pain history (frequency, duration, severity, effort and posture, physical dysfunction, effect on work, treatments options sought, site of pain).

Out of 250 pregnant females, 25 cases were *excluded* due to incomplete data of the questionnaire and about 35 cases were lost to follow up, so at the end only 190 cases were analyzed for this study. As it was a questionnaire based study along with physical examination so it was very difficult, as all the data needed to be correctly filled, so the department of obstetrics and gynaecology was taken into confidence and a lot persuasion was done and it was because of their co-operation that the study completed. They were requested to send all the registered cases to the orthopaedics department if any patient complained of any sort of back pain.

Observations and Results

Table 1

Distribution of cases based on age interval

Age - Range	NBP	LBP	PP	HBP	Total	%age
15 - 20	4	1	0	0	5	2.63%
20 - 25	28	21	6	4	59	31.05%
25 - 30	34	27	9	3	73	38.42%
30 - 35	19	13	5	2	39	20.53%
35 - 40	6	4	3	1	14	7.37%
Total	91	66	23	10	190	100%

NBP - No Back Pain, LBP - Low Back Pain, PP - Pelvic Pain, HBP - High Back Pain

Table 2

Pattern of distribution of age of cases for the four sub-groups N=190

Groups	No. of cases	%age of total cases	Age range (years)
NBP	91	47.89%	15 – 40
LBP	66	34.74%	15 - 40
PP	23	12.11%	20 – 40
HBP	10	5.26%	20 – 40

NBP - No Back Pain, LBP - Low Back Pain, PP - Pelvic Pain, HBP - High Back Pain

Table 3

Distribution of cases based on the Gravida N=190

No. of Pregnancy	NBP	LBP	PP	HBP	Total no. of cases	%age
1	23	31	11	5	70	36.85%
2	46	22	7	3	78	41.05%
3	16	9	3	1	29	15.26%
4	6	4	2	1	13	6.84%

NBP - No Back Pain, LBP - Low Back Pain, PP - Pelvic Pain, HBP - High Back Pain

Table 4

Distribution of pain and its affect

Duration of pain	Absent from work(weeks)		Physical function	
(weeks)	1 to 4	>4	Affected	Not affected
1 to 7	94	42	101	35
>7	28	26	21	33
Total	122	68	122	68

Table 5

Pattern of distribution of 3 types of back pain (N=99)

Back Pain Types	No. of cases	%age of total
LBP main complaint	66	66.67%
PP main complaint	23	23.23%
HBP main complaint	10	10.10%
LBP only	59	59.60%
PP only	21	21.21%
HBP only	7	7.07%
LBP + PP	4	4.04%
LBP + HBP	3	3.03%
PP + HBP	1	1.01%
LBP + PP + HBP	4	4.04%

NBP - No Back Pain, LBP - Low Back Pain, PP - Pelvic Pain, HBP - High Back Pain

Table 6

Incidence of back pain across the trimesters of pregnancy

Sub-groups	1st trimester	2nd trimester	3rd trimester
LBP	17	21	28
PP	7	6	10
HBP	2	5	3

NBP - No Back Pain, LBP - Low Back Pain, PP - Pelvic Pain, HBP - High Back Pain

Discussion

Out of total 250 pregnant females registered for the study, only 190 were included for the study. Out of these, 190 cases only 99 (52.1%) had BP and 91 (47.9%) had no back pain. The result showed that there were more pregnant females with LBP origin (34.74%) then those with PP (12.11%) and HBP (5.26 %) as shown in Table 2. Chi square test also showed that there was significant difference in the number of cases belonging to different groups like LBP, NBP, PP & HBP. Based upon the *age group* maximum patient fell into the age group of 25-30 years (38.42 %) and less amount of patient was in the age group of 15-20 years (2.63 %) as depicted in Table 1. BP in pregnancy is exaggerated by softening of ligaments and joints of the Lumbo Saccral area and by elevated levels of progesterone and relaxin [4,29,30,31,32]. Movements across these joints are very painful which is further worsened with lumbar lordosis.

Table 2 showed the distribution of four types of entity like NBP, LBP, PP & HBP in the various ages. Patient with HBP had the lower mean age (26.18) while the patients with PP had the highest mean age (27.53). On a border perspective the variance of mean age of patient in various subgroups was not too significant.

Table 3 showed the distribution of pregnant women based on their gravida status. From thus we can infer that the patients with second pregnancy were in a majority 78 (41.05 %)while patients with fourth pregnancy were in a minority with 13 (6.84%) cases. Population of pregnant female reduced with increasing gravida.

Table 4 referred to the average duration of pain (range 1-14 weeks) resulting in absence from work and the affection on physical functioning of the pregnant female. It was found that maximum number of absentees was in the 1-4 weeks groups (122) and the affection of physical function was also found in the same numbers of patients. Patient of BP experience more problems in activities requiring flexion at L-S and Hip joints (like moving in and out of bed, climbing stairs, bending)[23].

Table 5 showed the distribution of all the 3 types of BP i.e. LBP, PP & HBP as the principal complain in 66.7%, 23.23 % & 10.1 % respectively. The table also showed the combination of the back pain present in the pregnant females. The findings from this study compares favorably with the findings of Ostgaard et al(1991)[20] and Noren et al (1997)[22].

Table 6 showed the distribution of BP across the three trimesters of pregnancy. The evidence of BP was highest in the third trimester of pregnancy.

Conclusion

LBP in pregnancy is very common in females. LBP leads to considerable dysfunction and poor work performance and absence from work. It is thus advocated that BP in pregnancy should not be written off easily but should be managed efficiently with the help of Obstetrics & Gynaecology and Orthopaedics and Physiotherapy departments so that these females can have a better lifestyle and pain free period of pregnancy.

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