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(RESEARCH ARTICLE)

Prevalence of low back pain amongst antenatal clinic attendees at a tertiary hospital in Rivers State, Nigeria

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Abstract

Background: Low back pain is a worrisome complaint amongst antenatal clinic attendees. Management of low back pain in pregnancy is multidisciplinary especially in chronic cases for patient's satisfaction. Eighty five percent (85%) of women with low back pain in previous pregnancies will develop low back pain in the index pregnancy.

Aim: To determine the prevalence of low back pain amongst antenatal clinic (ANC) attendees at the Rivers State University Teaching Hospital (RSUTH) and offer management modalities.

Method: The study was a cross sectional study, involving 200 antenatal clinic attendees, drawn from the Rivers State University Teaching Hospital. Information was coded and analysed using SPSS version 25.

Results: The mean age was 31.1years; the modal parity was Para 0. Twenty one (20.5%) of the antenatal clinic attendees were housewives, civil servants were 67 (33%) and 79 (39%) were self- employed. For the educational status 144 (72%) had tertiary level, 48 (24%) had secondary level, 4 (2%) had primary level of education, while 4 (2%) of the respondents did not provide their educational status. The prevalence of low back pain was 87 (43.5%). Seventy nine (91.8%) had low back pain lasting less than 6 months while 8 (9.2%) had low back pain lasting greater than 6 months or in previous pregnancies. None of those antenatal mothers were referred to orthopaedic surgeons.

Conclusion: The study revealed the prevalence of low back pain amongst ANC attendees at the RSUTH to be 43.5%. In addition, the study revealed that no patient with low back pain had orthopaedic referral. The optimum management for ANC attendees with low back pain is multi-disciplinary involving the obstetricians, the orthopaedic surgeons, physiotherapist, nurses and social workers.

Keywords: Prevalence; Low back pain; ANC attendees; Rivers State

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1. Introduction

Pregnancy related low back pain is any type of idiopathic pain arising between the lower margin of the 12th rib and the inferior gluteal folds during the course of pregnancy.[1-4] Researchers have demonstrated that though the aetiology of LBP is poorly understood. However, mechanical, hormonal or a combination of factors associated with body changes in pregnancy are implicated in LBP.[2-6]

Due to the variability in the predisposing factors of low back pain in pregnancy in various publications there are no general consensus.[8-10] However, chronic low back pain and LBP in previous pregnancy are the most commonly identified risk factors in published reports. Researchers have shown that the mean pain intensity of LBP ranges from 3.7 to 7 on the pain numeric rating scale (NRS). Furthermore, in all multinational study carried out by Gutke et al included women population in the United Kingdom (UK), United States of America (USA), Norway and Sweden demonstrated that UK women reported the highest pain intensity and impact of LBP in pregnancy while USA women despite the highest prevalence of LBP reported were least afflicted.

Low back pain (LBP) in pregnancy is a significant health problem among antenatal clinic attendees globally. The prevalence of low back pain during pregnancy varies from and within sub regions, researchers reveal that the prevalence ranges from 24-90%.[1,2] In the West African Sub region there is paucity of data with respect to LBP among pregnant women.

Variability of LBP in pregnancy ranges from moderate to severe during pregnancy with myriad of health implications.

An updated research work revealed that absenteeism, physical dysfunction and poor work performance were some of the associated risk factors of LBP. [2,4]. However, a good number of pregnant women with LBP do not complain to their care givers but sadly enough those who complain to their care givers are ignored.[1,3-10,11-14] It is important for care givers to have high index of suspicion to recognize clinical features of LBP and offer management for this pathology and if need be involve the expertise of orthopaedic surgeons for good pregnancy outcome.

The reason for this research work was to determine the prevalence of low back pain pregnancy in pregnancy among antenatal clinic attendees at the Rivers State University Teaching Hospital, offer solutions and preventive measures in conjunction with orthopaedic surgeons for better quality of life and pregnancy outcome.

Aim

To determine the prevalence of low back pain amongst antenatal clinic (ANC) attendees at the Rivers State University Teaching Hospital (RSUTH) and offer management modalities.

2. Material and methods

This was a cross-sectional study carried out among pregnant women attending antenatal clinic at the Rives State University teaching Hospital over a 6 months period. The questionnaire comprised of socio demographic and obstetrics characteristics together with the severity and features of the low back pain.

In addition, involvement of the management of the LBP with the orthopaedic surgeon was also taken into consideration. Permission for the study was obtained by the ethical committee of the Rivers State Hospital Management Board.

2.1. Study Population

This study was conducted in the Rivers State University Teaching Hospital. It is a 370 bed hospital located at Harley Street Port Harcourt Local Government Area of Rivers State, South-South Nigeria. It is a tertiary health institution that provides all levels of health care services to Rivers, Bayelsa, Delta, Imo, Abia and Akwa-Ibom States. The Obstetrics/Gynaecology and surgical department are two of the clinical departments of the hospital with thirteen (13) and twelve (12) Consultant Staff respectively. .

2.2. Data Analysis

The data were coded and analyzed by using the Statistical Package for Social Sciences (SPSS) software version 25. P value <0.05 was considered significant.

2.3. Sampling Method

2.3.1. Random sampling method was used.

Inclusion Criteria

- Women that gave informed consent

Exclusion Criteria

- Women who did not consent to the study
- History of spinal or rheumatolological disorder
- History of vertebral spine fracture or surgery
- Previous significant lumbar magnetic resonance imaging (MRI) finding
- Women with cognitive impairment and chronic pain syndrome

3. Results

The mean age was 31.1years; the modal parity was Para 0. Twenty one (20.5%) of the antenatal clinic attendees were housewives, civil servants were 67 (33%) and 79 (39%) were self-employed. For the educational status 144 (72%) had tertiary level, 48 (24%) had secondary level, 4 (2%) had primary level of education, while 4 (2%) of the respondents did not provide their educational status. The prevalence of low back pain was 87 (43.5%). Seventy nine (91.8%) had low back pain lasting less than 6 months while 8 (9.2%) had low back pain lasting greater than 6 months. None of those antenatal mothers were referred to orthopaedic surgeons.

Table 1 Distribution of antenatal clinic attendees based on their mean age, modal parity and the prevalence of low back pain

Mean age	31.1 years
Modal parity	0
Prevalence of Low Back Pain	87 (43.5%)

Table 2 Distribution of the occupation of antenatal clinic attendees

Occupation	Frequency (n)	Percentage (%)
House wife	21	10.5
Civil servant	67	33.5
Self-employed	79	39.5
Unemployed	33	16.5
Total	200	100

Table 3 The distribution of Lower abdominal pains for less than 6 months and those greater than 6 months among antenatal clinic attendees at RSUTH

Low Back Pain (Months)	Frequency (n)	Percentage (%)
< 6	79	39.5
≥ 6	8	4.0
	87	43.5

Table 4 Distribution of Educational status antenatal clinic attendees recruited for the study of Low back pain at the RSUTH

Level of education	Frequency (n)	Percentage (%)
No formal education	4	2
Primary	4	2
Secondary	48	24
Tertiary	144	72
Total	200	100

4. Discussion

Our study revealed the prevalence of low back pain (LBP) at the Rivers State University Teaching Hospital as 43.5% (see table 1). This figure was within the prevalence range of low back pain in a study by Omoke NI et al, which falls between 24 and 90%, although precisely higher in the same study which was 28.9%.[1] However, in the report by the World Health Organisation (WHO), approximately 75 - 80% of the world's population will experience at least one episode of acute LBP in their life time.[17]This implies that the prevalence of LBP of 43.5% from our study was lower than that documented by the WHO.

According to the Global Burden of Disease (GBD) 2017, the incidence of low back pain was higher in women compared to men.[18] In addition, the number of years lived with disability was higher in women than in men.[17] Researchers have shown that there is a relationship between the influence of gender and pain experience.[16] Furthermore, that women suffer from many chronic musculoskeletal aches and pain with overwhelming greater frequency than men.[17-20]

Previously, scholars attributed musculoskeletal aches and LBP to be as a result of psychological challenges.[16-18] However, present day researchers have shown that hormonal factors, particularly hormonal mechanisms, play a major role in the aetiology of LBP.[19,20]Furthermore, pain sensitivity has been shown to vary throughout the menstrual cycle.[17] In addition, researchers have demonstrated that hormonal differences between sexes, pregnancy and child birth can affect the musculoskeletal and neurological systems in various complex ways which can provoke painful conditions.[17] Particularly, back and pelvic pain are common both during and after pregnancy.[14-16]

In a research finding by Bryndal A, et al they showed that in retrospective and prospective studies 50-60% of pregnant women experience back pain during pregnancy.[16] This was higher than that of our study which was 43.5%. However, Bryndal A et al, also revealed that in non-pregnant women aged 35 years the prevalence of LBP was 15%.[16] This shows that pregnancy can be considered as an important risk factor of LBP in women of child bearing age.[17 In addition, women with LBP during pregnancy have severe symptoms that interfere with work, sleep and daily activities.[16-20]

From our study 91.8% of the respondents had LBP of less than 6 months duration whereas 9.2% had LBP lasting 6 months and above, including those who had LBP in their previous pregnancies (see table 3) Omike NI et al also showed that LBP in the previous pregnancies is an identifiable cause of low back pain in the index pregnancy.[1]

With regards to their employment status 39.5% were self -employed while 16.5% (table 2) were not employed of which 72% had Tertiary level of education (table 4). The reason for the high tertiary level of education amongst antenatal clinic attendees was due to the fact that the tertiary health institution is located in the heart of the urban city of Port Harcourt Nigeria. This was not in agreement with the study conducted by Eli S et al in the rural community of Ogoni in Nigeria where 72.3% of the antenatal clinic attendees had secondary level of education whereas 18% had tertiary level of education.[21]

5. Conclusion

The study revealed the prevalence of low back pain amongst ANC attendees at the RSUTH as 43.5%. In addition, the study revealed that no patient with low back pain had orthopaedic referral. The management of low back pain in this study was analgesics by the obstetrician. The optimum management for ANC attendees with low back pain is multi-

disciplinary involving obstetricians, the orthopaedic surgeons, physiotherapist, nurses, pharmacists, counselors and social workers.

Compliance with ethical standards

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Disclosure of conflict of interest

Authors have declared that there was no conflict of interest.

Statement of informed consent

Permission for the study was obtained by the ethical committee of the Rivers State Hospital Management Board.

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