

Prevalence of Back Pain among Nurses at Jos University Teaching Hospital, Plateau State, Nigeria

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ABSTRACT

This study was carried out to determine the prevalence of back pain among nurses at Jos University Teaching Hospital. Back pain is an occupational health challenge being experienced by nurses. Extant literature has established that the nature of nursing work predisposes them to this condition. The work environment is, sometimes, not too nurses' friendly owing to an interplay of consortium of factors. The study aimed at determining the prevalence, use of back care techniques, and other related factors involved among the nurses working at the Jos University Teaching Hospital. The motivation arose from poor information and data as to the existence of this condition among nurses in the teaching hospital. This was necessary as the information about this would enable them to prepare and guard against the debilitating effects of this condition. A cross-sectional research design was employed for the study purpose. Jos University Teaching Hospital was the study setting, nurses constituted the study population. A sample of 225 nurses was drawn from the population of 516 nurses using a multi-stage sampling approach. Questionnaire was used to elicit responses on the items contained therein. Convenience sampling technique was adopted in gaining access to the respondents. Ethical prescriptions were adhered to as informed consent was sought, and their withdrawal from participation would not attract any victimization. Data collected were analyzed using frequencies and percentages. Findings were presented in table and bar chart. Results of the study shows a high prevalence of back pain among nurses working in JUTH. Findings further demonstrate a relationship between the occupational physical activities and the back pain among nurses.

KEYWORDS: Prevalence, back pain, nurses, Jos University Teaching Hospital

INTRODUCTION

Back pain otherwise known as dorsopathy is pain felt in the human back that may come from muscles, nerves, bones, joints or other structures in the spine (Rashid 2014). Back pain frequency is not could be inexorable or intermittent in nature. The location of pain could be in different regions of the spinal column which could radiate to other parts of the body. And this may appear dull or sharp in terms of intensity (Rashid, 2014). Prevalence of back pain among nurses tend to be higher than what is obtainable among other health professionals. High workload and work conditions are found to account for this situation (Wong et al 2015). It is recognized that nurses have a higher propensity of developing back pain (Yassi and Lockhart, 2015) associated with of work-related tasks such as patient transfer (June and Cho, 2015). Wong and Teo (2010) posit that lower back pain, also called lumbago, is not a disorder rather a symptom of several different types of health challenges. It is a function of problems with one or more parts of the lower back, such as: ligaments, muscles, nerves and the bony structures that make up the spine, called vertebral bodies or vertebrae. It can also be due to a problem with nearby organs, such as the kidneys. Numerous studies on various health occupations such as nursing have reportedly found a strong association between musculoskeletal disorders that manifest in back pain and work related correlates (Maul et al 2016). An

avalanche of literature across contexts reveal a high prevalence of back pain among nurses (Yassi and Lockhart, 2015). Work-induced musculoskeletal disorders appear, sometimes, isolated or an integral part of the problems associated with impaired state of the muscles and other conjoined structures (Lelis et al, 2017). Nurses working within the hospital setting and other health centers are prone to back pain (Ellapen et al, 2015) owing to the repetitive nature of their work, work demands which entail utilization of physical efforts expressed in frequent weight lifting and moving patients around thereby causing them to assume, oftentimes, bad postures in the course of effecting those tasks (Magnano et al, 2014). The risk for back pain among nurses is contingent upon an interplay of multiplicity of factors which could polarise along that of individual and occupation (Kamper et al, 2015; Yang et al 2016). Back pain is a highly prevalent health challenge responsible for serious suffering and disability more than any other health conditions globally (Kamper et al, 2015). Extant literature shows that back pain results in significant loss of labour force, decrease in productivity and compromised economic situation (Monterio et al, 2014).

In view of the fore goings, it was expedient to know whether nurses experience this challenge as associated with their

How to cite this paper: Oluwatoyin A. Ogunyewo | Juliana A Afemikhe "Prevalence of Back Pain among Nurses at Jos University Teaching Hospital, Plateau State, Nigeria"

Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-4 | Issue-3, April 2020, pp.599-604, URL: www.ijtsrd.com/papers/ijtsrd30576.pdf



IJTSRD30576

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occupation or not, and how often it occurs, and the units or department where the challenge is more prevalent. The study was further necessitated as there was no extant evidence to answer the issues raised in the setting of the study.

Objectives

1. To determine the prevalence of back pain among nurses in Jos University Teaching Hospital
2. To determine the physical activities associated with back pain among nurses.
3. To assess back care techniques employed nurses in Jos University Teaching Hospital
4. To determine barriers to effective back care among nurses in Jos University Teaching Hospital

MATERIALS AND METHODS

This was a descriptive, cross-sectional, and non-experimental research design. The setting of the study was Jos University Teaching Hospital, Plateau State. It serves as a

centre for teaching and research activities being a tertiary health tier. It was established in 1975 as an affiliate of University of Jos. The teaching hospital has a lot of departments and units which coordinately function to achieve the set goals of the institution. Jos is the headquarters of the Plateau State, and doubles as the headquarters of Jos North Local Government. It is has a cosmopolitan appearance. The study population was nurses working in this health institution. A sample of 225 nurses was drawn from the target population of 516 nurses working in various departments of the health institution. A self-developed instrument was used to elicit responses from the respondents. The questionnaire was pretested for validity and reliability among the respondents that have similar characteristics as the study population. Permission to administer questionnaire to respondents was sought from the concerned gatekeepers. Convenience sampling technique was adopted in accessing the respondents. Two hundred and sixteen copies of questionnaire administered were retrieved thus producing 96% response rate.

Results

Findings from the analysis of data collected are presented in tables as follows:

Table 1: Socio-Demographic Characteristics of the Participants

Variable	Frequency (x)	Percentage (%)
Age		
15-25	49	23.11
26-35	79	37.26
36-45	51	24.05
46 and above	33	15.56
Total	212	100
Sex		
Male	46	21.69
Female	166	78.30
Total	212	100
Marital status		
Single	26	31.60
Married	118	55.66
Divorced	27	12.73
Total	212	100
Work experience (years)		
Less than One Year	30	14.15
1-5	56	26.41
6-10	64	30.18
11-15	44	20.75
16 years and above	18	8.49
Total	212	100
Rank		
DNS	1	0.47
CNO	15	7.07
PNO	26	12.26
SNO	34	16.03
NO I	60	28.30
NO II	76	35.84
Total	212	100
Unit/Ward		
Medical	40	18.86
Surgical	33	15.56
A & E	61	28.77
Pediatrics	25	11.79
O & G	53	25.00
Total	212	100

Number of patients treated per day		
1-5	11	5.8
6-10	85	40.09
11-15	79	37.26
16 and above	37	17.45
Total	212	100

The gender distribution shows that 78.3% were females and only 21.7% were males. Respondents' ages ranged between 15 and above 45 years. Majority (37.3%) of the respondents fall within 26-35 followed by age category, 36-45 (24.1%), while those in the age category 15-25 accounted for 23.1%, and 46 years and above constituted 15.6%. Work experience distribution reveals that 14.2 % are respondents who have not spent up to a year while ranged from 1-5 years accounted for 26.4%, 6-10 years (30.2%), 11-15 (20.8%), and 16 years and above (8.5%). Majority (35.8%) of the participants were nursing officers II (NO II) while Nursing Officers I (NO I) constitute 28.30%. DNS constitute 0.5%, CNO (7.1%) with 15 respondents and PNO (12.3%) and PNO (16%). Participants were from various Units/Wards of the hospital as these included: Medical wards (18.9%), Surgical ward (15.6%), Pediatric ward (11.8%), Accident and Emergency ward (28.8%) and Obstetric and Gynecological wards (25%). For the number of patients treated per day, almost half of the nurses (40.1%) claim they attend to a number of patients ranging from 6-10, while 37.3% do attend to between 11 and 15 while 17.5% have 16 and above while 5.8% attend to the least number (1-5) of patients.

Prevalence of Back Pain

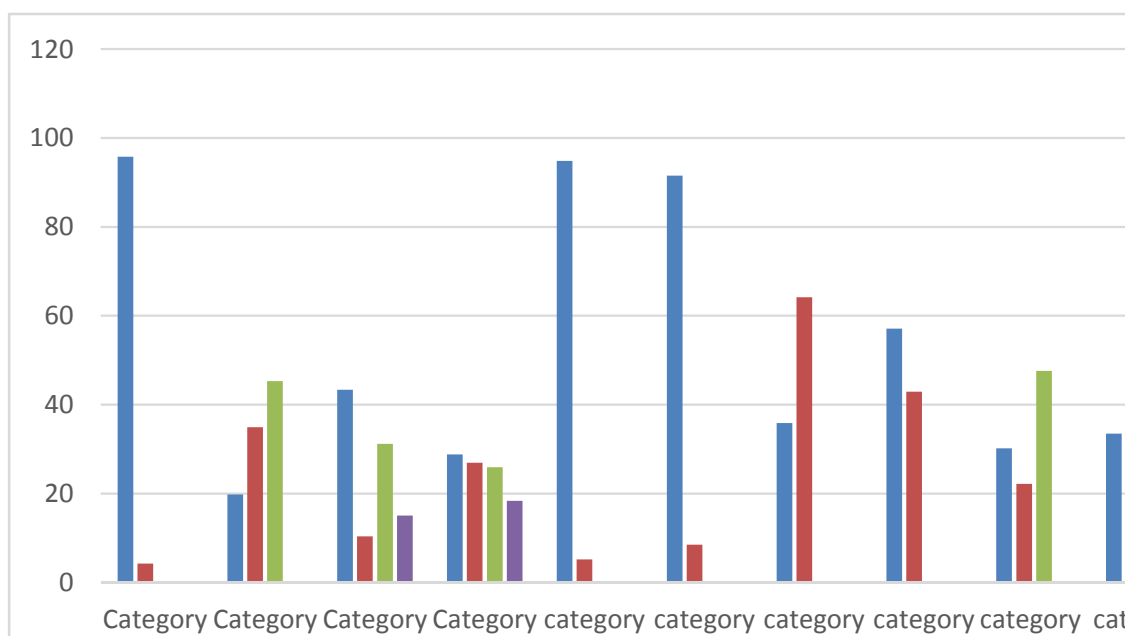


Figure 1: Prevalence of back pain

Figure 1 reveals the prevalence of back pain. The prevalence among respondents in the above chart is captured under different categories. In category 1, 95.8% claimed they do experience back pain while 4.2% do not. Category 2 addresses issue of the length of suffering, 19.8% claimed a year, 34.9%, two years and 45.28%, three years. Category 3 shows the respondents distribution on frequency of the back pain in the week. Forty three percent daily, 10.4%, once in a week, 31.13%, twice in a week and 15.1%, thrice in a week. Category 4 shows the pain duration before relief. Less than an hour (28.8%), 1-2 hours (26.9%), 3-5 hours (25.9%), 5 years and above (18.4%). Category 5 indicates respondents (94.8%) claim of association between pain and standing for long or carrying out procedure. In category 6, majority (91.50%) apply medication. Category 7 shows the distribution on whether they stop work upon pain recurrence. Also Some (35.84%) stop work when the pain starts, and majority (64.2% continue with the work. In category 8, 57.1% work for long when in pain and 42.92% stop work. In category 9, 30.18% experience excruciating pain while 22.2% and 47.6% experience moderate pain and light pain respectively. in category 9. For category 10, 33.5% had difficulties in sleeping, 22.6% was forced to reduce working hours, and 32.5% were not affected. Category 11 shows the distribution on measures taken to address the back pain. Majority (45.8%) take analgesics, 16 % visit a physiotherapist, 24.5% practice back care techniques and 13.7%.

Table 2: Factors contributing to back pain

Variable	Option	Frequency	Percentage
Performing the same task over and over again	Yes	194	91.50
	No	18	8.50
Total		212	100
Treating an excessive number of patients in one day	Yes	11	5.19
	No	201	94.81
Total		212	100

Not enough rest, break or pause during work	Yes	200	94.34
	No	12	5.66
Total		212	100
Working in awkward position	Yes	135	63.68
	No	77	36.32
Total		212	100
Working in same position over a long period	Yes	189	89.15
	No	23	10.84
Total		212	100
Carrying, lifting, or moving heavy materials or patients	Yes	203	95.75
Total	No	9	4.25
		212	100
Work schedule	Yes	182	85.85
	No	30	14.15
Total		212	100

Majority (91.5%) of the respondents claimed they perform the same task over and over. Treating an excessive number of patients in one day (94.8%), no enough rest break or pause during work (94.3%), working in awkward position (63.7%), working in the same position over a long period such as standing, bending over, sitting and kneeling, (89.2%), carrying, lifting or moving heavy materials or patients (95.8%). In addition to other work tasks, 85.84% and 14.15% of the study participants reported to be involved in work schedule (over time, irregular shift lengthen working days).

Table 3: Practice of back care techniques

Variables	Option	Frequency	Percentage
Do you practice back care Techniques	Yes	177	83.49
	No	35	16.50
If yes in 26, which of the Followings:			
Chiropractic		15	7.07
Massage		162	76.41
Stretching		171	80.66
Hydro-therapy		54	25.47
Sleeping on your back		61	28.77
Walking		104	49.05
Breathing		83	39.15
Lying down		174	82.07
Acupuncture		9	4.24
Feldenkrais		42	21.22
Alenander		11	5.18
Pilates		14	6.60
Others		21	9.90

Majority (83.5%) of the respondents claimed that they practise back care techniques, 16.5 % indicated lack of awareness of any back care techniques. Back care techniques mentioned by the respondents; Chiropractic (7.1%), massage (76.4%), stretching (80.7%), hydro-therapy (25.5%), sleeping on back (28.8%), walking (49.1%), breathing (39.2%), lying down (82.1%), acupuncture (4.2%), feldenkrais (21.2%), alenander technique (55.2%), pilates technique (6.6%), others (9.9%).

Table 4: Distribution by factors affecting utilization of back care techniques

Variable	Option	Frequency	Percentage
Lack of time	Yes	195	91.98
	No	17	8.01
Inadequate knowledge	Yes	178	83.96
	No	34	16.03
Unwillingness	Yes	96	45.28
	No	116	54.71

Lack of time (92%), inadequate knowledge (84%) are found to be the greater factors affecting the utilization of back care techniques while, in the contrary, unwillingness (45.3%) constituted the least factor as an appreciable portion (54.7%) of respondents expressed their willingness toward the utilization of back care techniques.

DISCUSSION

This study shows a high prevalence rate (95.8%) of back pain among nurses. In contradistinction to the previous studies, the prevalence of back pain as experienced by nurses is higher. Yip (2001) found that in China, a twelve month prevalence of back pain among nurses indicated while in rural Japan, an annual prevalence of back pain was found to be 59% (Smith, Ohmura, Yamagata & Minai, 2003). In Canada (Vieira *et al.*, 2006), a 30% point prevalence of lower back pain, and life-time prevalence of 65% was reported among the nurses working in the orthopedic and intensive care departments. However, findings of the present study were similar to that of a longitudinal study on nurses in Switzerland (Maul *et al.*, 2013) shows an annual prevalence range of 73%-76%. In cross-sectional study (Feng, Chen & Mao (2015), a 66% annual prevalence rate of back pain was reported among Taiwanese nursing aides. In South Africa (Cilliers, 2015), a lifetime prevalence rate of 84% was reported among hospital nurses which is higher in than the findings of this study, even though, this study focused primarily on back pain., respondents also reported symptoms in other significant areas.

Findings of this study complement the available evidence in respect of the epidemiology of back pain among nurses in Africa, and the prevalence can, sometimes, be higher than what is obtainable in the developed countries. Variations occur across contexts depending on how the prevalence is calibrated. In view of the routine activities and responsibilities which predispose nurses to back pain as reported in this study share similarities with that of other climates. This is evidenced in a study by Karahan and Bayraktar, (2014) that emphasizes the usage of body mechanics and its associated occurrence of low back pain among clinical nurses. The researchers reveal that fifty-seven percent of those nurses lifted patients incorrectly, while eighty-two percent extended their arms incorrectly during patient handling. The authors concluded that some of the nurses used body mechanics incorrectly and hence, the majorities suffered from back pain. Similar studies identified other factors as contributors to back pain in nurses (Retsas and Pinikahana 2015) as these include manual handling activities served as a factor associated with back pain in nurses, while Smith and Leggat (2013) identified other work place factors such as patient handling, work posture and job categories as important predictors of LBP in nurses. They further suggested that limited job control and a lack of social support from colleagues could also contribute to musculoskeletal disorders, especially, back pain. Organizational, psychological and social work factors have been identified as independent predictors of back pain in nurses (Yip, 2014; Eriksen, Bruusgaard & Knardahl, 2014). Perceived lack of support from colleagues and superiors, and poor relationships among workers as specific social work factors were also implicated in the prevalence of back pain among nurses. In the aspect of the utilization of back care techniques, the findings of this study are consistent with that of Guthrie *et al.* (2014) who established that 95% of nurses in the studied population had been trained in lifting techniques. Concerning the barriers militating against the effectiveness of back care among the clinical nurses. Smith *et al.* (2013) revealed that violation of biochemical or ergonomic principles arising from unsuitable work conditions could weigh against the effective use of back care techniques.

CONCLUSION

This study was pertinent in view of the numerous occupational hazards associated with nurses among which back pain remains outstanding. The grasp of these challenges and timely response would create an atmosphere of high level productivity and occupational outcomes as the number of man hours lost as a result of the debilitating effects of this condition.

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