WORK-RELATED BACK PAINS FACTORS AND IT'S PERCEIVED EFFECTS ON NURSES IN FEDERAL MEDICAL CENTRE OWO, ONDO STATE, NIGERIA

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Abstract
Nurses are the leading workforce that experiences low back pains among health professional. This study assessed the factors contributing to work-related low back pains and its perceived effects among nurses in Federal Medical Centre Owo, Ondo state, using a descriptive research design. A convenient sampling technique was used to select a total of 97 nurses. Data were collected using a self-designed structured questionnaire with reliability index of 0.69. Data collected were analyzed with SPSS using descriptive statistics and results were presented in tables and figure. The prevalence of low back pains is found to be high. The following factors are identified to cause work-related low back pain among nurses: standing for a long period of time without break, lifting and moving heavy patients or heavy medical equipments, Organization of work, working conditions, staff shortage, working hour, that is, overtime, stress at work, on job training on lifting of patients and improper work design. While the perceived impact of low back pain includes losses in number of works, decreased work output and occupational disability. It is therefore recommended that Nurses should plan their work and make proper organizational to prevent the occupational hazard of low back pain.

Keywords: Knowledge: Assessment, Back Pain, Nurses.

Introduction

Low back pain (LBP) is one of the tireless global public health problems that affects the value of life of an individual especially among the active population that are working (Mekonnen, 2019). Low back pain is rampant among nurses nowadays as nurses are at high risk among health professionals (Mohammadi et al., 2019; Boughattas et al., 2017; Siok Jim et al., 2017 & Abolfotouh, 2015). Back pain is a common complaint among nurses compared to other health professions (Tosunuz & Oztunc, 2017) as it accounts for one of the highest causes of disabilities among nurses (Ike & Olawumi, 2018; Hinmikaiye & Bamishaiye, 2012). Nursing is among professions that have high risk of developing LBP (Kasa et al., 2020) Low back pain is the most common musculoskeletal occupational health disorder among nurses both in developed and developing countries (Azizpour et al., 2017; Keriri, 2013 & Morris et al., 2018). Dlungwane et al.(2018). document an increase use of physiotherapist by nurses due to work related low back pain in the recent time. (Dlungwane et al., 2018, 2018)

Nursing is associated with physical and practical/ technical challenges such as handling of patients, lifting, bending, working hours under hazardous conditions with high workload and lot of emotional challenges and understaffing that inflicts compresses and shear forces on nurses' lower spine that often lead to occurrence of some conditions such as LBP {Zoe, 2008; Samaei et al., 2017 & Rezaee & Ghasemi, 2014). Scholarly observations have shown that the prevalence of LBP ranges from 40 to 97.9%.

(Mekonnen, 2019). A systematic review done on studies in Africa between 2000 to 2018 in this direction, especially among nurses, show the prevalence of LBP as it range between 44.1 and 82.7% (Kasa et al., 2020), while prevalence of LBP among Nurses in Nigeria ranges from 33.3% and 73.53 % (Johnson & Emmanuel, 2016).

LBP rank second reason for losing workers and increase expenditure on health next to cancer pain. It is the common cause of serious physical, cognitive, sensory, emotional and developmental obstacles for nurses. Studies have shown that LBP is more common among nurses as compared with other people in the society and the prevalence of LBP among nurses ranges between 40% to 97.9%. .Some factors such as lifting of patients and other heavy equipment needed in patients care have been identified as some of the factors contributing to the prevalence of LBP among nurses. It has a great impact on the quality of work, decrease work output and productivity, absenteeism, and early retirement (Kusma et al., 2019 & Sharif Nia et al., 2014). Other effects include disability, social impairment, economic burden, absenteeism; lack of leisure-time physical activity predicts long-term sickness absence and shortage of nurses (Suni et al., 2016; Dlungwane et al., 2018 & Sharif Nia et al., 2014). It is paramount to prevent LBP among nurses because nurses too have the right to work under a safe environment that is free from harm to perform better (Tosunuz & Oztunc, 2017)

Also, looking at the experiences of nurses on enormous impact that low back pain causes, it is pertinent to assess work related low back pain among nurses, because the experience of low back pain is related to the inherent nature of the nursing profession which is usually determined by several driving factors, thus the need for this study to find out the factors contributing to work-related back pain and its perceived effect among nurses working in Federal Medical Centre, Owo.

Objectives of the study
1. To determine the prevalence of Low back pain among respondents
2. To find out the factors contributing to work-related back pains among nurses.
3. To determine the perceived effects of back pains among nurses

Methodology
Employing a descriptive research design, the study setting assesses the occurrence of work-related back pains among nurses in the Federal Medical Centre, Ondo State. It is a 298 bed hospital which is divided into zones for effective supervision and coordination of activities. The target population of study consists of nurses. Convenient sampling technique was adopted to select the nurses that responded to the questionnaires. Only the nurses that were available and agreed to take part in the study was given the questionnaires to fill. This method was chosen because nurses run shifts, all of them cannot be seen at a time. Cochran's formular was used to determine the sample size, this formula result show that 97 respondents were representative of the population.

Information were obtained from the respondents through the use of self-developed questionnaire, the questionnaire was carefully constructed after reviewing relevant literature and also putting into consideration the objectives of the study. The instrument was given to experts in the field to validate, all corrections were affected before administering the instrument. Reliability of the instrument was done by administering the instrument to respondents in another setting with same characteristics as where the main study was carried out, the Cronbach's alpha was found to be 0.69. An introductory letter was submitted to the ethical committee on research in the research setting in other to get approval to meet with the respondents. The respondents were met and the objectives of the study were explained to them. Informed consent was signed and they filled the questionnaires and it was collected from the respondents thereafter. Confidentiality and anonymity of the respondents was also guaranteed.

Results
As presented in Table 1, 73 (75.3%) of the respondents are females while only 24 (24.7%) are males. The modal age of the respondents is between 40-49 years, just few (12.4%) of the respondents are between 20-29 years, some (33.0%) are between 30-39 years, few (20.6%) are between 50-59 years. Majority (71.1%) of the respondents are married, few (23.7%) are single, only 1% are divorced, just few (2.1%) are separated likewise 2.1% are widowed. Table 4.1 also shows the Professional characteristics of the respondents, more than half (56.7%) of the respondents have B.Sc/ BNSc certificate, some (32%) have RN/RM certificates, just few (7.2%) have RN certificate only while only 4.1% have MSc certificate. Few (11.3%) are Nurses 11, few (10.3%), few (14.4%) are Senior Nursing Officers, some (26.8%) are Principal Nursing Officers, few (6.2%) are Assistant Chief Nursing Officers, 13.4% are Chief Nursing Officers, 16.5% are Assistant Directors of Nursing Services while only 1% are Deputy Directors of Nursing Services. The years of experience of the respondents are as follows: 1-5 years (18.6%), 6-10 years (23.7%), 11-15 years (23.7%), 16-20 years (11.3%), 21-25 years (11.3%), 26-30 years (8.2%) and 31-35 years (3.1%).

Table 1: Demographic characteristics of respondents

Variable		N	%
Sex	Male	24	24.7
	Female	73	75.3
	Total	97	100.0
Age (years)	20-29 years	12	12.4
	30-39 years	32	33.0
	40-49 years	33	34.0
	50-59 years	20	20.6
	Total	97	100.0
Profession	RN	7	7.2
	RN/RM	31	32.0

	B.Sc/ BNSc	55	56.7
	MSc	4	4.1
	Total	97	100.0
Present post	NOII	11	11.3
	NO 1	10	10.3
	SNO	14	14.4
	PNO	26	26.8
	ACNO	6	6.2
	CNO	13	13.4
	ADNS	16	16.5
	DDNS	1	1.0
	Total	97	100.0
Years of experience	1-5 years	18	18.6
	6-10 years	23	23.7
	11-15 years	23	23.7
	16-20 years	11	11.3
	21-25 years	11	11.3
	26-30 years	8	8.2
	31-35 years	3	3.1
	Total	97	100.0

Fig 1 shows that the prevalence of low back pain among respondents is high(63.9%)

Figure 1: Prevalence of Low back pain among respondents
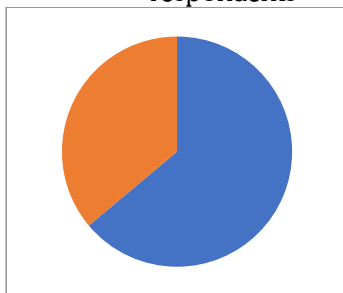
Prevalence of Low back pain
Yes 63.9 % =
No 36.1 % =

Objective two
To find out the factors contributing to work-related back pains among nurses.

Table 2 shows the factors contributing to work-related back pains among nurses which include standing for a long period of time without break (89.7%), lifting and moving heavy patients or heavy medical equipment (82.5%), organization of work (70.1%), working conditions (94.8%), staff shortage (97.9%), working hour, that is, overtime (85.6%), Stress at work (95.9%), on job training on lifting of patients (97.9%) and improper work design (89.7%).

Table 2: Factors contributing to work-related back pains among nurses

Factors contributing to work-related back pains	YES N (%)	NO N (%)	TOTAL (%)
Standing for a long period of time without break	87(89.7)	10(10.3)	97(100.0)
Lifting and moving heavy patients or heavy medical equipment	80(82.5)	17(17.5	97(100.0)
Organization of work	68(70.1)	29(29.9)	97(100.0)
Working conditions	92 (94.8)	5(5.2)	97(100.0)
Job satisfaction	10(10.3)	87(89.7)	97(100.0)
Staff shortage	95(97.9)	2(2.1)	97(100.0)
Working hour (overtime)	83(85.6)	14(14.4)	97(100.0)
On job training on lifting of patients	95(97.9)	2(2.1)	97(100.0)
Improper work design	87(89.7)	10(10.3)	97(100.0)

Objective two

To determine the perceived effects of back pains among nurses.

Table 3 shows that 17 (17.5%) of the respondents claim that back pain is associated with absenteeism while majority (82.5%) claim that back pain is not associated with absenteeism. Majority (94.8%) belief that it can lead to work related musculoskeletal disorders in nursing staff while just few (5.2%) contend that it cannot. Majority (97.9%) opine low back pain causes losses in number of work days which lead to significant economic burden to the individual, their families and the society while only 2.1%

disagree. Majority (92.8%) feel that it leads to indirect costs associated with hiring temporary or replacements of personnel, while the remaining 7.2% observe it did not. All (100%) agree that it leads to decreased work output following traumatic events. Majority (89.7%) agree that it can lead to occupational disability, while the remaining 10.3% disagree. Majority (72.2%) of the respondents declare that lifting and moving patients by nurses have serious side effects on their back while few (27.7%) disagree.

Table 3: Perceived effects of work-related back pain among nurses

Perceived Effects of Work-Related Low Back Pain on Nurses	Yes N (%)	No N (%)
low back pain is associated with absenteeism	17(17.5)	80(82.5)
it can lead to work related musculoskeletal disorders in nursing staff	92(94.8)	5(5.2)
low back pain causes losses in number of work days which lead to significant economic burden to the individual, their families and the society	95(97.9)	2(2.1)
it leads to indirect costs associated with hiring temporary or replacement of personnel	90(92.8)	7(7.2)
it leads to decreased work output following traumatic events	97(100.0)	-
it can lead to occupational disability	87(89.7)	10(10.3)
lifting and moving patients by nurses have a little or no side effect on their back	27(27.8)	70(72.2)
low back pain affects the psychosocial welfare of nurses	93(95.9)	4(4.1)

Discussion

This study determines the factors contributing to work-related back pain and its perceived effect among nurses working in Federal Medical Centre, Owo. The demographic characteristics of the respondents show that, majority 73 (75.3%) of respondents are females while the remaining 24.7% are males. This is in agreement with the findings of Sikiru & Hanifa, (2010) that reporte 300 (73.53%).

This study reveals that the prevalence of low back pain among respondents is high. This is in congruent with Mekonnen (2019) that reports 63.6% of LBP among the respondents. However, this is contrary to the findings of Shieh et al (2016) found that the prevalence of Low Back Pain (LBP) among their respondents to be 47%. This study reports that the factors contributing to work-related back pains among nurses include: Standing for a long period of time without break is related to development of LBP among Nurses. This finding substantiates the findings of Samaei et al., 2017; Dlungwane et al., 2018 & Farooq et al., 2018) that identify assuming a certain position for a long period of time can predispose nurses to develop low back pain.

Lifting and moving heavy patients or heavy medical equipments can cause the development of LBP among Nurses. This is in congruent with the findings

of El-Soud et al., 2018 & Farooq et al., (2018) that identify lifting of heavy weight objects as one of the causes of low back pains among nurses. Organization of work is a factor that determines the development of LBP among Nurses. This findings also substantiate the findings of (Boughattas et al., 2017) that document poor physical condition and layout of work materials as one of the determinants of LBP among nurses.

Working conditions are agreed to, to be a factor in the development of low back pains. This findings uphold the findings of Mekonnen, (2019) that identify work experience and shift work as having significant association with development of LBP among nurses. Lack of supporting working culture is identified as determinants to development of LBP among Nurses by Suni et al., (2016). AlDajah, (2013) also find a relationship between duration of low back pains and place of work. Working hour, that is, overtime influences the development of LBP. This findings go in tandem with the findings of Sharif Nia et al. (2014) that identify standing more than two hours as a predictor to development of low back pains among nurses. Also, Samaei et al., (2017) also document number or working hour per week as having influence on development of low back pain among nurses.

On job training on lifting of patients influence the development of LBP among nurses. The outcome of this study confirm the study of Kusma et al., (2019) that document improvement in nurses making use of back protective strategies with after training. Safety training is also identified to have relationship with LBP (Mekonnen, 2019). Improper work design is also identified with LPB. The outcome of this study corroborates the findings Al Dajah & Al Daghdi (2013) that identify the main occupational risk factors associated with LBP of nurses to include job organization, poor ergonomic structures, improper work design, low social support, poor job satisfaction, staff shortages and poor working conditions.

This study observes that the perceived effects of work-related low back pain on Nurses are: back pain is not associated with absenteeism. The outcome of this study contradicts the findings of Dlungwane et al., (2018) & El-Soud et al., (2014) that report absenteeism as a an impact of low back pains among nurses. LBP can lead to work related musculoskeletal disorders in nursing staff. This is in consonance with the findings of Munabi et al. (2014) which state that low back pain is one of the most common causes of musculoskeletal disorders related to the work status and condition. Low back pain causes losses in number of work days which lead to significant economic burden to the individual, their families and the society. This is in tandem with the findings of Yang et al (2016) which state that effect of low back pain in terms of quality of life, productivity and workers absenteeism are enormous. Low back pain causes losses in number of work days which cause significant economic burden to the individual, their families and the society.

LBP leads to indirect costs associated with hiring temporary or replacements of personnel and decreased work output following traumatic events. This is in line with the findings from the study conducted by Ansari, Subedi, Panta & Suwal (2015) which state that beside negative effects for nurses, consequences of low back pain include productivity loss at work, that is, decrease work output, sickness absence and disability. This is supported by the findings from the study conducted by Ansari, Subedi, Panta & Suwal (2015) which state that beside negative effects for nurses', consequences of low back pain include productivity loss at work, decrease work output, sickness absence and disability. It has a great impact on quality of work, decrease work output and productivity, absenteeism, and early retirement Kusma et al., 2019 & Sharif Nia et al., 2014).

Other effects include disability, social impairment, economic burden, absenteeism; lack of leisure-time physical activity predicts long-term sickness absence and shortage of nurses (Suni et al., 2016; Dlungwane et al., 2018 & Sharif Nia et al., 2014). It is paramount to prevent LBP among nurses because nurses too have right to work under a safe environment that is free from harm to provide a better (Tosunuz & Oztunc, 2017) and also looking at the experiences of nurses on enormous impacts low back pain is having on nurses. It is therefore pertinent to assess work related low back pain among nurses because the experience of low back pain is related to the inherent nature of the nursing profession which is usually determined by several driving factors, thus the need for this study to find out factors contributing to work-related back pain and its perceived effect among nurses working in Federal Medical Centre, Owo.

Conclusion and recommendations

The study has shown that the incidence of back pain is high among the respondents therefore nurses should avoid lifting of heavy equipment and patients, where it cannot be avoided. More hands should be sought to assist in lifting heavy patients. Nurses should learn modern methods and techniques of lifting patients that do not have effect on their spinal cord and also the management of the hospitals should provide modern equipment that can be used to lift heavy patients and equipments in order to reduce the incidence of low back pain among nurses.

Based on the findings from this study, the following recommendations are made, Nurses should as much as possible, avoid lifting of heavy patients and equipment. The service of supportive staff such as porters should be sought in lifting heavy patients and equipment. Nurses should learn different techniques of lifting patients and equipment that will not have a negative impact on their back and waist. Assistance of the management of each institution should be sought to provide modern equipment and machines that can be used to lift heavy patients with ease.

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