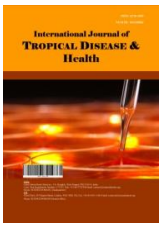

International Journal of TROPICAL DISEASE & Health

41(20): 34-45, 2020; Article no.IJTDH.63200
ISSN: 2278–1005, NLM ID: 101632866

Prevalence, Risk Factors, Burden and Prevention of Low Back Pain among Nurses at University College Hospital, Ibadan, Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors IAG and EUI designed the study. Author IAG wrote the protocol, managed the literature searches, collected the data and wrote the first draft of the manuscript. Both authors managed the analyses of the study, read and approved the final manuscript.

Article Information

DOI: 10.9734/IJTDH/2020/v41i2030391
Editor(s):
(1) Dr. Arthur V. M. Kwena, Moi University, Kenya.
Reviewers:
(1) Terence Jackson, Cleveland Clinic Akron General, USA.
(2) Serdar Olt, Adiyaman University, Turkey.
Complete Peer review History: http://www.sdiarticle4.com/review-history/63200

Original Research Article

Received 19 September 2020
Accepted 23 November 2020
Published 21 December 2020

ABSTRACT

Background: Low Back Pain (LBP) and its negative effects on the nurses' quality-of-life are worrisome. Studies on LBP among nurses are scanty in Nigeria. Study assessed prevalence, risk-factors, burdens and prevention of LBP among clinical nurses at University College Hospital, Nigeria.
Methods: Descriptive cross-sectional study that utilized quota and convenience sampling techniques in selecting 406 nurses. Self-administered structured questionnaire was used for data collection. Data were analyzed using descriptive statistics and Chi-Square test. Level of Significance, p≤0.05.
Results: Mean age of respondents was 39.51±8.525. Prevalence of LBP was very high (83.7%) among clinical nurses in the study setting. Risk-factors identified by respondents include some nursing activities, perceived stress and lack of job satisfaction. Analgesic use, movement restriction, low productivity, and psychological concern were among the burdens of LBP identified by the respondents. Preventive measures suggested include training of nurses on relaxation techniques, proper use of body mechanism/proper posture, and provision of mechanical assistive

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turning/lifting devices. Chi-square analysis showed that gender ($\chi 2$ =6.450, p=0.022) and nursing procedures were significantly associated with prevalence of LBP among clinical nurses in the facility.

Conclusions: High prevalence of LBP among clinical nurses of the facility has negative consequences on the general well-being of the victims, the profession, the clients/patients, the facility and the entire society. There is urgent need to put policies and strategies in place to curb high prevalence of LBP and its consequences on the clinical nurses in the facility as identified in the study.

Keywords: Prevalence; risk-factors; burden; prevention; low back pain.

ABBREVIATIONS

CCNA: Campaign for Action
IOM: Institute of Medicine
LBP: Institute of Medicine
NHS: National Health Service
NIOSH: National Institute for Occupational Safety
UCH: University College Hospital

1. INTRODUCTION

Low back pain (LBP) is an acute, sub-acute or chronic pain of lumbosacral, buttock or upper leg region [1,2]. It is a public health problem responsible for serious suffering and disability than any other health condition across the world, it affects people of all ages, and serves as a frequent reason for medical consultation [3,4]. Prevalence of LBP among nurses worldwide is about 50-80% [5,6]. A study in Saudi Arabia revealed that LBP among nurses ranged between 48-85% [6,7]. Another study on prevalence and factors associated with LBP among nurses in South Africa documented that prevalence of LBP ranged between 59-47%. Annual prevalence of LBP among nurses in a Nigerian hospital was 74% [3,8]. A survey on incidence of LBP among theatre nurses at University of Ilorin and Obafemi Awolowo University Teaching Hospital, Nigeria demonstrated a high prevalence (78.1%) among the respondents [9].

Although LBP has diverse etiologies, it has a high association with nursing occupation worldwide between 40–90% [6]. Study on prevalence, risk factors and coping measures of back pain among nurses at Federal Medical Centre, Abeokuta, Ogun State, Nigeria revealed that 46.1% of respondents working in surgical/orthopedics units experienced back pain, while the least was reported among those working in pediatrics, theatre and out-patient units; 66% of respondents reported that their symptoms were exacerbated by nursing activities such as maintaining a position for long period 82.02% and lifting of patients 81.1% [10]. Work-related factors such as lifting, awkward postures, bending, twisting, transfers, poor knowledge of back care ergonomics, unavailability of lifting equipment were associated with development of LBP [8]. Nurses working in surgery, orthopaedics, obstectrics, gynaecology, intensive care units and medical wards were more at risk of developing LBP as compared to nurses in other wards; nurses in those wards usually care for people that are mostly bedridden and helpless and require more assistance with transfers and handling [8,9]. Shortage of staff, work pressure and unexpected and stressful events in hospital settings can influence development of LBP among nurses [3].

Consequently, LBP is a major cause of activity limitation, disability, absenteeism from work, loss of labor force and production decline throughout the world, and therefore, imposes high economic burdens on individuals and government [4,11]. It results to significant function loss, decreased quality of life, serious financial loss, and physical and psychological problems for individuals due to its chronic nature [8,12]. It is estimated that each year 12% of nurses leave their jobs due to back pain [13]. In a study on incidence of LBP among theatre nurses of University of Ilorin and Obafemi Awolowo University Teaching Hospitals, Nigeria, respondents reported limitation in their activities of daily living, frequent sick-off and thought of leaving nursing profession [9]. Another study on prevalence, risk factors and coping measures of back pain among nurses in Federal Medical Centre, Abeokuta, Ogun State, Nigeria revealed that 78.5% respondents indicated that back pain has effects on their domestic and social activities; more than half 59.7% of respondents had obtained sick-leave [10]. A study on prevalence of LBP among female nurses in secondary and tertiary healthcare, kingdom of Bahrain in 2018 reported that, 52.5% of nurses experienced some movement restrictions, 43.7%

had visited therapists for consultations while 39% took sick-off [3]. A study conducted in Jordan showed that LBP was a leading cause of disability, and it was highly associated with increased absenteeism and decreased performance [14]. Another study in Qatar revealed that 50.8% of nurses with LBP obtained sick leaves, while 58.7% sought medical care, and 15.9% visited physiotherapists [15].

Respondents in a study on incidence of LBP among theatre nurses at two teaching hospitals in Nigeria, suggested the need to increase staff strength to reduce workload and provide relief for nurses [9]. Exercises, proper body mechanics, reduction or elimination of risk factors such as stress, obesity, and smoking, ergonomic arrangements, and provision and use of patient lifting devices by nurses were suggested in another study [16].

LBP is a public health problem and a work-related disorder common among nurses especially in Nigerian hospitals where lack of modern assistive patients' turning/lifting devices and shortage of nurses are major concerns. It has serious implications on the nurses, their clients/patients, health facilities, government and society at large. Researchers observed in the study setting that many nurses wear neck collar, lumber jackets, knee supports while battling with LBP which make them visit staff, orthopedic and physiotherapy clinics and seek excuse duty often. The pain prompts them to take numerous pain relieving drugs even with their likely side-effects. Discomfort from LBP limits them in carrying out activities of daily living. This consequently leads to low productivity, increased sick-leave, financial losses, temporary or permanent disability, reduced quality-of-life and shortage of nursing personnel in the facility which tend to jeopardize the overall care being rendered to the patients.

Studies on LBP among nurses are scanty in Nigeria, particularly at UCH, Ibadan. Investigating LBP among nurses at the study setting will add to the body of existing knowledge, and contribute to the scanty literatures on the subject matter in the country. The study will also shed light on the prevalence, risk-factors, burden and prevention of LBP among nurses which will inform appropriate interventions and policies aim at curbing this menace in the facility.

2. MATERIALS AND METHODS

A cross-sectional descriptive design was used to assess the prevalence, risk factors, burdens and prevention of LBP among clinical nurses working at University College Hospital (UCH), Ibadan Nigeria. UCH is the first tertiary hospital in Nigeria and West Africa Sub-region, offering world-class training, research and healthcare services. It serves as a reference center for other teaching hospitals in Nigeria and its environs. Target population consisted of eligible and consented clinical nurses in the study setting. Leslie Kish formula ($n = Z\alpha 2pq/d2$) for descriptive statistics was used to calculate sample size using 39% as prevalence of LBP [13]. Quota sampling technique was initially used to determine representatives from different sub-sections of clinical nursing department of the facility. This was followed by convenient sampling technique to recruit nurses who met inclusion criteria and happened to be on duty at the time of data collection. Nurses who have been working in the clinical nursing department of the facility for at least 12 consecutive months were included. Exclusion criteria were nurses who met the inclusion criteria but were not available on the day of data collection and those who were unwilling to participate in the study.

A pre-tested semi-structured self-administered questionnaire was used for data collection. Questionnaire consisted of five sections; Section A focused on socio-demographic characteristics of respondents; Section B elicited information on prevalence of LBP among respondents; Sections C examined risk-factors of LBP; Section D identified effects/burdens of LBP; while Section E focused on strategies to prevent LBP. The tool comprised of multiple-choice and open-ended questions. Language of the tool was English because the study was carried out among literates who could read, understand and write English well. Instrument was adopted [17].

Same was carefully modified according to the objectives of study and contents compared with available literatures on the topic. Items in the questionnaire, appropriateness of language and instructions to respondents were reviewed and corrected. Tool was pre-tested among 40 nurses in the department of clinical nursing of the facility with Cronbach Alpha test of 0.83.

Data collection was done daily until the required sample size was met. Data were analyzed using Statistical Packages for Social Sciences (SPSS) version 24.0 and Microsoft Excel. Descriptive

statistics were used to summarize findings using proportions, percentages, frequency tables, mean and standard deviation. Hypotheses were tested using Chi-Square test. Level of Significance set at p≤0.05.

3.RESULTS

Four hundred and six questionnaires were administered with 100% response rate.

3.1 Socio-Demographic Characteristics of Respondents

Mean age of respondents was 39.51±8.52 years with age range of 20-59 years. Many participants 39.2% were in age group 30-39 years, with the least found in 50-59 years (14.0%). Majority 96.3% were females as compared with their male counterparts (3.7%). Majority (88.4%) were married while 11.6% were single. Less than half (41.9%) had three children and above, while 15.3% had none. Most participants (99.8%) were Nigerians. Majority (82.3%) belonged to Yoruba ethnic group. Majority (88.9%) were Christians while (11.1%) practice Islam. Majority 98.5% of respondents had University education.

3.2 Prevalence of Low Back Pain

Prevalence of LBP among respondents was high (83.7%). Majority (96.2%) experienced first episode of LBP after they started their career as nurses. Majority (84.8%) experienced its major episode during sixth year and above of practicing nursing profession. More than half (67.1%) of respondents, had suffered from it in the last 3 months. Also, (26.2%) experience LBP frequently while it is constant in (9.7%) of respondents (Table 1).

3.3 Risk Factors of Low Back Pain

Majority (93.2%) of respondents linked their LBP to the consequence of their occupation and (91.5%) of them reported that the pain is usually exacerbated by nursing activities which include nursing staff shortage (91.8%); frequent lifting of patients (89.7%); repetitive bending/twisting of body while caring for the patients (88.5%); lack of appropriate patients' lifting/turning devices (88.5%); maintaining a position for long periods of time e.g. prolong standing (85.6%); repetitive manual changing of position of patients (84.7%) and working at highly dependent ward for more than one year (76.2%). Only (16.5%) of respondents had previous history of trauma/injury as individual risk factors which was due to road traffic accident in majority (80.4%) of respondents. Most (62.9%) and half (48.8%) of respondents reported perceived stress and lack of job satisfaction respectively as their psycho-social risk factors (Table 2).

Table 1. Prevalence of low back pain

Variables	Responses	Frequency	Percentage
Have you suffered from low back pain before? (n = 406)	Yes	340	83.7
	No	66	16.3
If yes, when exactly did you start experiencing it? (n=340)	Before Started practicing as a nurse	13	3.8
	After Commenced practicing as a nurse	327	96.2
At what stage of your career as a practicing nurse did you feel/experience major episodes of low back pain? (n=327)	<=5 years	20	6.1
	6 - 10 years	133	40.7
	11 - 15 years	115	35.2
	16 - 20 years	30	9.2
	21 years and above	29	8.9
Have you suffered low back pain in the past 3 months? (n=340)	Yes	228	67.1
	No	112	32.9
Which term best describe the frequency of your low back pain? (n=340)	Never	24	7.1
	Infrequent (1-2days/week)	194	57.1
	Frequent (3-5days/week)	89	26.2
	Constant (daily pain)	33	9.7

Table 2. Risk factors of low back pain (n=340)

Variables	Responses	Frequency	Percentage
Do you have previous history of trauma/injury?	Yes	56	16.5
	No	284	83.5
If yes, the kind of trauma/injury	Fall from a height	11	19.6
	Motorbike Road Traffic Accident	17	30.4
	Vehicle Road Traffic Accident	21	37.5
	Pedestrian Road Traffic Accident	7	12.5
Do you believe that your low back pain is due to your occupation as a nurse?	Yes	317	93.2
	No	23	6.8
Are your symptoms of low back pain exacerbated by nursing activities?	Yes	311	91.5
	No	29	8.5
Frequent lifting of patients	Yes	305	89.7
	No	35	10.3
Repetitive manual changing of position of patients	Yes	288	84.7
	No	52	15.3
Repetitive bending/twisting of body while caring for the patients	Yes	301	88.5
	No	39	11.5
Patients' mobilization/transfer within and outside the ward/clinic	Yes	223	65.6
	No	117	34.4
Maintaining a position for long periods of time e.g. standing	Yes	291	85.6
	No	49	14.4
Walking distance up and down on the ward/clinic during the shift	Yes	267	78.5
	No	73	21.5
Nursing staff shortage leading to increase workload/ too much work to do in a shift	Yes	312	91.8
	No	28	8.2
Working at highly dependent ward for more than one year	Yes	259	76.2
	No	81	23.8
Unavailability of appropriate patients' handling equipment/devices	Yes	274	80.6
	No	66	19.4
Pushing or pulling of objects which exceed the power of nurse	Yes	273	80.3
	No	67	19.7
Lack of appropriate patients' turning equipment	Yes	301	88.5
	No	39	11.5
Perceived stress by the nurse	Yes	214	62.9
	No	126	37.1
Lack of training/training on lifting/turning techniques for prevention of low back pain	Yes	150	44.1
	No	190	55.9
Poor body mechanics during lifting of patients	Yes	209	61.5
	No	131	38.5
Poor working conditions	Yes	290	85.3
	No	50	14.7
Not enough rest/break during the shift	Yes	287	84.4
	No	53	15.6
Work schedule (e.g. on-call, irregular shifts)	Yes	248	72.9
	No	92	27.1
Psycho-social factors (such as low social support, lack of job satisfaction)	Yes	166	48.8
	No	174	51.2

Table 3. Burden/effects of low back pain

Variables	Responses	Frequency	Percentages
Movement restrictions on duty	Yes	230	67.6
	No	110	32.4
Decreased output/low productivity	Yes	257	75.6
	No	83	24.4
Movement restrictions even outside work environment in terms of activities of daily living and leisure activities	Yes	267	78.5
	No	73	21.5
Chronic low back pain disease	Yes	163	47.9
	No	177	52.1
Temporary or permanent disabilities	Yes	118	34.7
	No	222	65.3
Visiting a doctor	Yes	238	70.0
	No	102	30.0
Visiting a physiotherapist	Yes	159	46.8
	No	181	53.2
Sick leaves/absenteeism	Yes	123	36.2
	No	217	63.8
Seeking for job transfer to less busy area (ward/clinic)	Yes	165	48.5
	No	175	51.5
Thought of leaving nursing profession for another job	Yes	125	36.8
	No	215	63.2
Use of analgesia	Yes	318	93.5
	No	22	6.5
Financial losses	Yes	138	40.6
	No	202	59.4
Disability	Yes	92	27.1
	No	248	72.9
Psychological /emotional concern	Yes	241	70.9
	No	99	29.1
Use of body supports such as neck collar, lumbosacral orthosis/braces, knee braces etc	Yes	160	47.1
	No	180	52.9

3.4 Burden/Effects of Low Back Pain

Effects of LPB reported by the respondents include: analgesic use (93.5%), movements restriction in activities of daily living (78.5%), low productivity (75.6%), psychological/emotional concern (70.9%), medical consultation (70.0%), seeking for job transfer to less busy ward/clinic (48.5%), chronic LBP disease (47.9%), visiting physiotherapists (46.8%), financial losses (40.6%), thought of leaving nursing profession for another job (36.8%), sick leave (36.2%), and temporary or permanent disability (34.7%) (Table 3). Majority (69.9%) adopted use of analgesic, with or without lumber jacket (8.8%), neck collar (8.3%) and knee brace (3.5%) (Fig. 1).

3.5 Prevention of Low Back Pain Distribution

Preventive measures suggested by respondents include: training on relaxation techniques (97.4%); proper use of body mechanism/proper posture (97.4%); provision of mechanical assistive/turning devices for nurses in the clinical areas (97.1%); yearly rotation of nurses in-between busy and less busy areas (96.5%); postural training for nurses (95.9%); and regular exercise to strengthen back muscles (91.8%) (Table 4).

3.6 Hypotheses

Chi-Square analysis revealed that there was significant relationship between gender and prevalence of LBP among respondents ($\chi 2$ = 6.450, p=0.022). Also, there was significant relationship between nursing procedures and prevalence of LBP among respondents (Table 5).

4. DISCUSSION

Mean age of respondents was 39.51±8.53 years with age range of 20-59 years. This connotes

that the respondents were still within their service years, active and productive. Almost all of them were females, married with less than half having three children and above. This supports the general assertion that nursing is a female dominated profession [18,19]. Majority of the nurses had University education including Masters Degree. Implication is that nurses in the facility are well educated and knowledgeable. This is necessary due to the current transformation in the health sector which requires corresponding transformation in nursing education and practice [20]. This will prepare them to meet their patients' needs, function as leaders, engage in advance science and be at-pals with other professionals in the healthcare system [19]. Two-third of the respondents has been in the profession for more than ten years and majority of them have been working in their present practice area 1–5 years ago. Almost all the respondents were involved in shift or call duty. This is in line with the nature of nursing profession being a 24-hour-a-day job, especially in the clinical setting [21].

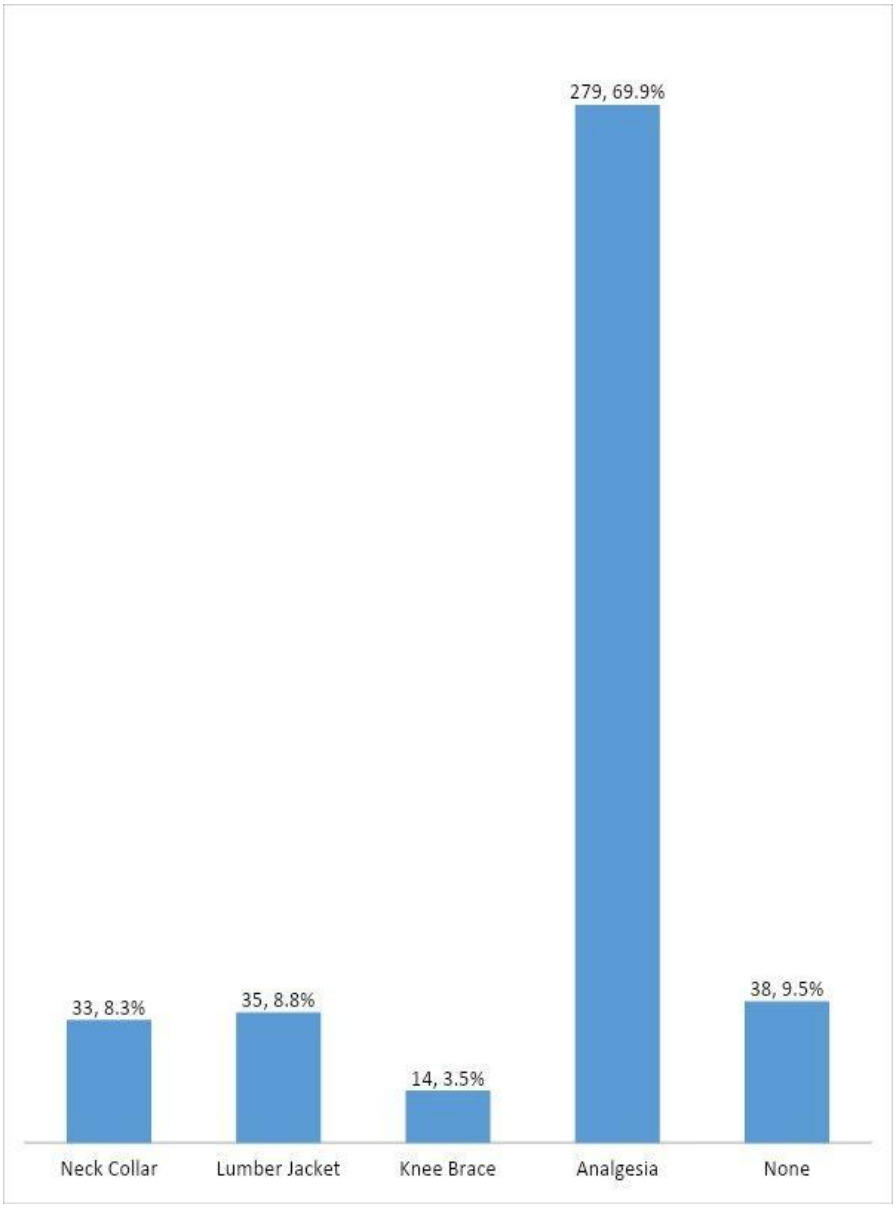

Fig. 1. Respondents' strategies to cope with low back pain

Table 4. Prevention of low back pain

Variables	Responses	Frequency	Percentage
Regular exercise to strengthen back muscles	Yes	312	91.8
	No	28	8.2
Proper us of body mechanisms/adoption of proper posture	Yes	331	97.4
	No	9	2.6
Ergonomic design/structuring of workplace to improve work condition	Yes	308	90.6
	No	32	9.4
Avoidance of obesity	Yes	310	91.2
	No	30	8.8
Postural training for nurses	Yes	326	95.9
	No	14	4.1
Regular evaluation of working condition	Yes	309	90.9
	No	31	9.1
Provision and use of mechanism assistive turning and lifting devices/equipment	Yes	330	97.1
	No	10	2.9
Training of staff in basic patient lifting and transferring techniques	Yes	326	95.9
	No	14	4.1
Training on relaxation techniques and coping strategies	Yes	331	97.4
	No	9	2.6
Yearly rotation of nurses in-between busy and less busy areas	Yes	328	96.5
	No	12	3.5

Table 5. Relationship between nursing activities/procedures and prevalence of low back pain

Nursing Activities/Procedures	Responses				P-value
Frequent lifting of patients	Yes	(89.7)	(74.2)	11.835	0.002*
	No	(10.3)	(25.8)		
Repetitive manual changing of position of patients	Yes	(84.7)	(74.2)	4.290	0.048*
	No	(15.3)	(25.8)		
Repetitive bending/twisting of body while caring for the patients	Yes	(88.5)	(74.2)	9.488	0.005*
	No	(11.5)	(25.8)		
Patients' mobilization/transfer within and outside the ward/clinic	Yes	(65.6)	(53.0)	3.763	0.069
	No	(34.4)	(47.0)		
Maintaining a position for long periods of time e.g. standing	Yes	(85.6)	(66.7)	13.714	0.001*
	No	(14.4)	(33.3)		
Walking distance up and down on the ward/clinic during the shift	Yes	(78.5)	(45.5)	30.787	0.000*
	No	(21.5)	(54.5)		
Nursing staff shortage leading to increase workload/ too much work to do in a shift	Yes	(91.8)	(72.7)	19.939	0.000
	No	(8.2)	(27.3)		
Working at highly dependent ward for more than one year	Yes	(76.2)	(65.2)	3.526	0.066
	No	(23.8)	(34.8)		
Unavailability of appropriate patients' handling equipment/devices	Yes	(80.6)	(65.2)	7.695	0.009*
	No	(19.4)	(34.8)		
Pushing or pulling of objects which exceed the power of nurse	Yes	(80.3)	(69.7)	3.687	0.070
	No	(19.7)	(30.3)		
Lack of appropriate patients' turning/ lifting equipment	Yes	(88.5)	(77.3)	6.073	0.027*
	No	(11.5)	(22.7)		
Perceived stress by the nurse	Yes	(62.9)	(51.5)	3.036	0.098
	No	(37.1)	(48.5)		
Lack of training/training on lifting/turning techniques for prevention of low back pain	Yes	(44.1) 190	(56.1) 29	3.173	0.081
	No	(55.9)	(43.9)		

Nursing Activities/Procedures	Responses				P-value
Poor body mechanics during lifting of patients	Yes No	(61.5) (38.5)	(74.2) (25.8)	3.892	0.051
Poor working conditions	Yes	(85.3)	(75.8)	3.692	0.067
Nursing Procedure	Yes	305 (89.7)	49 (74.2)		
	No	50 (14.7)	16 (24.2)		
Not enough rest/break during the shift	Yes No	287 (84.4) 53 (15.6)	45 (68.2) 21 (31.8)	9.768	0.003*
Work schedule (e.g. on-call, irregular shifts)	Yes No	248 (72.9) 92 (27.1)	39 (59.1) 27 (40.9)	5.117	0.027*
Psycho-social factors (such as low social support, lack of job satisfaction)	Yes No	166 (48.8) 174 (51.2)	30 (45.5) 36 (54.5)	0.251	0.687

This study revealed that the prevalence of LBP was very high (83.7%) among respondents, in which majority experienced its first episode after they started their career in nursing. The finding corroborates previous studies which identified high prevalence of LBP among nurses [9,10]. Nursing occupation in clinical areas involves numerous physical activities which exacerbate symptoms of LBP [10]. Study also revealed that majority of respondents experienced major episode of LBP as from the sixth year of their nursing career. This could be due to accumulated pressure/stress from rigorous nursing activities on their back bones which manifests as pain after some years of practice. This is in collaboration with a study which indicated that as the working time period increases LBPs related to physical and psychological traumas also increases [8].

Findings showed that majority of respondents with LBP linked it to their occupation as nurses and reported that the pain is usually exacerbated by some nursing activities such as intense workload as a result of nursing staff shortage, frequent manual turning/lifting of patients, repetitive bending/twisting of body while caring for the patients, lack of modern assistive patients' turning/lifting device and maintaining a position for a long period (such as prolong standing). This is consistent with previous studies which established a strong association between work-related factors such as lifting, awkward postures, bending, twisting, transfers and development of LBP especially in developing countries where lack of lifting aids forces the nurses to strain during lifting/turning of patients [8,10]. This can be due to the fact that clinical nursing practice usually involves physical strenuous nursing procedures which may exceed the power of the individual nurse(s); same may be worsened by lack of appropriate lifting/turning devices, lack of training on lifting techniques, and shortage of nurses which consequently increases workload among nurses.

Previous injury and psycho-social factors such as stress and lack of job satisfaction were found to aggravate LBP among nurses. This finding supports the view of some researchers who confirmed that pain may be triggered by physical injuries and chronic psychological dysfunctions (such as stress and anxiety) [3,8]. Initial injury as a result of road traffic accident (RTA) can result to damage to the bone, tissues and other surrounding structures in the back which can manifest as pain and can be recurrent with little strain. Also, psychological factors such as low job satisfaction, anxiety, perceived stress at work, poor interpersonal relationship with co-workers, poor support from superior officers among others can result to emotional instability and poor appetite which may lead to poor nutrition to the body parts including back bones and muscles [3,4,17].

In determining the burden/effect of LBP among nurses, respondents identified analgesic use; movement restriction in activities of daily living; low productivity; psychological/emotional concern; medical consultation and sick-leave. The finding is in line with the findings of previous researchers in which respondents reported movement limitation in daily activities, consulting physiotherapists, sick-leave, thought to leave nursing profession and thought to change their work places [4,9,14,15]. It also corroborates findings of other studies which documented increased absenteeism, decreased performance and negative effects on domestic and social activities [10,14]. LBP negatively impacts clinical nurses, affecting their performance and general well-being. The psychological/emotional concern resulting from LBP may also lead to anxiety, depression and/or hypertension. Furthermore, financial losses from buying analgesics, lumber

jackets, and braces will affect their financial status negatively. Time spent during medical and physiotherapist consultations as well as sick-leaves would also reduce their work-output, creates staff shortage, and mount unnecessary pressure on other nurses on duty.

Institutional preventive measures suggested by respondents include training on relaxation techniques, provision and use of mechanical assistive turning/lifting devices by the nurses when necessary, yearly rotation of nurses in-between busy and less-busy practice areas, postural training for nurses, regular evaluation of working condition, and moderate regular exercises. This corroborates findings from similar study where moderate regular exercises, proper body mechanics, reduction or elimination of risk-factors such as stress, obesity, and smoking, ergonomic arrangements, and use of patient lifting/turning devices were suggested to prevent LBP [4]. Current study is also supported by another researcher who emphasized better working conditions to protect nurses from work-related harms through national policies and vigilance in injury prevention; risk assessment and control principles including LBP prevention program; implementation of institutional patient handling policies; and training on biomechanical lifting/turning principles [7]. This is also in tandem with a view that workplace guidelines should promote nurses undertake reduced manual handling activities and increase nursing staff strength to reduce workload on nurses [9]. Study also corroborates the assertion of a researcher who noted that individual and institutional precautions should be taken to prevent LBP among nurses [22]. This will enable nurses to work under healthy and safe conditions.

This study revealed that gender was significantly associated with prevalence of LBP among respondents. This connotes that LBP is common among a particular gender (female nurses) in the study setting. Factors that might be responsible for this include stress of pregnancy and childbirth which are common among female gender and may aggravate LBP among female nurses [4].

Furthermore, finding revealed that there was significant relationship between nursing procedures and prevalence of LBP among respondents. Nursing procedures such as repetitive manual changing of patients' position, repetitive bending or twisting of body while caring for patients, maintaining a position for long among others, were significantly associated with prevalence of LBP among respondents. Such activities usually have direct effects such as strain on back bones which may result in back pain. This corroborates findings of previous studies which established significant relationship between nursing activities and development of LBP [8,10].

5. CONCLUSION

High prevalence of LBP and its consequences among nurses in the clinical nursing department at UCH, Ibadan is worrisome and calls for urgent attention to maintain optimal health of these frontline health workers. Interventions at individuals and management levels will help to prevent LBP among them which will enable them to provide adequate care for their patients.

CONSENT

Informed consent was taken from individual participants before administration of study instrument. Instrument was pre-coded and the information obtained was kept confidential and used for research purpose only. There was no harm or risk to the participants since the study did not involve any invasive procedure.

ETHICAL APPROVAL

Authors hereby declare that the study protocol was examined by the appropriate ethics committee and ethical approval was obtained from the University of Ibadan/University College Hospital (UI/UCH) Ethical Review Board (UI/EC/19/0353). Permission to conduct the study was sought and granted by the authority of the study setting. Study was conducted in accordance with ethical standards laid down in the 1964 Declaration of Helsinki.

ACKNOWLEDGEMENTS

We express our profound gratitude to the management, the Director of Nursing, and Head of Clinical Nursing Department, and all nurses in the facility who participated in this study for their support and cooperation during data collection. We also appreciate all authors whose works were used as reference materials for this study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/63200