

**FACTORS CONTRIBUTING TO LOW BACK PAIN AND ITS
PREVENTION AMONG NURSES AT OLABISI ONABANJO
UNIVERSITY TEACHING HOSPITAL, SAGAMU**

BY

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PRESENTED TO

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**IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF
NURSING AND MIDWIFERY COUNCIL OF NIGERIA FOR
THE AWARD OF REGISTERED NURSE CERTIFICATE.**

NOVERMBER, 2023.

DECLARATION

This is to declare that this research project titled '**FACTORS CONTRIBUTING TO LOW BACK PAIN AMONG NURSES IN OLABISI ONABANJO UNIVERSITY TEACHING HOSPITAL, SAGAMU**' was carried out by Nursing Student **OLADEJI VICTORIA OPEMIPO**. It is solely the result of the work of the researcherwik except were acknowledged as being derived from other person(s) or resources to avoid plagiarism.

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Date: -----

CERTIFICATION

This is to certify that this research work was carried out and reported by **OLADEJI VICTORIA OPEMIPO** with EXAMINATION NUMBER N/23/08608 has been examined and approved for the award of registered nurse certificate.

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ABSTRACT

Low back pain is one of the leading skeletal health problems worldwide and a common complaint among nurses. It directly affects nurses' productivity at work and reduces the overall amount and quality of health care the clients receive. The study assessed the factors contributing to low back pain and its prevention among Nurses in OOUTH, Ogun State. The study is a non-experimental descriptive design conducted on a total of 62 nurses at OOUTH through total enumeration method. Data was collected using a pre-tested, structured, self-administered questionnaire and analyzed using SPSS version 27.0 for descriptive analysis. The results from the study revealed that majority of the nurses 43.5% fell under (1-5 years). Majority of the nurses 96.8% supported that lifting of patients contribute to low back pain whereas 80.6% of the nurses said they have not been diagnosed with a medical condition such as herniated discs which can contribute to low back pain. About 61.3% said they have been on sick leave or days off due to low back pain while more than half 72.6% said low back pain has affected their productivity. About 51.6% strongly agree that training on correct lifting and postures should be done to prevent low back pain among nurses, whereas majority of the nurses 82.3% strongly agree that adequate lifting aids and adjustable beds should be made available to prevent low back pain among nurses. Government and healthcare management should ensure sophisticated medical equipment are provided in order to ease the workload on nurses.

KEYWORDS: Factors, Low Back Pain, Nurses, Prevention.

WORD COUNT: 248 WORDS

DEDICATION

This research work is dedicated to Almighty God who has given me the strength, favor and grace to complete this research study and to my parents for their support financially, morally and spiritually. This research work is dedicated to my lovely parents, Mr. & Mrs. B.O Oladeji.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Nurses are said to be the largest group of workers in the health sector. They are like a cornerstone of healthcare system which is surrounded by a lot of challenges. Nurses are always at risk of developing many occupational health problems because of physically demanding nature of work i.e., working in the same position for longer periods, lifting or transferring dependent patients and caring for high number of patients. In the past decades, there has been increasing interest in occupational health issues relating to musculoskeletal system. One of which is low back pain, a phenomenon with particularly high prevalence all over the world. Low back pain, is not only considered to be the most reason for functionality disability, worldwide, but also estimated to affect almost 90% of the universal population (Ozkan,2021). Low back pain (LBP) is one of the most serious health problems of tremendous medical and socioeconomic dimension and a major cause of disability. Low back pain can be defined a pain localized between the 12th rib and the interior gluteal folds, with or without leg pain. Nurses are known to be a high-risk group for occupational low back pain. Direct care nursing personnel around the world report high numbers of work-related musculoskeletal disorders (Asadi et.al,2016).

The impact of low back pain for nurses includes time off work, increased risk of becoming chronic, as well as associated personal and economic costs. Nurses who suffer from low back pain will have an impact on them while standing up from sitting and lifting the patients (Thomas et. al, 2019).

Back pain predominantly affects the working population in both developed and developing nations, causing disability in individuals. Chronic back pain may originate from an injury, disease or stresses of different structures of the body, with intensity that may range from mild

to severe. Nursing is well established as a high-risk occupation for musculoskeletal disorders and in particular, low back pain. It is estimated that 3.5% of nurses are leaving the profession due to back pain (World Health Organization, 2018).

Low back pain is one of the complications of musculoskeletal that occurs most commonly in nurses and among all healthcare professionals. Factors responsible is not far-fetched as researcher observes shortage of qualified nurse working in the facility in which we have ratios of 1 nurse to 5 patients to give holistic care. In order to give this total care, it is observed that majority of the Olabisi Onabanjo University Teaching Hospital Nurses have low back pain and they often go to staff clinics for management and care, and this affects the output of nursing care rendered to the patient.

Therefore, lifting of a patient is a problem for a registered nurse who is the only one on duty. Low back pain can be prevented if the necessary precautions are taken, taking precautions of the risk factors. Other factors that may contribute to low back pain is shortage of assisting device, lack of psycho-electric bed for unconscious patient.

Low back pain continues to be a common occupational disease for nurses. However, taking precautions for prevention of musculoskeletal disorders such as low back pain in nursing is important in order for nurses to exercise their fundamental right to work under healthy and safe conditions, to maintain their professions and to provide better support for their patient's (Ozkan, 2021).

Low back pain is not related to what duty is done but how it is done. To prevent low back pain, the following should be kept in consideration: limiting repetitive movements, practicing correct lifting techniques, exercising to strengthen low back and stomach muscles, applying principles of body mechanics correctly, abstaining from activities that presses low back area, taking breaks during occupational duties that require sitting or bending forward for a long time, maintaining a well-balanced emotional and physical life by not gaining excessive weight, not

smoking, following healthy diet and exercise habits are also effective in protection of low back health. (Kabatas,2019).

1.2 Statement of the Problem

Worldwide, nurses are facing significant problem of back pain and it is mainly due to the manual lifting and handling heavy objects and patients. Back pain might develop major disruptions in physical, social, and mental well-being, which could affect their health care delivery. Physical impact includes the loss of physical function and deteriorated general health. Social impact includes decreased participation in social activities. Psychosocial impacts are manifested through conditions including but not limited to insomnia, anxiety, and depression (Alziyadi & Elgezery, 2021).

Researcher observed that in Olabisi Onabanjo University Teaching Hospital there is shortage of qualified nurses and this results to situations in which we have ratios of 1 nurse to 5 patients to give holistic care. In order to give this total care, it is observed that majority of the Olabisi Onabanjo University Teaching Hospital Nurses have low back pain and they often go to staff clinics for management and care, and this affects the output of nursing care rendered to the patient.

Researcher also noticed that prolonged standing especially theatre nurses affect the theatre trained nurse thereby causing them to have low back pain after setting trolley, assisting in surgery and the same nurses will come back to wash the instruments after it has been used. Report on low back pain on nurses has great influence on the effectiveness on the care provided in this institution even though nurses are trying their possible best to give holistic care to their patients.

1.3 Research Objectives

Broad Objective

The study is aimed at assessing the factors contributing to low back pain and its prevention among nurses at Olabisi Onabanjo University Teaching Hospital.

Specific Objective

1. To identify factors contributing to low back pain development among nurses.
2. To assess the perceived effect of low back pain among nurses in OOUTH.
3. To assess possible measures used in preventing low back pain among nurses.

1.4 Research Questions

1. What are the factors contributing to low back pain development among nurses in OOUTH?
2. What are the perceived effects of low back pain among nurses in OOUTH?
3. What are the possible measures used in preventing low back pain among nurses in OOUTH?

1.5 Significance of the Study

Nurses work twenty-four hours per day, seven days in a week, be it in rural centers, state government owned hospitals or tertiary institutions. Nurses are exposed to various health hazards in the course of their duties. Health hazards range from biological (exposure to infection), chemical (disinfectants, anesthetic agents), psychosocial and mechanical hazards (lifting, bending activities) to physical injuries such as needle stick injuries and cut. They are also exposed to various work-related musculoskeletal disorders including neck pain, shoulder pain and low back pain, etc. Nurses are required to lift and transport patients and equipment, often in difficult environment particularly in developing nations where lifting aids are not always available and practicable.

Thus, this study will help the nurses at Olabisi Onabanjo University Teaching Hospital in having a better understanding of low back pain (i.e., its work-related causes, prevention and how to eliminate the existing situation) and enable hospital policy makers to come up with policies which will help reduce the occurrence of low back pain among nurses, e.g., compulsory manhandling training policy, low back pain awareness campaign.

1.6 Scope of Study

The scope of this study, were the nurses that work at the Theatre, Male and Female Medical Ward, Male and Female Surgical Ward at Olabisi Onabanjo University Teaching Hospital.

1.7 Operational Definition of Terms

Factors: refers to variables that contribute to low back pain among nurses in Olabisi Onabanjo University Teaching Hospital.

Low Back Pain: refers to the pain between the lower part of the rib and the buttocks experienced by nurses at Olabisi Onabanjo University Teaching Hospital, Sagamu.

Nurse: A nurse in Olabisi Onabanjo University Teaching Hospital is a caregiver for patients and helps to manage physical needs, prevent illness and treat health conditions.

Prevention: the ability to take necessary precaution to avoid low back pain among nurses at Olabisi Onabanjo University Teaching Hospital such as training on appropriate lifting techniques.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Review

Low back pain (LBP) is one of the most serious health problems of tremendous medical and socioeconomic dimension and a major cause of disability. Low back pain can be defined as a pain localized between the 12th rib and the interior gluteal folds, with or without leg pain. Nurses are known to be a high-risk group for occupational low back pain. Direct care nursing personnel around the world report high numbers of work-related musculoskeletal disorders (Asadi et al., 2018).

Although several risk factors have been identified among nurses; including occupational posture, obesity, body height, age, the causes of the onset of back pain remain obscure and the diagnosis is difficult to make (Costa and Vieira, 2018). Most physical risks contributing to low back pain in nurses are focused on occupational factors such as extent of bending and lifting. A range of personal physical factors, including reduced cardiovascular fitness, poor back muscle endurance, altered motor control patterns, poor spinal posture and reduced sagittal range of motion also contribute to back pain. In addition, lifestyle factors such as physical inactivity and high levels of vigorous physical activity have been associated with low back pain (Hodder et al., 2019).

Lifting techniques, is a belief that reliance on “correct” body positions or “body movements” will somehow provide protection from the force associated with lifting and moving patients. Lifting techniques is also used to assess the alignment of patients when they are standing, sitting, or lying down. Lifting techniques, however, is not sufficient to protect the nurse from the heavy weight, awkward postures, and repetition involved in manual handling. Safe manual handling techniques must be used in combination with equipment and technology for safe patient handling and movement. (Thomas et al., 2019).

2.1.2 Types of Low Back Pain

Low back pain can be categorized into various types based on different factors. Some common types of low back pain include:

Mechanical Low Back Pain: This is the most common type of low back pain, often caused by the mechanical dysfunction of the structures in the lower back, such as muscles, ligaments, and intervertebral discs. It can result from poor posture, improper lifting techniques, muscle strains, or degenerative changes in the spine.

Herniated Disc: A herniated disc occurs when the soft inner material of a spinal disc protrudes through its outer layer, irritating nearby nerves and causing pain. The pain is usually localized in the lower back and may radiate down the leg (sciatica) if the herniation compresses a spinal nerve.

Degenerative Disc Disease: Over time, the intervertebral discs in the spine can degenerate, leading to the narrowing of the disc space and the development of bone spurs. This condition can cause chronic low back pain, stiffness, and reduced mobility.

Spinal Stenosis: Spinal stenosis is a condition where the spinal canal narrows, putting pressure on the spinal cord or nerves. It commonly affects older adults and can cause low back pain, leg pain, numbness, and weakness.

Spondylolisthesis: Spondylolisthesis occurs when one vertebra slips forward over the adjacent vertebra. This condition can be caused by a defect in the vertebrae or degenerative changes in the spine. It can result in lower back pain, leg pain, and muscle tightness.

Muscular Imbalances: Imbalances in the muscles supporting the spine can contribute to low back pain. Weak or tight muscles, such as the abdominal and gluteal muscles, can alter the alignment and stability of the spine, leading to pain and discomfort.

Inflammatory Conditions: Conditions like ankylosing spondylitis, which is a form of arthritis that primarily affects the spine, can cause chronic low back pain and stiffness. Inflammatory bowel disease and psoriasis can also be associated with back pain.

Traumatic Injury: Acute low back pain can result from traumatic events such as falls, accidents, or sports injuries. Fractures, sprains, and strains are common in these cases (National Institute of Neurological Disorders, 2020).

2.1.3 Causes of Low Back Pain

Low back pain can have various causes, and identifying the specific cause is important for appropriate management. Some common causes of low back pain include:

Muscle or Ligament Strain: Straining or spraining the muscles or ligaments in the lower back due to activities like heavy lifting, sudden movements, or poor posture can result in low back pain.

Herniated Disc: When the soft inner material of a spinal disc protrudes through its outer layer, it can irritate nearby nerves, causing pain. This can occur due to age-related degeneration or injury.

Degenerative Disc Disease: The gradual wear and tear of the intervertebral discs over time can lead to degenerative disc disease, causing chronic low back pain.

Spinal Stenosis: Narrowing of the spinal canal, usually due to age-related changes, can put pressure on the spinal cord or nerves, leading to low back pain and leg pain.

Spondylolisthesis: This condition involves the forward displacement of one vertebra over the adjacent vertebra. It can result from a defect in the vertebrae or degenerative changes, causing low back pain and leg pain.

Osteoarthritis: Osteoarthritis can affect the joints in the spine, leading to inflammation, pain, and stiffness in the lower back.

Sciatica: Compression or irritation of the sciatic nerve, which extends from the lower back down the leg, can cause low back pain that radiates down the leg.

Traumatic Injury: Falls, accidents, or sports injuries can lead to fractures, sprains, strains, or other traumatic causes of low back pain.

Other Causes: Certain medical conditions like fibromyalgia, kidney stones, endometriosis, and infections can also cause low back pain (Chou et al., 2018).

2.1.4 Prevention of Low Back Pain

Prevention of low back pain is crucial for promoting the well-being and overall health of individuals, including nurses who are at a higher risk due to the physically demanding nature of their work. Some preventive measures that can help reduce the occurrence of low back pain:

Maintain good posture: Practicing proper posture while sitting, standing, and lifting is essential for reducing the strain on the back. Maintaining a neutral spine alignment and avoiding excessive slouching or hunching can alleviate stress on the lower back.

Lift with proper techniques: When lifting heavy objects or patients, it is important to use proper lifting techniques. Bend the knees, keep the back straight, and lift using the legs rather than the back muscles. Avoid twisting motions while lifting and use assistive devices whenever possible.

Exercise regularly: Engaging in regular physical activity and exercises that strengthen the core muscles, including the abdominal and back muscles, can provide support to the spine and reduce the risk of low back pain. Activities like walking, swimming, and yoga can help improve flexibility, posture, and overall fitness.

Maintain a healthy weight: Excess body weight can put additional strain on the spine and increase the risk of low back pain. Maintaining a healthy weight through a balanced diet and regular exercise can reduce the stress on the back and improve overall musculoskeletal health.

Practice ergonomics: Ergonomic principles focus on designing the work environment to optimize efficiency and reduce strain on the body. For nurses, ensuring proper workstation setup, adjustable chairs, appropriate lifting equipment, and using ergonomic aids like back supports or lifting belts can help prevent low back pain.

Take regular breaks: Prolonged periods of sitting or standing can contribute to low back pain. Taking regular breaks to stretch, change positions, and perform light exercises can help relieve stress on the back and prevent muscle fatigue.

Manage stress: Psychological factors such as stress and anxiety can contribute to muscle tension and increase the risk of low back pain. Implementing stress management techniques like relaxation exercises, mindfulness, and seeking support can help reduce the impact of stress on the body.

Maintain a healthy lifestyle: Adopting a healthy lifestyle that includes a nutritious diet, adequate hydration, sufficient sleep, and avoiding smoking can contribute to overall well-being and reduce the risk of low back pain.

By implementing these preventive measures, individuals, including nurses, can reduce the risk of low back pain, maintain a healthy spine, and promote overall well-being. It is important to remember that prevention is a continuous process and requires consistent effort and awareness of one's body mechanics and habits (Khorsandi, et al., 2018.).

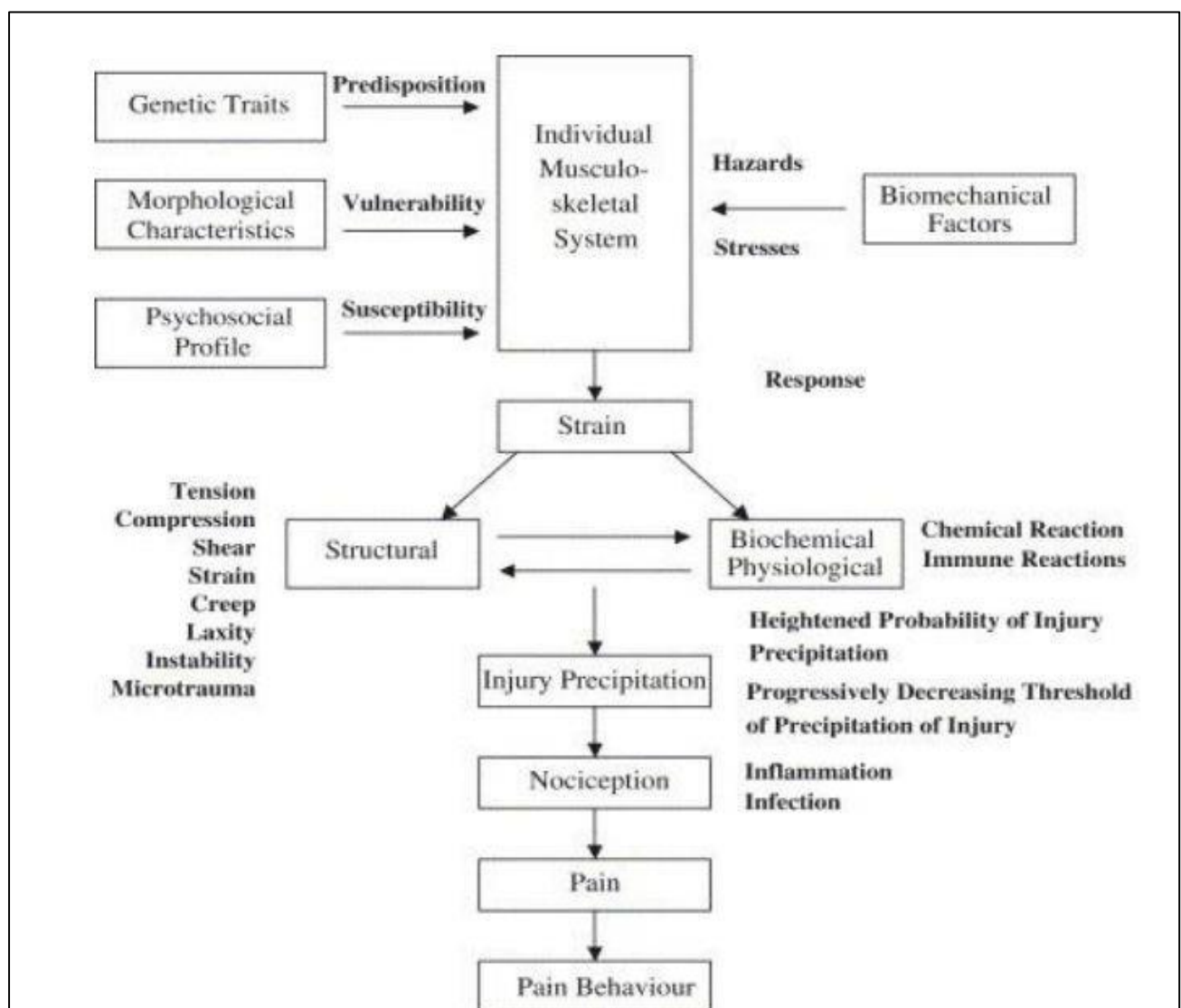
2.2 Theoretical Framework

2.2.1 Multivariate Interaction Theory

The multivariate interaction theory which was propounded by Dr. S Kumar in 2001, is based on the assumption that musculoskeletal disorders such as low back pain are caused by multiple factors. This means that musculoskeletal disorders might occur as a result of interactive processes of individual genetic endowment, morphological characteristics, psychosocial makeup, and biomechanical factors. Within each of these categories (individual genetic

endowment, morphological characteristics, psychosocial makeup, and biomechanical factors) there are many variables which potentiate and effect precipitation of musculoskeletal disorders. The musculoskeletal disorders can occur in many ways, and it is theoretically proven that an interaction between the relative weightings of the variables and the extent to which they have been stressed in any given individual determines the final outcomes of musculoskeletal disorders of each individual.

Figure 2.1: A Diagrammatic Representation of Multivariate Interaction Theory



2.2.2 Application of Multivariate Interaction Theory

Low back pain is a prevalent issue among nurses, primarily due to the physically demanding nature of their work, which often involves prolonged standing, lifting and transferring patients

and repetitive movements. While multiple factors can contribute to low back pain, this theoretical model explains factors contributing to low back pain and its prevention among nurses:

Biochemical Factors:

Awkward postures: Nurses frequently adopt awkward postures such as bending, twisting or reaching. These positions can strain the lower back and lead to pain.

Heavy lifting: Transferring or lifting patients who are unable to assist can put excessive stress on the back muscles and spinal structures, contributing to low back pain.

Repetitive movements: Engaging in repetitive tasks like bending and lifting, without adequate rest can strain the lower back muscles and lead to cumulative trauma.

Work Environment Factors

Insufficient ergonomic support: Lack of ergonomic equipment such as adjustable chairs, proper lifting devices, or supportive flooring, can contribute to poor posture and increased risk of low back pain.

Workload and Staffing: High patient –to–nurse ratio and excessive work demands can lead to rushed movements and compromised body mechanics, increasing the risk of back injuries.

Environmental hazards: Environmental factors like slippery floors, inadequate lighting or cluttered workspaces can increase the risk of slips, falls, and subsequent back injuries.

Individual Factors

Physical fitness: Nurses with poor core strength, flexibility or overall physical fitness may be susceptible to low back pain due to reduced support and stability for the spine.

Personal health habits: Factors such as smoking obesity, poor nutrition and lack of exercise can contribute to low back pain.

Prior history of low back pain: Nurses with a history of low back pain are at an increased risk of recurrence, especially if preventive measure and not taken.

Psychosocial Factors

Work Related stress: High levels of job stress, including long working hours, lack of control over work or insufficient social support can contribute to musculoskeletal discomfort, including low back pain.

Emotional well-being: Negative emotions like anxiety and depression can worsen the perception of pain and contribute to the development or persistence of low back pain.

Coping mechanisms: Inadequate coping strategies, such as poor stress management or lack of relaxation techniques, may increase the risk of low back pain among nurses (Habibi, et al., 2018).

2.3 Empirical Review

In a study conducted by Olawunmi & Urenna (2018), the mean age of the study population is 35.5 ± 17.40 years implying that the nurses are generally within the economically active age group. Majority of the respondents were females (70.2%) while minority (29.8%) were male gender. It can be deduced that since minority of the nurses are male, the females may be carrying out more physical work than expected. Most of the respondents (60.5%) are single and (40%) are married. There is a significant relationship between the prevalence of back pain and sex, marital status, number of children and years of experience of the respondents at 0.05 probability level. It was observed from the study that the basic professional qualification of the respondents is Registered Nurse Midwife (RNM). Despite that majority of the nurses are dual qualified, it is surprising that majority of Nurses obtained a second-degree course of B. Education (63.2%), rather than pursuing Master's degree in Nursing. There is need to seek the opinion of nurses, why many of them are going for degree in education rather than progressing in their own career -nursing. Most nurses with above ten years' experience as a nurse had experienced back pain. Eighty three percent (83%) indicated their experience of back pain as a nurse. It was observed that more than half (59.65%) of the respondents obtain sick leave due

to back pain. Major episode of back pain occurrence among the respondents happened within 1-5 years as a practicing nurse (49.6%) and 6-10 years of practice (28.9%). Also, about (39%) reported they were currently suffering from back pain generally while (66%) reported that the symptoms of their back pain were exacerbated by nursing activities. It was observed that more than half (59.65) of the respondents obtain sick leave due to back pain. All these corroborates and confirms that nurses are among the occupational groups within the health service that are vulnerable to back pain.

In another study conducted by Fasae &Olasupo (2023), majority of the respondents 146(73%) were female; while 138(68%) were married, 56(28%) were single and 8(4%) were divorced. Female gender prevalence shows that the majority of the respondents were at increased risk of low back pain. Furthermore, the lower cadres were much more prevalent which would expose them to low back pain risk factors such as long working hours and excessive workload. The higher cadres, that is, from CNOs to ADNS were less prevalent to low back pain because they were less involved in direct patient care like lifting, wound dressing, bed bathing, and other major procedures. They were involved in doing more supervisory and administrative work. A larger percentage 42(21%) were working in accident and emergency units, 28(14%) were working in children emergency units and medical units respectively, 16(8%) were working in surgical units, 18 (9%) were working in labour unit, theatre, and intensive care units respectively, 24(12%) were working in orthopedic unit while 8(4%) were working in the neonatal unit. The implication of this is that more than one-third working in units such as accident and emergency, children emergency unit, and neonatal units are exposed to excessive workload which is a risk factor for low back pain. As regards the year of experience of the nurses, 80(40%) had 5–10 years of experience, 86(43%) had more than 10 years of experience while 34(17%) had 2–5 years of experience; about half 94(47%) had spent 5–10 years in the present hospital, about one-third 64(32%) had spent over 10 years in the hospital while

42(21%) had spent 2–5 years in the present hospital. Since about half had worked for more than 10 years, this put them at risk of low back pain due to the accumulated stress of work over the years. Likely factors responsible for this may include, a heavy workload as a result of working in busy units like accidents and emergencies. This will require the need for interventions geared towards relieving these factors such as appropriate staffing to reduce workload, and the use of electronic beds to avoid stressful lifting of patients. The prevalent factors associated with low back pain among nurses. This includes standing for a long time in the course of working 180(90%), heavy workloads in the place of work 168(84%), lifting patients frequently 160(80%), bending or twisting frequently in the course of working 148(74%), working in awkward position 140(70%), smoking or alcohol consumption 4(2%). The effect of low back pain on the duty performance of the nurses, the effect of low back pain on their duty performance includes the inability to care for patients as appropriate 86(43%), absenteeism at work 70 (35%), intention to change workplace 30(15%) and intension to quit nursing profession 40(40%). This implies that low back pain is not only having just health related consequences on the nurses but also affect their disposition to work and their effectiveness in rendering holistic nursing care to patients as about half of them stated that low back pain has affected them in caring for their patients as appropriate.

In a study conducted by Awosan et al., (2017), the ages of the 320 participants ranged from 21 to 58 years (mean = 36.99 ± 8.23), with a larger proportion (45.0%) in the 30 – 39 years age group. The participants were predominantly females (60.6%). Majority of them were nurses (46.6%), and have been in practice for less than a decade (59.2%). One hundred and eighty (56.2%) of the 320 participants have ever experienced LBP in their lifetime, 125 (39.1%) had experienced it in the last 12 months, while 55 (17.2%) had it at the time of the survey (Figure 2). Compared to males, females had significantly higher ($p < 0.05$) lifetime prevalence (males 40.5%, females 59.8%), 12-month prevalence (males 29.4%, females

43.3%) and point prevalence (males 11.9%, females 20.6%) of LBP. Most, 151 (83.9%) of the 180 participants that have ever experienced LBP reported that the pain commenced after starting work. Majority, 97 (53.9%) considered the pain as mild, 74 (41.1%) considered it as moderate, while 9 (5.0%) considered it as severe. Majority, 103 (57.2%) attributed the pain to standing for long hours at work, 40 (22.2%) attributed it to bending to work, 37 (20.6%) attributed it to carrying patients, while 22 (12.2%) attributed it performing repetitive tasks. A substantial proportion of the participants reported that LBP has negatively affected their performance at work (32.2%), other activities after work (28.3%) and the quality of their sleep (15.6%).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Research Method

3.1 Research Design

A descriptive study design was employed to assess factors contributing to low back pain and its prevention among nurses at Olabisi Onabanjo University Teaching Hospital, Sagamu.

3.2 Research Setting

Olabisi Onabanjo University Teaching Hospital (OOUTH) was a chosen setting for this study. This setting was chosen because it has a reasonable number of registered nurses which the researcher feels will be of help to supply the necessary information of factors contributing to low back pain and its prevention.

Olabisi Onabanjo University Teaching Hospital is situated in Sagamu, it was established in 1986 with provision of health care services to the indigenes of Ogun state and Nigeria as a whole.

The hospital consists of various departments and wards which includes; medical microbiology and parasitology unit, intensive care unit and anesthesia unit, dental unit, ophthalmology unit, ear, nose and throat unit, accident and emergency unit, dialysis unit, central sterile service department, physiotherapy unit, radiology unit, gynecology and obstetrics unit, orthopedic and trauma unit, pediatrics unit, it also have three outpatient departments with pharmacies, one theater, one morbid anatomy and histopathology unit. Within the hospital environment is a library, a bank, lot of restaurants and two ATM stand, with a total number of 266 nurses and other health workers.

3.3 Target Population

The target population in this study was nurses in Theatre, Female medical ward, Female surgical ward, Male medical ward, Male surgical ward at Olabisi Onabanjo University Teaching Hospital, Sagamu.

3.4 Sampling Size

The total population of the nurses working in the Theatre, Female medical ward, Female surgical ward, Male medical ward, Male surgical ward (Male surgical general and Male surgical special) of Olabisi Onabanjo University Teaching Hospital, Sagamu is 62.

WARD	NUMBER OF NURSES
THEATRE	10
MALE MEDICAL WARD	13
MALE SURGICAL WARD	17
FEMALE SURGICAL WARD	11
FEMALE MEDICAL WARD	11

3.5 Sampling Technique

Total enumeration method was used to evaluate and to assess factors contributing to low back pain and its prevention among nurses at Olabisi Onabanjo University Teaching Hospital, Sagamu. Total enumeration sampling technique is a type of purposive sampling technique where all the entire population with a particular set of characteristics is been studied or chosen to participate. All the nurses working in the Theatre, male and female medical ward, male and female surgical ward was used for this research work.

3.6 Instrument for Data Collection

A well-constructed questionnaire including relevant question that provided information about factors contributing to low back pain and its prevention among nurses at Olabisi Onabanjo University Teaching Hospital was used and all details about the respondents was kept confidential. The questionnaire was sub-divided into four sections:

Section A: this contained socio-demographic data which are gender, age, educational background, marital status, tribe, religion, ward working in, & years of experience. This section will have eight items with different option.

Section B: this section will contain questions on the factors contributing to low back pain among nurses. The questions will contain 2 response option i.e., Yes or No.

Section C: this will contain series of questions to assess the perceived effects of low back pain among nurses. The questions will contain 2 response option i.e., Yes or No.

Section D: this section will contain series of questions to assess the possible measures used in preventing low back pain among nurses. This section contained items and the question to be asked was in multiple choice patterns. The questions were in 4 options i.e., 1= strongly agree, 2= agree, 3= disagree, 4= strongly disagree.

3.7 Validity of Instrument

Instrument validity was measured using content validity method and face validity method. I developed a resourceful and well-structured questionnaire which was given to my supervisor for corrections, comments and adjustments. After all adjustment was made, it was effected on my questionnaire before it was shared to the respondents.

3.8 Reliability of Instrument

Reliability is the measure of internal consistency of the constructs in the study. Reliability of instrument was carried out using 10% of the respondents (10% of 62 = 6), these questionnaires were shared amongst the same 6 nurses working at Federal Medical Center, Abeokuta, Ogun State on two occasions without informing them of my second coming.

The reliability results are summarized in the table below.

Table 3.1: Reliability Statistics

Constructs	No of items	Alpha(x)
Factors contributing to low back pain	7	0.781
Assessment of perceived effect of low back pain	7	0.757
Possible measures used in preventing low back pain	5	0.768

3.9 Method of Data Collection

A well-constructed questionnaire was used to collect responses from the participants. The respondents were approached after seeking consent from the Continuous Education unit (CEU) of the hospital. Following the approval from the Continuous Education Unit (CEU), the purpose of the study was explained to the nurses willing to participate in the study. Questionnaires were then distributed to the nurses and they were encouraged to complete the questionnaire within two to three days after which the answered questionnaires were retrieved back. Respondent's information was kept confidential.

3.10 Method of Data Analysis

In this study, data was collected using questionnaire and it was captured on excel spread sheet, clean and coded. Analysis was done using the Statistical package for the Social Science (SPSS) version 27. Chi square (X²) test was used to show association for categorical variables. Percentage, mean and standard deviation was used to describe the data. Graphs, charts and tables were used to display the data. P-value of < 0.05 was used to make clear the level of statistical significance.

3.11 Ethical Consideration

An introductory letter from College of Nursing Sciences, Ilaro Campus was presented to the Board of Nurses at Olabisi Onabanjo University Teaching Hospital, Sagamu. The research participants were given adequate information concerning their role in the research study. They were informed of their right and be given free will or chances of either participating in the research or not.

Data that obtained from the study were used only for the purpose of the study. The author of all the various books that was used for the study were acknowledged in order to avoid plagiarism and to show intellectual honesty.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS.

4.1 Data Analysis

This chapter focuses on the analysis and presentation of findings from the descriptive and inferential analysis of data from the field with a view to examine factors contributing to low back pain and its prevention among nurses at Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun state, Nigeria.

TABLE 4.1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

DEMOGRAPHIC CHARACTERISTICS	FREQUENCY (n =62)	PERCENT (%)
Age		
21-30	24	38.7
31-40	29	46.8
41-50	7	11.3
51-60	2	3.2
Total	62	100.0
Gender		
Male	15	24.2
Female	47	75.8
Total	62	100.0
Marital Status		
Single	19	30.64
Married	35	56.5
Widow/Widower	5	8.06
Divorced	3	4.84
Total	62	100.0
Religion		
Islam	17	27.4
Christianity	45	72.6
Total	62	100.0
Educational Background		
RN	31	50.0
Post basic	21	33.9
BNSc.	9	14.5
Master	1	1.5
Total	62	100.0
Nursing category		
Chief nursing officer	8	12.9
Assistant chief nursing officer	6	9.7
Principal nursing officer	9	14.5
Senior nursing officer	18	29.0
Nursing Officer	21	33.9
Total	62	100.0

DEMOGRAPHIC CHARACTERISTICS	FREQUENCY (n =62)	PERCENT (%)
Ward		
Theatre	10	16.1
MSW	17	27.4
MMW	13	21.0
FSW	11	17.7
FMW	11	17.7
Total	62	100.0
Years of experience		
1-5	27	43.5
6-11	18	29.0
12-17	9	14.5
18-23	4	6.5
24-29	3	4.8
30-35	1	1.6
Total	62	100.0

It was revealed from the table that majority of the nurses (46.8%) were between the age of 31-

40 years, while majority of them (43.5) have 1-5 years' experience.

TABLE 4.2: FACTORS CONTRIBUTING TO LOW BACK PAIN AMONG NURSES

VARIABLES	FREQUENCY (N=62)	PERCENT (%)
Does lifting of patients contribute to low back pain		
Yes	60	96.8
No	2	3.2
Total	62	100
Do you spend more than four hours per day standing or walking at work		
Yes	59	95.2
No	3	4.8
Total	62	100
Have you ever experienced a work related- injury or accident that may have contributed to your low back pain		
Yes	32	51.6
No	30	48.4
Total	62	100
Do you spend more than 2 hours per day performing repetitive tasks, such as typing or chanting at work		
Yes	44	71
No	18	29
Total	62	100
Have you ever experienced a traumatic event, such as a car accident or fall, that may have contributed to your low back pain		
Yes	10	16.1
No	52	83.9
Total	62	100

VARIABLES	FREQUENCY (N=62)	PERCENT (%)
Have you been diagnosed with medical condition, such as herniated discs, that may contribute to your low back pain		
Yes	12	19.4
No	50	80.6
Total	62	100
Do you have a family history of low back pain or has any of your family members complained of low back pain		
Yes	21	33.9
No	41	66.1
Total	62	100

Table 4.2 revealed that majority of the nurses (96.8%) supported that lifting of patients contribute low back pain, while majority of the nurses (80.6%) said they have not been diagnosed with a medical condition such as herniated discs, that may contribute to low back pain.

TABLE 4.3: ASSESSMENT OF PERCEIVED EFFECTS OF LOW BACK PAIN

VARIABLES	FREQUENCY (N=62)	PERCENT (%)
Have you been on sick leave or days off work due to low back pain		
Yes	38	61.3
No	24	38.7
Total	62	100
Have you ever changed area speciality of nursing practice as a result of low back pain		
Yes	28	45.2
No	34	54.8
Total	62	100
Has your low back caused you to reduce restrict some of your activity at home		
Yes	50	80.6
No	12	19.4
Total	62	100
Has your low back pain affected your ability to provide quality patient care		
Yes	43	69.4
No	19	30.4
Total	62	100
Has your low back pain affected your productivity		
Yes	45	72.6
No	17	27.4
Total	62	100

VARIABLES	FREQUENCY (N=62)	PERCENT (%)
Has your low back pain affected your ability to sleep		
Yes	45	72.6
No	17	27.4
Total	62	100
Does unavailability of necessary equipment cause back pain		
Yes	56	90.3
No	6	9.7
Total	62	100

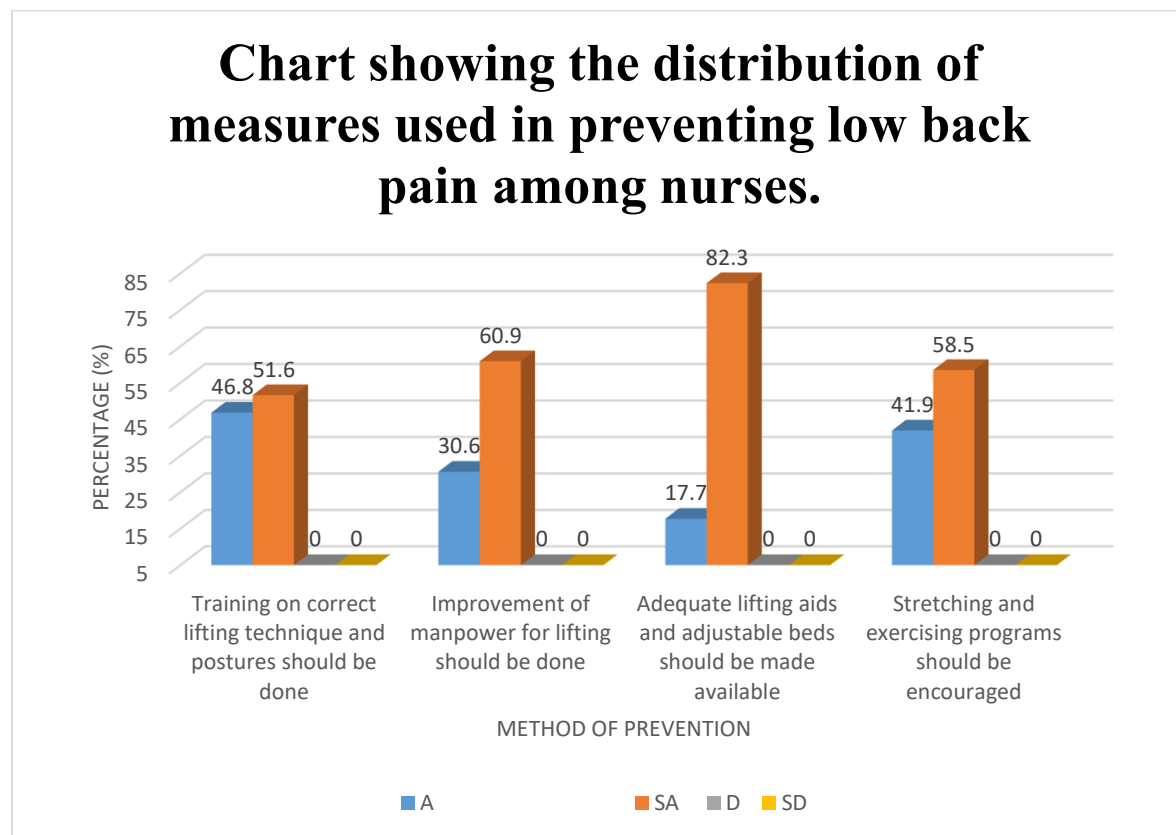
Majority of the nurses (61.3%) said they have been on sick leave or days off work due to low back pain, while more than half (72.6) also said low back pain has affected their productivity.

TABLE 4.4: POSSIBLE MEASURES USED BY NURSES IN PREVENTING LOW BACK PAIN

MEASURES USED BY NURSES IN PREVENTING LOW BACK PAIN	A (%)	SA (%)	D (%)	SD (%)
Training on correct lifting technique and postures should be done	46.8	51.6	1.6.4	0
Improvement of manpower for lifting should be done	30.6	60.9	0	0
Adequate lifting aids and adjustable beds should be made available	17.7	82.3	0	0
Stretching and exercising programs should be encouraged	41.9	58.5	0	0
Using alternatives therapies such as massage, to help manage low back pain.	38.7	58.1	3.2	0

Majority of the nurses (51.6%) strongly agree that training on correct lifting and postures should be done to prevent low back pain among nurses, while majority of the nurses (82.3%) strongly agree also that adequate lifting aids and adjustable beds should be made available to prevent low back pain among nurses.

Figure 4.1 shows the distribution of measures used in preventing low back pain among nurses.



Majority of the respondents (51.6%) of the nurses strongly agree training on correct lifting techniques and postures should be used as a measure in preventing low back pain while majority of the respondents (82.3%) strongly agree also that adequate lifting aids and adjustable beds should be made available as a measure in preventing low back pain among nurses.

4.2 ANSWERING RESEARCH QUESTION

RESEARCH QUESTION 1

WHAT ARE THE FACTORS CONTRIBUTING TO LOW BACK PAIN AMONG NURSES.

RESEARCH ANSWER 1

Majority of the nurses (96.8%) supported that lifting of patients contribute to low back pain, while very few (3.2%) did not support. Majority of the nurses (95.2%) also said they spend more than four hours per day standing or walking at work. Moreover, majority of the nurses

(51.6%) also said that they have experienced work related- injury or accident that may have contributed to low back pain while lastly majority of the nurses (83.9%) said that they have not experienced car accident or fall that may have contributed to low back pain.

RESEARCH QUESTION 2

WHAT ARE THE PERCEIVED EFFECTS OF LOW BACK PAIN ON NURSES.

RESEARCH ANSWER 2

Majority of the nurses (61.3%) said they have been on sick leave or days off work due to low back pain, while majority (54.8) also said they have not changed their specialty of nursing practice as a result of low back pain.

Also, the finding revealed that majority of nurses (80.6%) said that low back pain has caused them to reduce or restrict some activity at home while majority (69.4%) supported that low back pain has really affected their ability to provide quality patient care.

RESEARCH QUESTION 3

WHAT ARE THE POSSIBLE MEASURES USED BY NURSES IN PREVENTING LOW BACK PAIN.

RESEARCH ANSWER 3

Majority of the nurses (51.6%) strongly agree that training on correct lifting techniques and postures can be done in preventing low back pain, while majority of them (60.9%) also strongly agree that improvement of manpower for lifting should be done to prevent low back pain.

Also, majority of the nurses (82.3%) strongly agree that adequate lifting aids and adjustable beds should be made available to prevent low back pain and finally, majority (58.1%) of them also strongly agree that using alternatives therapies such as massage, to help manage low back pain.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS.

5.1 Discussion of Findings

Findings from Social Demographic Variables.

The majority of the respondents (75.8%) were female, which is attributed to female dominance in the profession, and this is consistent with other studies (Olawunmi and Urenna, 2018).

Female gender prevalence indicated that majority of the respondents were at increased risk of low back pain, this is supported by (Olawunmi and Urenna, 2018) whose findings revealed that female had higher lifetime prevalence of low back pain than male (male 29.8%, female 70.2%). Majority of the respondents (33.5%) were nursing officer, followed by principal nursing officer (14.5%), this is similar to a study conducted by Fasae& Olasupo, (2023), where majority of the respondents fall in this category. Furthermore, low level cadre have been described to be more predisposed to low back pain than higher cadre due to the nature of their work such as lifting of patients, long hours working and excessive workload.

Majority of the nurses (27.4%) were working in MSW, (17.7%) were working in FSW and FMW, (21.0%) were working in MMW, while very few worked in theatre, this is in contrast to another conducted by Fasae& Olasupo, (2023) where majority of the respondents (21%) were working in accident and emergency units, followed by (14%) working in children emergency units. The implication of this is that close to one third of the respondents working in the MMW, FSW, MSW and FMW are exposed to more workload, which is a risk factor of low back pain.

As regards, the years of experience of nurses, majority (43.5) of the respondents had 1-5 years of experience, this similar to a study conducted by Olawunmi and Urenna, (2018) where majority (49.6%) had 1-5 years of experience while 28.9% had 6-10 years of experience.

Findings from the Factors Contributing to Low Back Pain.

Majority of the respondents (96.8%) said lifting of patients contribute low back pain, this is similar to study conducted by Awosan et al., (2017), where majority of the respondent testified to lifting of patients as one of the factors contributing to low back pain. Majority of the respondents (95.2%) also believed that they spend more than four hours per day standing or working at work, whereas majority (71.0%) spend more than 2 hours per day performing repetitive tasks, such as typing or charting at work, this similar to another study conducted by Awosan et al., (2017) where majority (57.2%) stand for a long time in the course of work.

Also, majority (80.6%) of the respondent said they have not diagnosed with medical condition such as herniated discs, that may contribute low back pain, this is similar to a study conducted by Mohammed et, al (2019) where incident of medical condition such as herniated discs were not reported by the respondents.

Findings on Assessment of Perceived Effect of Low Back Pain

Majority of the respondents,(61.3%) said they have been on sick leave or days off work due to low back pain, while majority(54.8%) also said they have not changed area of specialty of nursing practice as a result of low back pain, with majority(80.6%) that believed that low back has caused them to reduce or restrict some of their activity at home, this findings is contrast to Fasae & Olasupo, (2023) where inability to cater for patients appropriately (43%), absenteeism from work(70%) intention to change workplace(35%) and intention to quit nursing profession(40%)

Findings on Possible Measures by Nurses in Preventing Low Back Pain.

Majority of the respondents (51.6) strongly agree that training on correct lifting technique and postures should be done, while majority of the respondents (60.9%) also agree on improvement of manpower for lifting to prevent low back pain. These findings are all similar to suggestion made in a study conducted by Back School; Yilmaz et, al (2018) where exercising or training

on correct lifting technique, improvement of manpower for lifting and adequate lifting aids and adjustable beds are well suggested as preventive measures.

5.2 Implication to Nursing

The findings from this study have implication for nurses such as:

1. Nurses have to attend trainings on correct lifting techniques and posture.
2. Increasing the use of available lifting aids and beds.
3. Attending stretching and exercising programme.
4. Occupational health lectures, low back pain awareness. patient lifting training should be incorporated into the curriculum of the nursing schools in Nigeria.

5.3 Limitations of The Study

1. Challenges with time, the researcher had challenges with time due to other school activities.
2. The respondent also had challenges with time due to their busy schedule, this resulted in delay in filling the questionnaire administered to them.
3. The sensitivity of this topic prevented the respondents from giving honest replies.
4. Financial constraints as well (cost of accessing materials online, cost of printing, transportation costs).

5.4 Summary of the Study

This study looked into the factor contributing to low back pain and its prevention among nurses in Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State. The study uses a non-experimental descriptive research design and total enumeration sampling technique was used in selecting 62 respondents that participated in the study. A self-structured questionnaire was used as instrument for data collection. The questionnaire consisted of factors contributing to low back pain, the perceived effect of low back pain on the nurses and measures used in preventing low back pain.

Results from the study revealed that, majority of the nurses 96.8% supported that lifting of patients contribute to low back pain whereas majority of the nurses 80.6% said they have not been diagnosed with a medical condition such as herniated discs which can contribute to low back pain. Majority of the nurses 61.3% said they have been on sick leave or days off due to low back pain while more than half 72.6% said low back pain has affected their productivity. Majority of the nurses 51.6% strongly agree that training on correct lifting and postures should be done to prevent low back pain among nurses, while majority of the nurses 82.3% strongly agree also that adequate lifting aids and adjustable beds should be made available to prevent low back pain among nurses.

5.5 Conclusion

In conclusion, significant proportion of respondents have been exposed to certain factors that contribute to low back pain. Various factors were identified as potential factors influencing low back pain such as lifting of patients, spending more than four hours while working, work related injury and doing repetitive works for more than 2 hours were mentioned as significant influencers. The study also highlighted the role of healthcare management in providing adequate lifting aids, improving manpower for lifting, enlightenment programs on the proper lifting mechanism and the use of alternative therapies such as massage in the prevention of low back pain.

5.6 Recommendations

This study has really identified heavy workload as a significant risk factor for low back pain among nurses. In order to reduce this and create a good health condition for the nurses to be able to effectively do their duties, this must be done.

1. More staff should be employed to reduce workload on the existing staff.
2. The hospital policy should mandate strict compliance with the standard of number of nurses to patient ratio as recommended by regulatory bodies of nursing practice.

3.The management should provide sophisticated medical equipment such as water beds, and electric beds so as to reduce workload on the nurses.

4. Healthcare management should conduct training for employees on the utilization of appropriate lifting techniques.

5.7 Suggestion for Further Research

This research was done based on the knowledge of the researcher in which the research should cover a broader scope. In view of this, further research should be done to other hospitals to validate the result of this study.

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APPENDIX I

FACTORS CONTRIBUTING TO LOW BACK PAIN AND ITS PREVENTION AMONG NURSES AT OLABISI ONABANJO UNIVERSITY TEACHING HOSPITAL, SAGAMU

QUESTIONNAIRE

Dear respondent,

I am OLADEJI, Victoria Opemipo, a third-year student of College of Nursing Science, Ilaro Campus.

I am conducting research on factors contributing to low back pain and its prevention among nurses at Olabisi Onabanjo University Teaching Hospital, Sagamu. The questionnaire would provide information on factors contributing to low back pain and its prevention among nurses.

Participation is voluntary and your name or any other identifying information would not be required.

All information provided will strictly be held in confidentiality and only be used for academic purposes.

Thanks for your participation.

Oladeji V.O.

(Student Nurse).

07025230744

Please indicate by ticking the box if you are willing to participate. YES () NO ()

SECTION A

SOCIO-DEMOGRAPHIC DATA

Please circle or indicate the appropriate answer

1. Gender: (a) Male [] (b) Female []
2. Age (in years) (a) 21-30 [] (b) 31-40 [] (c) 41-50 [] (d) 51-60 []
3. Marital Status (a) Single [] (b) Married [] (c) Widow/widower [] (d) Divorced []
4. Religion (a) Christianity [] (b) Islam [] (c) Others _____
5. Educational Background (a) RN [] (b) Post Basic [] (c) BNSc [] (d) Masters []

6. Nursing Category (a) Chief Nursing Officer (CNO) (b) Assistant Chief Nursing Officer (ACNO) (c) Principal Nursing Officer (PNO) (d) Senior Nursing Officer (SNO) (e) Nursing Officer (NO)
7. Ward: (a) Theatre [] (b) MSW [] (c) MMW [] (d) FSW [] (e) FMW []
8. Years of experience as a nurse (a) 1-5 [] (b) 6-11 [] (c) 12-17 [] (d) 18-23 [] (e) 24-29 [] (f) 30-35 []

SECTION B

FACTORS CONTRIBUTING TO LOW BACK PAIN

INSTRUCTION: please tick or underline the appropriate option.

9. Does lifting of patients contribute to low back pain? (a) Yes [] (b) No []
10. Do you spend more than 4 hours per day standing or walking at work? (a) Yes [] (b) No []
11. Have you ever experienced a work-related injury or accident that may have contributed to your low back pain? (a) Yes [] (b) No []
12. Do you spend more than 2 hours per day performing repetitive tasks, such as typing or charting, at work? (a) Yes [] (b) No []
13. Have you ever experienced a traumatic event, such as a car accident or fall, that may have contributed to your low back pain? (a) Yes [] (b) No []
14. Have you ever been diagnosed with a medical condition, such as herniated discs, that may contribute to your low back pain? (a) Yes [] (b) No []
15. Do you have a family history of low back pain or has any of your family members complained of low back pain? (a) Yes [] (b) No []

SECTION C

TO ASSESS PERCEIVED EFFECTS OF LOW BACK PAIN ON NURSES

16. Have you ever been on sick leave or days off work due to low back pain? (a) Yes [] (b) No []
17. Have you ever changed area/ specialty of nursing practice as a result of low back pain? (a) Yes [] (b) No []

18. Has low back caused you to reduce/ restrict some of your activity at home? (a) Yes [] (b) No []

19. Has your low back pain affected your ability to provide quality patient care (a) Yes [] (b) No []

20. Has your low back pain affected your work productivity? (a) Yes [] (b) No []

21. Has your low back pain affected your ability to sleep? (a) Yes [] (b) No []

22. Does unavailability of necessary equipment cause back pain? (a) Yes [] (b) No []

SECTION D

TO ASSESS POSSIBLE MEASURES USED IN PREVENTING LOW BACK PAIN AMONG NURSES

Tick the appropriate answer in the box provided

Agree (A), Strongly Agree (SA), Disagree (D), Strongly Disagree (SD)

S/N	MEASURES	SA	A	D	SD
24	Training on correct lifting techniques and postures should be done				
25	Improvement of manpower for lifting should be done				
26	Adequate lifting aids and adjustable beds should be made available.				
27	Stretching and exercising programmes should be encouraged.				
28	Using alternative therapies, such as massage, to help manage your low back pain				