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Incidence and Management of Low Back Pain among Nurses in Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife and Ilesa

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Abstract

This study presents the incidence and management of low back pain among Nurses in Obafemi Awolowo University teaching Hospitals complex, Ile-Ife. (OAUTHC). The study identified the percentage of nurses with low back pain in OAUTHC. The study also identified causative factors associated with low back pain among nurses in OAUTHC, It alsoexplored the management modalities of low back pain adopted by nurses in OAUTHC.

*Design/Methods**:** A descriptive design was adopted for this study. 258 respondents were sampled using a simple random sampling technique. However 255 respondents filled the self-administered questionnaires given to them. Data was analysed using descriptive and inferential statistics and results presented in tables using frequency and percentages.*

Results/Findings: Findings from the study showed that 71.4% of the respondents had low back pain, among which 68.7% had a low intense pain. The study also showed that 54.1% of the respondents with low back pain got their pain from their work. The study also revealed that nursing procedures requiring lifting and bending were highly associated with low back pain. 85.5% of the respondents associated low back pain with wound dressing and bed making. The study also revealed that respondents who had pain manage their pain with, rest, massage, physical therapy and painkillers.

Conclusion: The study concludes that a larger percentage of nurses have low back pain and that procedures such as wound dressing and bed making are highly associated with low back pain which makes nurses working on wards requiring these two procedures to be more prone to developing low back pain and they manage low back pain with massage, rest, physical therapy and analgesics with proven effects

Keywords

***Low back pain**: subjective experience of discomfort around the 12th rib to the gluteal folds.*
***Back care ergonomics:** special form of care directed to the spine and muscles of the back.*
***Nursing procedures**: nursing jobs in the hospital aimed at caring for the patient/client.*
***Pain Management:** measures used to control pain either medically, conservatively or alternatively.*
***Nurses:** professionals who are registered and licensed to practice nursing and are employed by OAUTHC to work as a nurse.*
***Incidence**: rate of occurrence or frequency of a case.*

Introduction

Pain is an unpleasant emotional state felt in the mind but identifiable as arising in a part of the body. In other words, it is a subjective sensation. (Malcom, 2009) Pain is a defense mechanism designed to make the subject protect an injured part from further damage (Malcom, 2009) Low back pain occurs below the 12th rib and above the gluteal folds (Waheed, 2003). It is a common cause of morbidity among health workers. Nurses are among the occupational groups within the health service that are vulnerable to low back pain (Cunningham et al, 2006)

Low back pain (LBP) is the second most common diagnosis after upper respiratory diseases (Karahan & Bayrakar, 2004). The impact of low back pain for nurses include time

off work, increasedrisk of fatigue, as well as associated personal and economic cost. (Mitchell et al, 2008) Nurses are ranked third on the prevalent rate of low back pain among the employed people. (Yip, 2001)

According to Cesena et al, (2008), mechanical hazards in the hospital include low back pain from manual lifting (patients in particular) which makes nursing one of the occupations mostly affected by low back pain and this describes the extent of musculoskeletal injury in nurses. (Triolo, 2008).

The European Foundations for the improvements of living and working conditions in its European Occupational Diseases Statistics. (EOSD, 2007) stated that the most significant health problems faced today by the workforce are musculoskeletal disorders, with a percentage of 35%, stress with a percentage of 28% and general exhaustion with a percentage of 23%.

Cunningham, (2006) states that low back pain is the most common cause of early retirement on grounds of ill health, sicknessabsence, job changes and a fall in the work speed among the working population. The yearly low back pain prevalence which has been informed up to now is 73% to 76% among the German nurses. (Maul et al, 2003)86% among the Italian nurses (Corona et al, 2005) and 80.9% among the nurses in Hong Kong. The result of a survey conducted in Hong Kong disclosed that 16.2% of nurse sick leave is because of low back pain. (Yip, 2001)

In Hong Kong, 68.7% of nurse activities have been limited because of their low back pain and 7.9% of the nurses have been shifted to another nursing responsibility. (French et al, 2007). Heavy physical activities play a role in nurses low back pain (Yip, 2001). Activities like displacing and lifting are the most important factors causing low back pain in nurses. (Yip, 2001; French et al, 2007) but most of the researchers believe that the physical factors justify only a portion of the prevalent cause of upper part of low back pain and the relationship between the social mental activities and low back pain has been mentioned as an important finding in most recent essays. Most of the researchers have concluded that there is a connection between the psychosocial activities and low back pain. (Yip, 2001) This study looked at the incidence and management of low back pain among nurses in Obafemi Awolowo University Teaching Hospitals Complex Ile Ife and Ilesa, Osun State.

Statement of problem

The European Foundations for the improvements of living and working conditions in its European Occupational Diseases Statistics. (EOSD, 2007), stated that, about 35% of health workforce are faced with musculoskeletal disorders, among whom low back pain is the most significant health problem. During the researchers working experience as a staff nurse in Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, the researcher observed that almost all nurses complained of low back pain, and he became curious about what could be responsible for the high occurrence of low back pain among nurses. Today, Intensification of work, changes in scheduling and organization of workplace, arising demands on employees as well as new technologies lead to situations characterized by additional pressure and stress. As a result, more and more occupational or work-related diseases have appeared, one of which is low back pain. Low back pain is a well recognized cause of morbidity in the industrialized world, where several studies have reported the occurrence of low back pain in general population and occupational settings

Low back pain is a commoncause of morbidity among health workers and it is not uncommon among Nigerian nurses. Faronbi, (2008) submitted that in view of the recalcitrant nature of pain, victims are often exposed to gamut of diagnostic and treatment procedures without corresponding improvement, hence resulting in frustration, anger and poor quality of life.

This study therefore looked at the incidence and management of low back pain among Nurses in Obafemi Awolowo University Teaching Hospitals Complex Ile Ife and Ilesa, Osun State.

Research questions

This study therefore seeks to answer the following questions:

1) How many nurses have low back pain in Obafemi Awolowo University Teaching Hospitals Complex?
2) What are the causative factors associated with low back pain among nurses in Obafemi Awolowo University Teaching Hospitals Complex?
3) Which nursing procedure(s) is/are associated with low back pain among nurses in Obafemi Awolowo University Teaching Hospitals Complex?
4) What method of management do nursesof Obafemi Awolowo University Teaching Hospitals Complex adopt for their low back pain?

Objectives of the study

The objectives of this research are:

- To determine the number of nurses with low back pain.
- To ascertain which nursing procedure(s) is/are associated with low back pain.
- To identify predisposing and causative factors of low back pain among nurses in Obafemi Awolowo University Teaching Hospitals Complex.
- To determine the methods of managing low back pain adopted by nurses in Obafemi Awolowo University Teaching Hospitals Complex.

Significance of the study

Low back pain, a musculoskeletal disorder is the most significant health problem faced today by the workforce. (EOSD, 2007) and it is a common cause of morbidity among health workers including Nigerian nurses.

Therefore, the finding of this study provided basic knowledge on factors associated with low back pain among nurses in Obafemi Awolowo University Teaching Hospitals Complex Ile Ife and Ilesa, as well as assessment and management. This would subsequently help in planning accurate intervention upon which specific educational program would be designed for nurses and other health professionals and this would ensure quality pain management.

Delimitation

This study is delimited to nurses in Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, and Wesley Guild Hospital, Ilesa, Osun State.

Limitation

The study was affected by factors such as subjective phenomenon of pain, limited time, financial constraints and bias on the part of respondents in filling and submitting the questionnaires.

Research methods

The study employed a descriptive design to assess the incidence and management of low back pain among nurses in Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife.

Research setting

The study was conducted in Obafemi Awolowo University Teaching Hospitals Complex Ile Ife and Ilesa. Obafemi Awolowo University Teaching Hospitals Complex is a first generation teaching hospital established by the federal government to provide qualitative health care to its people. The institution is a referral centre, located along Ife –Ilesa express road in Ife central local government area of Ile Ife. This institution has 6 units; Ife Hospital Unit, Ile-Ife, Wesley Guild Hospital, Ilesa, Dental Hospital OAU, Ile-Ife, Urban Comprehensive Health Centre, Eleyele, Ile-Ife, Rural comprehensive health centre, Imesi-Ile, and Multi-purpose Maternal and Child Health Centre, Ilesa.

Wesley Guild Hospital (W.G.H.), which was initially a missionary hospital, was founded in the year 1913 by the Methodist Church of Nigeria, with powerful assistance from foreign partners. But it was later taken over in the year 1975, by the Federal government of Nigeria to be part of the teaching hospitals complex for the then new medical school in Ile-Ife, twenty miles away. The original name was retained; partly to distinguish it from the three other hospitals in the complex, the Ife State Hospital Unit, Comprehensive health centre, Eleiyele, Ile-Ife and the Rural Comprehensive Health Centre at Imesi-Ile

Target population

The population of the study were nurses working in Obafemi Awolowo University Teaching Hospital Complex, Ife Hospital Unit and Wesley Guild Hospital, Ilesa.

Sample and sampling technique

The sample for this study was selected among nurses working in the Ife Hospital Units, Ile-Ife and Wesley Guild Hospital, Ilesa, Osun State. A simple random sampling technique was used in selecting the sample and the wards where respondents were working served as the sample frame

The sample for this study was determined using Yamane's formula.

$$n = \frac{N}{1+N(e^2)}$$

Where n= sample size
N= population size
e = level of precision which is 0.05

Population of nurses in Ife Hospital Unit =510, Population of nurses in Wesley Guild Hospital Ilesa =228

Total population=738 $738/\ 1 + 738(0.05)2$

Total Population = 510 +261 = 738 $n = \frac{738}{1+738\ (0.05)^2}$

n = $\frac{739}{1+738\ x\ 0.0025} = \frac{738}{2.85} = 258$

Ratio of IHU: WGH 510: 2282: 1
Sample from IHU = 172, Sample from WGH = 86

Development of research instrument

The instrument that was employed for data collection was a Questionnaire. It was adapted from the Aberdeen low back pain scale and the Faces pain scale and modified in line with the culture and setting of the study. The questionnaire consists of four sections; sections A, B, C and D. Section A consists socio-demographic variable, section B consists of questions on occurrence of low back pain, has 9 items and is closed ended, section C consists questions on causes of low back pain, has various items known to possibly cause or associated with low back pain and these items ranged from agree (3) and undecided (1). Section D consists questions on management of low back pain.

The questionnaire was developed with input from my supervisor. Authors of the Aberdeen low back pain scale found the instrument to be valid and reliable. It was compared to the Oswestry Waddell and Greenough indices. It correlated with the SF-36 as a general measure of health status; it showed good internal consistency and test-retest reliability. To test for the face validity, the extent to which the statement would convey was determined taking cues from the literature, Aberdeen low back pain and the faces pain scale. Content validity was ensured by comparing the contents of the questionnaire to the literature review on the topic and validates the fact that it accurately represents the literature review. A pilot study was conducted using 20 nurses in Ladoke Akintola University Teaching Hospital, Osogbo, two questions were reframed and the assessment scale for pain intensity modified.

Method of data collection and analysis

Permission was firstly sought from the authority of OAUTHC and the Ethics and Research Committee in Institute of Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife. Respondents were adequately informed before giving them questionnaire to fill. Participation of respondents in the study was voluntary. A total of 258 questionnaires were distributed. Data collected was analysed using statistical package for social sciences (version 17). Descriptive and inferential procedures was used for analysis and results were presented using tables and percentages.

The researcher sought permission from the Ethics and Research Committee of Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, permission was also gotten from the ward leaders of the respective wards in OAUTHC Ile Ife and Ilesa. Besides, explanation on the purpose of the study was provided and respondents were informed that the information received would be held strictly confidential.

Results

Low back pain is a common cause of morbidity among health workers and it is not uncommon among Nigerian nurses. This study looked at the incidence and management of low back pain among nurses in Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife and Ilesa. The target population were nurses employed and working with the institution. A descriptive design was used for the study and a simple random sampling technique was used to select 255 nurses in Ife hospital unit and Wesley Guild Hospital Units. The instrument used to collect data was a self-administered questionnaire and analysis was done using descriptive and inferential statistics. Findings from the study revealed that 71.4% of the respondents had low back pain among which 68.7% had low intense back pain, while 27.5% had moderate intense low back pain and only 3.8% had high intense low back pain. Nursing procedures requiring lifting and bending were found to be associated with low back pain. The study also revealed that wound dressing and bed making were the most important nursing jobs identified to be associated with low back pain and that those who had low back pain, majority were work related. The study also revealed that nurses had been using rest, massage and pain killers to manage their pain.

As to the first research hypothesis, the significant value of the F test in the ANOVA table is lesser than 0.05. Thus, we reject the null hypothesis and conclude by accepting the alternative hypothesis that there is a significant difference between stress and low back pain intensity. With the $F(3, 103) = 4.682$, sig. $(0.004) < 0.05$, we reject the null hypothesis and conclude by accepting the alternative hypothesis that there is a significant difference between stress and low back pain intensity. The Pearson chi-square was used to test the hypothesis that there is no significant relationship between ward and low back pain intensity. The Pearson chi-square derived a value of 4.861, degree of freedom (df) of 7, and a significant value of 0.677. The sig. value is greater

Discussion

Altogether, 255 nurses participated in the study, out of which female nurses accounted for 78.6%, this corresponds to the fact that female nurses are more than male nurses. Male nurses accounted for 21.6%.

Findings from this study revealed that 71.4% of nurses in Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife have low back pain. This statistics seems to be an alarming one indeed, this agrees with Maul et al, (2003) who submitted that yearly low back pain prevalence among German nurses had gone to 76%, Corona et al, (2005) also posited that the prevalence rate of low back pain among Italian nurses had been 86% and among nurses in Hong Kong had been 80.9%. The incidence rate of low back pain among nurses in OAUTHC is thereby not far-fetched from her global counterparts.

Furthermore, the study also revealed that the low back pain nurses in OAUTHC had is work related, the study revealed that 54.1% of nurses with low back pain had their pain began

due to work hazards. This agreed with the submission of the European Foundations for Its Improvements of living and working conditions in its European Occupational Diseases Statistics (EOSD, 2007) which stated that the most significant health problems faced today by the workforce are musculoskeletal disorders; one of which is low back pain. Irishealth (2009) also submitted that the majority of lower back pain stems from benign musculoskeletal problems and are referred to as non-specific low back pain; this type may be due to muscle or soft tissue sprain or strain particularly in instances where pain arose suddenly during physical loading of the back.

The study also revealed that over activity is related with low back pain, this agreed with the submissions of Iris health (2009) who posited that over activity results is muscle soreness. Over activity causes muscles and ligaments to overstretch or injure.

Also, the study revealed that nurses who carry out wound dressing, bed making, lifting and other heavy physical activities could have low back pain, this also agreed with the submissions of Cesena et al, (2008) who opined that mechanical hazards in the hospital include low back pain from manual lifting (patients in particular) which makes nursing one of the occupations mostly affectedly by low back pain. Yip, 2001 and French et al, (2007) also submitted that heavy physical activities play a role in nurses low back pain, activities like displacing and lifting are the most important factors causing low back pain. However, this study revealed that wound dressing and bed making are the most important nursing procedures associated with low back pain in OAUTHC.

Furthermore, the study revealed that low back pain had made some nurses miss work before. The study revealed that 11.4% of nurses had missed work because of low back pain; this supported the result of a survey conducted by Yip, (2001) in Hong Kong. The result of the survey disclosed that 16.2% of nurses' sick leave was because of low back pain.

The study also showed that stress causes low back pain among nurses, this agreed with the submissions of Dennis, (2010) who posited that under stress the body secretes stress hormone (cortisol) that has a fights or flight function – cortisol leaches calcium from the bones causing osteoporosis. Under stress, it is the adrenal glands that must first respond if they are over stimulated they become exhausted. When the adrenals are fatigued, there are direct consequences to the musculoskeletal system. The exhausted adrenal glands lead to improper or inadequate response on the part of the Sartorius muscle. The demand on the muscle exceeded its threshold to handle it resulting in an injury. The direct connection to the low back pain from stress is that the Sartorius imbalance in front of the thigh has an impact on the sacroiliac joint integrity on the posterior side of the pelvis, this result in injury to the back.

Findings from the study also showed that obesity is associated with low back pain. According to Haslam, (2005) the number of overweight or obesity is dramatically increasing. Mirtz, (2005) opined that the association between obesity and low back pain remains controversial. A study conducted by Hershkovich (2000) indicated that male who were obese had a 16% risk of getting lower back pain and females who were obese had 21% risk of getting lower back pain. Furthermore, a study conducted by Zettel-Watson et al, (2000) on typology of chronic pain among overweight Mexican Americans revealed that most participants had widespread pain; 60% were suffering severe pain (including back, knee and shoulder pain); the most common pain location was headache (80%), followed by knee and upper back (75-76%) shoulder (73%) and lower back (73%). Greater obesity was associated with some negative pain outcomes.

The study also revealed that larger percentage of respondents with low back pain were in surgical and medicals wards, this could be because nurses working on such wards are exposed to heavy physical activities such as lifting as submitted by Cesana et al, (2008). Findings from this study also showed that majority of the nurses with low back pain had it for between one and five years. The study also showed that low back pain had limited some activities of the nurses who had low back pain, this agreed with Roupa et al, (2006) who submitted that injuries to the lumbar spine are painful, chronic and in most cases non reversible conditions

and the individual suffering from them are unable to attend to their social, occupational and other activities.

The study also revealed that majority of the nurses who had low back pain felt a dull ache sensation. The study further showed that nurses make use of rest, massage, physical therapy and analgesics (most especially paracetamol and tramadol) to manage their pain, this agreed with the submissions of Malmivaara et al, (2005) who opined that bed rest may be recommended for the first few days for patients with severe pain – Recommended medications include non-steroidal anti-inflammatory drugs such as ibuprofen or aspirin. They stated that Narcotic analgesia should be avoided in general but it can be prescribed in cases of severe acute pain. A study by Cherkin, (1998) found that physical therapy maneuvers and chiropractic spinal manipulation for the treatment of acute low back pain provide small short term benefits and improve patient satisfaction.

The study also revealed that nurses knew what back care ergonomics was and they agreed that back care ergonomics when practiced would reduce the incidence of low back pain, this agrees with John et al (2006) who opined that there are certain basic ergonomic guidelines that many help an employee avoid back pain or back injury.

Conclusion

This study has demonstrated that low back pain is a major problem to nurses globally and most especially Nigerian nurses. The study concludes that a larger percentage of nurses have low back pain and that procedures such as wound dressing and bed making are highly associated with low back pain which makes nurses working on wards requiring these two procedures to be more prone to developing low back pain and they manage low back pain with massage, rest, physical therapy and analgesics with proven effects.

The health status of a care giver is directly linked to the quality of care delivered. Low back pain affects the quality of care delivered. It is however important that attention be given to factors related to low back pain and measures to reduce it.

Based on the findings of this study, it is important that nurses become knowledgeable about the causative factors of low back pain. It is also very important that nurses know how to take good care of their back (Back care ergonomics). It is evident that back care ergonomics will help nurses avoid back injury.

It is equally important that relevant stakeholders design appropriate program aimed at stressing effective back hygiene and that measures or programs be implemented which are aimed at training nurses doing wound dressing. It is also imperative that nurses should be encouraged to desist from lifting alone, instead call for assistance and that lifting devices should be provided and made functional.

Figures and tables

Table 1. Socio-Demographic characteristics of the respondents

SEX	**FREQUENCY**	**PERCENTAGE**
Male	55	21.6
Female	200	78.4%
TOTAL	255	100
AGE		
20-30 years	162	63.5
31-40 years	51	20.1
41-50 years	34	13.3
51-60 years	8	3.1
TOTAL	100	100
MARITAL STATUS		
Married	175	68.6

Single	79	31.0
Divorced	1	0.4
Widow	0	0
Widower	0	0
TOTAL	100	100
CADRE		
NO 11/NO 1	151	59.2
SNO/PNO	48	18.8
CNO/ADNS	56	22.0
TOTAL	100	100
ACADEMIC QUALIFICATION		
RN	92	36.1
RM	114	44.7
RPHN	4	1.5
BNSC	41	16.1
MASTERS	3	1.2
PHD	1	0.4
TOTAL	255	100
ETHNICITY		
Yoruba	238	93.3
Hausa	2	0.8
Igbo	15	5.9
TOTAL	255	100
Working Experience		
1-10years	167	62.7
11-20years	61	23.9
21-30years	26	10.2
Above 30years	8	3.1
Wards		
Surgical	63	24.7
Medical	55	21.6
Specialty	68	26.7
Children ward	21	8.2
Mental ward	27	10.6
Clinics	21	5.5
Community	7	2.7
Total	255	100

Table 2. Respondents with low back pain, duration and family history

Do you have low back pain	**Frequency**	**Percentage**
Yes	182	71.4
No	73	28.6
TOTAL	255	100
Duration		
1-5 years	141	55.3
6-10 years	27	10.6
11-20 years	5	2.0
Above 20 years	9	3.5
No Pain	73	28.6

TOTAL	255	100
Does anyone have low back pain in your family		
Yes	59	23.1
No	196	76.9
TOTAL	255	100

Table 3. Respondent's characteristics of low back pain

VARIABLE	**FREQUENCY**	**PERCENTAGE**
Dull ache	113	44.3
Shooting	10	3.9
Burning	14	5.5
Sharp	45	17.6
No pain	73	28.6
TOTAL	225	100
INTENSITY		
Low Intense	125	68.7
Moderate Intense	50	27.5
High Intense	7	3.8
TOTAL	182	100
How low back pain began		
Accidents at home	6	2.4
Work related	138	54.1
Motor accident	2	0.8
After surgery	3	1.2
After an illness	4	1.6
Just began	16	6.2
Came on gradually	13	5.1
No pain	73	28.6
TOTAL	255	100

Table 4. Low back pain experience and activities limitations

VARIABLE	**FREQUENCY**	**PERCENTAGE**
Respondents with activities limitations	77	30.2
No activity limitation	178	69.8
TOTAL	255	100
Low back pain experiences		
No pain	73	28.6
Pain is present but does not limit activities	79	30.9
Mild annoying pain	53	20.8
Can do more activity with rest	19	7.5
Nagging pain uncomfortable/troublesome	21	8.2
Unable to do some activities because of pain	2	0.8
Miserable distressing	6	2.4
Intense, dreadful/horrible	1	0.4
Worst possible/unbearable	1	0.4

TOTAL	255	100
Activities Limited		
During house chores	20	7.8
Lifting/carrying objects	22	8.6
Long posture-sitting, standing	25	9.8
Work/ward routine	9	3.5
Sexual activities	1	0.4
None	178	69.8
TOTAL	255	100

Table 5. Respondent's presenting features of low back pain

FEATURES	**YES**	**NO**	**TOTAL**
Weakness in hands /feet	23(9.0%)	232(91.0)	100
Pain radiating to arm/forearm/hands	33(12.9%)	222(87.1)	100
Pain radiating to thighs/buttocks/legs/feet	116(45.5%)	139(54.5)	100
Dragging the feet while walking	39(15.3%)	216(84.7)	100
Difficulty holding bladder or bowel	6(2.3%)	249(97.7)	100
Trouble falling asleep	43(16.9%)	212(83.4)	100

Table 6. Impact of low back pain on work

Have low back pain made you miss work before?	**Frequency**	**Percentage**
Yes	30	11.8
No	152	59.6
No Pain	3	28.6
TOTAL	255	100
No of Days Absent		
0-7	24	9.4
8-14	3	1.2
15-21	1	0.4
Above 29	1	0.4
None	226	88.6
TOTAL	255	100

Table 7. Nursing tasks associated with low back pain

Procedures	**Associated with low back pain N (%)**	**Not associated with low back pain N (%)**	**Undecided**
Baby Bathing	126(49.4%)	89(34.9%)	40(15.7)
Bed bathing	218(85.5)	25(9.8)	12(4.7)
Wound dressing	218(85.5)	28(10.9)	9(3.5)
Feeding (oral)	83(32.5)	150(58.8)	22(8.6)
Nasogastric Feeding	76(29.8)	147(57.6)	32(12.5)
Bed making	163(63.9)	70(27.5)	22(8.6)
Vital/signs	74(29.0)	155(60.8)	26(10.2)
Teaching rounds	145(56.9)	79(30.9)	31(12.20
Assessment of patients	48(18.8)	172(67.5)	35(13.7)
Admitting patients	25(9.8)	194(76.1)	36(14.1)

Medication rounds	68(26.7)	142(55.7)	45(17.6)
Pressure area treatment	125(49.0)	97(38.1)	33(12.9)

Table 8 Factors associated with low back pain among respondents

Pathologies	**Agree**	**Disagree**	**Undecided**
	N (%)	N (%)	
Spinal stenosis	201(78.8)	21(8.2)	33(12.9)
Spondylolysis	218(85.5)	14(5.5)	23(9.0)
	210(82.4)		
Herniated disc	210 (82.4)	19(7.5)	26(10.2)
Degenerative Disc	221(86.7)	14(5.5)	20(7.8)
Osteoporosis	206(80.8)	16(6.3)	33(13.0)
Osteomyelitis	190(74.5)	34(13.3)	31(12.2)
Scoliosis	200(78.4)	16(6.3)	39(15.3)
Other factors			
Lifting	244(95.7)	4(1.6)	7(2.7)
Stress	195(76.5)	40(15.7)	20(7.8)
Prolonged standing	232(90.9)	11(4.3)	12(4.7)
Improper sitting	214(83.9)	26(10.2)	15(5.9)
Obesity	185(72.5)	42(16.5)	28(10.9)
Over activity	205 (80.4)	24(9.4)	26(10.2)
Prolonged sitting	193(75.7)	35(13.7)	27(10.6)
Sleeping with sagged mattress	240(94.1)	6(2.4)	9(3.5)
Sleeping with firm mattress	31(12.2)	165(64.7)	59(23.1)

Table 9. Management of low back pain among respondents, and respondents' use of analgesics

Strategies	**Frequency**	**Percentage**
Analgesics	84	32.9
Massage	40	15.7
Rest	55	21.6
Other physical support	3	1.2
Surgery	0	0
No pain	73	28.6
Total	255	100
Analgesics:		
Paracetamol	100	39.2
Ibuprofen/Diclofenac	20	7.8
Tramadol	62	24.3
None	73	28.6

Table 10. Effectiveness of management modalities on low back pain

Modalities	**Better**	**Worse**	**No pain**
Modalities	N(%)	N (%)	N (%)
Massaging/rubbing	168 (65.9)	14 (5.5)	73 (28.6)
Physical therapy	154 (60.4)	28 (11.0)	73 (28.6)
Pain killers	166 (65.1)	16 (2.3)	73 (28.6)
Cold compress	164 (64.3)	18 (7.1)	73(28.6)
Heat therapy	164 (64.3)	18 (7.1)	73 (28.6)

Table 11. Respondents perception that back care ergonomic reduces low back pain

Response	Frequency	percentage
Yes	158	62.0
No	97	38.0
Total	255	100

Hypothesis testing

Analysis of variance (ANOVA)

Research Hypothesis one: There is no significant difference between stress and low back pain intensity.

Table. ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	29.265	3	9.755	4.682	0.004 (<0.05)
Within Groups	214.623	103	2.084		
Total	243.888	106			

Chi square

Research Hypothesis Two: There is no significant relationship between ward of respondents and low back pain intensity

	Low back pain intensity			Pearson Chi^2	df	Sig. value
	Low intense	Moderate intense	Total			
Male surgical ward	27	21	48	4.861[a]	7	0.677 (>0.05)
Female surgical ward	7	8	15			
Medical wards (Male & female)	24	31	55			
Community	2	5	7			
Clinics	9	5	14			
Specialty	35	33	68			
Children ward	9	12	21			
Mental health wards	12	15	27			
Total	125	130	255			

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