

## Prevalence of musculo-skeletal disorders among nurses in Osun State, Nigeria

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### Abstract:

This descriptive design study aimed at finding out the prevalence of musculoskeletal disorders among nurses in two teaching hospitals in Osun State of Nigeria. A self- designed questionnaire was used to collect information from one hundred and thirty eight (138) respondents .The questionnaire was divided into demographic attributes, factors precipitating to work related musculoskeletal disorders, part of the body affected, and units where the respondents were working. The data collected were analysed using descriptive statistics of frequency and percentage. The results showed that there was high prevalent rate of lower back musculoskeletal disorders in nurses (70.3%), resulting after working hours 45.7%, musculoskeletal disorders was prevalent within the age groups of 26 – 31 (100%), 50years and above (100%) and 20 – 25 (94.7%). Musculoskeletal disorders was found to be prevalent in male nurses (100%) than female nurses (92.2%) while it was observed that musculoskeletal disorders was more prevalent in nurses working in theatre (100%) and medical wards (100%), Accident and Emergency Unit 91.7%. It was concluded that more nurses should be allowed to run a shift so that they could assist each other. Nursing implication for the study and recommendations were proffered.

**Key words:-** Prevalence, Musculoskeletal disorder, Nurses.

### INTRODUCTION

Pain is a protective mechanism for the body that occurs when tissues are being damaged. The person in pain usually takes action to remove the pain or its causes, if possible. Indeed, pain is the number one symptom or complaint that causes people to seek health care and the leading cause of low productivity at work (Ajibade, 2000).

Musculoskeletal disorders include a group of conditions that affects the nerves, tendons, muscles and supporting structures such as intercorebral discs. Musculoskeletal pain and injury condition such as tendonitis, tenosynovitis, carpal tunnel syndrome and myofascial for trigger point pain and some of the common reasons why individuals seek health care in developed countries (Fabunmi, Oworu & Odunaiya 2008).

According to Frost (2002), musculoskeletal disorders represent one of the leading causes of occupational injury and disability in industrialized countries. Risk factors are known to include work place activities such as heavy lifting and repetitive task (Johanning 2002). Personal and psychological factors such as low mood, low work support and body size are also important factors in the development of work related musculoskeletal disorders (Botha & Bridger, 1998). Musculoskeletal disorders represent significant occupational injuries and disabilities within the nursing profession and patient handling task are recognized as the primary cause of work – related musculoskeletal disorders among the nursing work – force (Smith, Kondo, Tanaka, & Yamagata, 2003). A four year repeated survey among nurses in the Musci – Norrtalje study indicated that psychological job strain was associated with back and neck/shoulder symptoms while high perceived physical exertion showed a consistent association with musculo – skeletal symptoms. Smith et al (2003), carried out an investigation on the prevalence of work related musculoskeletal disorders among 247 nurses from three hospitals in rural Japan reported that 12months prevalence of self- reported musculoskeletal disorders at any body parts was 91.9% and low back pain was the most commonly reported musculoskeletal pain with a prevalence of 82.6%. By virtue of their job requirement, hospital and community- nurses constitute a substantial occupational group regularly affected by musculoskeletal disorders. ANA (2004), reported that musculoskeletal disorders to be a significant concern for nursing students. Feyer et al. (2002), also supported this conclusion. Fabunmi, Oworu and Odunaiya (2008), in their research on prevalence of musculoskeletal disorders among nurses in University College Hospital, Ibadan discovered that:

- \_ musculoskeletal disorders were least prevalent in the Nurses above 50years of age.
- \_ musculoskeletal disorders prevalence is high in female Nurses.
- \_ lower back pain was the most common musculoskeletal disorders affecting 79.4% of Nurses.
- \_ a high prevalence of musculo-skeletal disorders was observed in the 1-5 and 6-10years working experience groups.

the prevalence of musculoskeletal disorders among nurses that worked for more than 40 hours per week and accounted for 90.4% while those workers for between 30 – 39 hours was 84.4%.

According to a study carried out in Hong Kong 40.6% of nurses had low back pain (Yip, 2001). Equally in a similar study in France, Niedhammer, Lert and Maryne (1994), discovered that 41.1% of nurses experienced low back pain. In another study in England, Smedley, Egger, Cooper, and Coggan (1995), observed that 45% of nurses suffered from low back pain evidence of prevalence of musculoskeletal disorders among nurses.

**Objectives of the study:-** Literature reviewed had shown the prevalence of work related musculoskeletal disorders among nurses in various part of the world.

The aim of the study was to investigate the prevalence of work related musculoskeletal disorders among nurses in two teaching hospitals (Ladoke Akintola University Teaching Hospital, Osogbo, and Obafemi Awolowo University Teaching Hospital Ile – Ife.

The study was designed to provide answer to the following questions:-

- (1) What is the prevalence of musculoskeletal disorders among nurses?
- (2) What is the prevalence according to years of experience?
- (3) What is the prevalence according to the age?
- (4) What is the prevalence according to gender?
- (5) What is the prevalence according to years of experience?
- (6) What is the prevalence according to the work unit?

**METHODOLOGY:-** This part of the study was made up of the study design, study population, sample and sampling technique and method of data analysis.

**Study design:-** The study was a descriptive research design. Necessary information was collected from the respondents through the use of self – designed questionnaire. The questionnaire consisted of three sections A – C. Section A- Demographic, Section- B Pain Experience and Section C- Part of the body affected.

The psychometric property of the instrument was determined through the pilot study carried out among ten nurses at the Catholic Hospital, Osogbo. The section B and C revealed reliability of 0.78 using Cronbatch analysis.

**Study Population:-** The study population consisted of all nurses in active services of Obafemi Awolowo University Teaching Hospital, Ile – Ife and LAUTECH Teaching Hospital, Idi Seke, Osogbo.

**Sample and Sampling Technique:-** One hundred and thirty eight nurses actively carrying out nursing practice were selected using non probability purposive sampling. All the nurses selected were given the self- designed questionnaire. All the questionnaires administered were returned. The researcher and the researcher's assistant had earlier solicited for their cooperation through the consent forms.

**Analysis of data:-** Data collected were analysed through the use of descriptive statistics of frequencies, and percentages.

## Results

Table I:- Demographic attributes of respondents

### DEMOGRAPHIC ATTRIBUTES

Characteristics	Frequency	Percentage
Institution –		
OAUTHC	76	55.1%
LAUTECH	62	44.9%
Total	138	100%
Sex		
Male	23	16.7%
Female	115	83.3%
Total	138	100%
Age		
20 – 25	19	13.8%
26 – 31	28	20.3%
32 – 37	37	26.8%
38 – 43	25	18.1%
44 – 49	17	12.3%
50 and above	12	8.7%
Total	138	100%
Unit		
Theatre	8	5.8%
Emergency	12	8.7%
Medical ward	32	23.2%
Surgical	19	13.8%
Orthopaedic	6	4.3%
Labour ward	41	29.7%
Paediatric	11	8.0%
Psychiatric	1	.7%
Others	8	5.8%

Table I showed that majority of the respondents were females 83.3% (115) while only 16.7% (23) were males. In terms of years of experience, majority of the respondents had not spent many years in the nursing practice as 74.6% of the respondents had just put in 1 – 5years of experience only 2.2% had more than 24years of experience.

Table 2

### Belief that pain is associated with nursing activities

	Frequency	Percentage
Yes	92	66.7%
No	37	26.8%
Indifference	9	6.5%
Total	138	100%

Considering table 2 above majority of nurses agreed that they experienced pain as a result of nursing activities they are caring out 66.7% believed their pain was associated with the nature of their work, 26.8% did not subscribe to their pains being associated with their nature of work while 6.5% felt different.

**Table 3**  
**Prevalence of musculoskeletal disorders according to the body types.**

Body parts	Frequency	Percentage
Lower back	97	70.3%
Neck	28	20.3%
Shoulder	29	21%
Ankle/Feet	37	26.8%
Hips/Thigh	44	31.9%
Wrist/Hand	25	18.1%
Knees	39	28.3%
Upper back	32	23.3%
Elbow	12	8.7%

Table 3 showed that majority of the respondent have experienced lower back ache accounting for 70.3% while the least experience disorder was the elbow disorder accounting for 8.7%. The other types of musculoskeletal disorders were Hips, Knees, Ankle, Upper back pain, shoulder pain and Neck pain accounting for 31.9%, 28.3%, 26.8%, 23.3%, 21%, and 20.3% respectively. This founding may not be uncorrected with lifting of patients, carrying out of nursing procedures while standing.

**Table 4**  
**Prevalence of musculoskeletal pain in relation to the age of respondents.**

Age in year	Yes	Frequency	No	Frequency	Total
20 – 25	94.7	18	5.3	1	100%
26 – 31	100	28	0	0	100%
32 – 37	86.5%	32	13.5%	5	100%
38 – 43	96.0%	24	4.0%	1	100%
44 – 49	88.2%	15	11.8%	2	100%
750	100%	12	0	0	100%
		129		9	

Table 4 above showed that the musculoskeletal disorders are no respecter of any age in nursing. Those nurses older than 50years of age developed musculoskeletal disorders, so also those respondents within the age range of 26 – 31. One would feel the younger ones would not develop or experience musculo-skeletal disorder because they are still young, the table IV above had put that assumption wrong.

**Table 5**  
 Prevalence of musculoskeletal disorders in relationship with the unit where they work.  
 Pain experience

Unit	frequency	Yes	No	frequency	frequency	Total
Theatre	8	100%	0	0	8	100%
Emergency	11	91.7%	8.3	1	12	100%
Medical ward	32	100%	.0%	0	32	100%
Surgical wards	19	100%	.0%	0	19	100%
Orthopaedic ward	6	100%	.0%	0	6	100%
Labour ward	38	92.7%	7.3%	3	41	100%
Paediatric ward	7	63.6%	36.4%	4	11	100%
Psychiatric ward	1	100%	.0%	0	1	100%
Others	7	87.5%	12.5%	1	8	100%

Considering the table 5 above, musculoskeletal disorders were found to be prevalent in areas where nurses would have to stand up for longer period or where they have to be involved in observations of patients to prevent complication for instance, all the respondents from the theatre experienced musculoskeletal disorders, so also the orthopaedic ward, medical ward, surgical ward, psychiatric ward.

The other units where nurses showed evidence of musculoskeletal disorders were labour ward and emergency unit.

**Table 6**  
**Prevalence of musculoskeletal disorders in relation to the years of experience**  
**Have you ever experienced pain**

Years of experience	Frequency Yes	Percent Yes	Frequency No	Percent No	Frequency Total	Percent Total
1 – 5years	96	93.2%	7	6.8%	103	100%
6 – 11years	17	100%	0%	.0%	17	100%
12 – 17years	11	91.7%	1	8.3%	12	100%
18 – 23years	2	66.7%	1	33.3%	3	100%
24 and above	3	100%	0	.0%	3	100%
Total	129	93.5%	9	6.5%	138	100%

Table 6 depicted the effect of years of experience in relationship with the prevalence of musculoskeletal disorders. The result showed that the musculoskeletal disorders was highly prevalent in those nurses who have put in 24years of experience which accounted for 100%prevalence rate; the most revealing was that those that were just joining the profession within 5years of experience showed high prevalence of musculoskeletal disorders of 93.2% prevalence rate. One would think since they were new in the profession, the prevalence of musculoskeletal disorders in this group would be negligible or low. This result showed that irrespective of years of experience nursing practice is laced with evidence of musculoskeletal disorders.

**DISCUSSION OF FINDINGS:-** The research settings were two teaching hospital (OAUTHC, Ife) and state teaching hospital (LTH, Osogbo). It was discovered that out of the 138 respondents, 92 (66.7%) affirmed that their musculoskeletal disorders were associated with the nature of their works (Nursing). This finding was congruent with findings of Fabunmi, Oworu and Odunaiya (2008) which stated that nurses with age range between 20 – 50years depicted evidence of musculoskeletal disorders, also this new finding corroborated the findings of frost et al (2002) and Johannning (2002) which affirmed that musculoskeletal disorders represent one of the leading causes of occupational injury and disability in industrialized countries and the risk factors are known to include work place activities such as heavy lifting and repetitive task 97 (70.3%) of the respondent complained of lower back musculoskeletal disorders. This was found to be the most prevalent musculoskeletal disorders. This supported the finding of Fabunmi, Oworu and Odunaiya (2008) which affirmed that low back (Lumbo-Sacral region) was the commonest site of work related musculoskeletal disorders among nurses in UCH, Ibadan.

This new finding was similar with that of Smith et al (2003) which said that a four year repeated survey among nurses in the music – Norrtalje study indicated that psychosocial job strain was associated with back and neck/shoulder symptoms. This finding supported the conclusion of Niedharmer, Lert and Marne (1994) that in France 41.1% of nurses had lower back pain, so also the study of Yib (2001) showed that in Hong Kong 40.6% of nurses had lower back pain and equally, Smedley, Egger, Copper and Loggon (1995) found that in England 45% of nurses had lower back pain.

The study showed that in terms of years of experience there was high prevalence rate of musculoskeletal disorders 6 – 11years of experience, above 24years of working experience, 1 – 5years of working experience 12 – 17years of working experience and 18 – 23years of working experience (100%,100%,93%,91.7% and 66.7% respectively). This new finding was congruent with the finding of Fabunmi, Oworu and Odunaiya (2008) that a high prevalence of musculoskeletal disorders was observed in the 1 – 5years and 6 – 10years working experience groups. This high prevalence rate of musculoskeletal disorders might not be unconnected with lifting, standing, carrying out of procedures, observation of critically sick patients, scrubbing duty of nurses in theatre, talking of vital signs, charting and observing of patients in special and comprehensive nursing care.

**CONCLUSION:-** This study has revealed that nurses while performing their nursing activities are faced with challenges of musculoskeletal disorders irrespective of when they join the profession. The findings showed that all facts of nursing endeavours are faced with problem of musculoskeletal disorders ranging from lower back pain, Knees, Neck, Hips, Ankle pains to mention a few. If many nurses are employed to run shift this problem of musculoskeletal disorders will be reduced and a nurse should not be allowed to run a shift if not more than eight hours. Nurses should be made to have orientation period when they are been employed newly, during which they will be taught process of Ergonomics.

**Implication for nursing practice:-** It was discovered that musculoskeletal disorders represent one of the leading causes of occupational injury among nurses at become imperative on the employers of nurses that more nurses are employed so that in places like theatre and Emergency unit about four nurses should run a shift in order to lessen the effect of work – related musculoskeletal problem.

Nurses should endeavour to call for assistance anytime the nursing practice demands lifting patience and in

caring for patients that are seriously bed ridden.

During the job allocation on the ward, the ward leader should ensure that more than one nurse is allowed to give comprehensive nursing care to seriously debilitating patients.

**RECOMMENDATION:-** The following recommendation of musculoskeletal disorders among nurses \_

1. There is a need for a study in the prevalence of musculoskeletal among nurses working in the theatre.
2. All nurses must show evidence of physical fitness during the process of employment so that nurses with potential musculoskeletal problems are put in the unit where their problem will not be aggravated.
3. Nurses that are working in the units where lifting (emergency) is common should not be made to work there for long. They should be charged frequently.

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