VOLUME 40, NUMBER 2
February 2023

ISSN 0189 - 160X

WAJM

WEST AFRICAN JOURNAL OF MEDICINE

ORIGINALITY AND EXCELLENCE IN MEDICINE AND SURGERY

OFFICIAL PUBLICATION OF
THE WEST AFRICAN COLLEGE OF PHYSICIANS *AND*
WEST AFRICAN COLLEGE OF SURGEONS

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ORIGINAL ARTICLE

Musculoskeletal Pain and Health-Related Quality of Life of Occupational Drivers in Southwest Nigeria

Douleurs Musculo-Squelettiques et Qualité de Vie Liée à La Santé chez les Conducteurs du Sud-Ouest du Nigeria

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ABSTRACT

BACKGROUND AND OBJECTIVE: Musculoskeletal pain (MSP) can be work-related and common among occupational drivers (OPDs). There is a scarcity of data on MSP among OPDs in Nigeria. This study therefore determined the 12-months prevalence and the influence of socio-demographic factors on the prevalence of MSP and health-related quality of life (HRQoL) of OPDs in Ogbomosho, Oyo State.

METHODS: A total 120 occupational drivers participated in the study. The Nordic Musculoskeletal Questionnaire (NMQ) was used to measure the prevalence and pattern of MSP and the Medical Outcome Study (MOS), a 36-item short form version 1.0 of the Research and Development (RAND) to measure HRQoL. The data was analysed using descriptive statistics of mean, standard deviation, and frequency. A chi-square test with a significance level of pd"0.05 was used to determine the relationship between variables.

RESULTS: Mean age was 46.55±9.21 years. Musculoskeletal pain occurred in 85.8% of the drivers, with the shoulder and neck being most common. In 64.2% of the cases, the health-related quality of life score was higher than the national average. A significant association occurred between MSP and years of experience (p = 0.049). Significant associations occurred between HRQoL and age (p = 0.037), marital status (p = 0.001), and years of experience (p = 0.002). There was a significant association between MSP and HRQoL (p = 0.001).

CONCLUSION: The prevalence of MSP was high among the OPDs. There was a significant association between MSP and HRQoL among OPDs. Sociodemographic factors play a significant influence on the HRQoL of drivers. Occupational drivers should be educated on the risks and dangers involved with their occupation and the steps they can take to improve their quality of life. **WAJM 2023; 40(2): 196–202.**

Keywords: Occupational drivers, Musculoskeletal pain, Health-related quality of life.

RÉSUMÉ

CONTEXTE ET OBJECTIF: Les douleurs musculo-squelettiques (DMS) peuvent être liées au travail et sont courantes chez les chauffeurs professionnels. Les données sur les douleurs musculo-squelettiques chez les chauffeurs professionnels au Nigeria sont rares. Cette étude a donc déterminé la prévalence sur 12 mois et l'influence des facteurs sociodémographiques sur la prévalence des douleurs musculo-squelettiques et la qualité de vie liée à la santé (QVLS) des chauffeurs professionnels à Ogbomosho, dans l'État d'Oyo.

MÉTHODES: 120 conducteurs professionnels au total ont participé à l'étude. Le Nordic Musculoskeletal Questionnaire (NMQ) a été utilisé pour mesurer la prévalence et le type de MSP ; et le Medical Outcome Study (MOS) formulaire court de 36 items version de Research and Development (RAND) pour mesurer la HRQoL. Les données ont été analysées en utilisant
statistiques descriptives de la moyenne, de l'écart-type et de la fréquence. Le chi-deux a été utilisé pour déterminer l'association entre la prevalence sur 12 mois de la PSM et l'age (p=0,143) et l'etat civil (p,0408)

RÉSULTATS: L'âge moyen était de 46,55±9,21 ans. Des douleurs musculo-squelettiques sont apparues chez 85,8 % des conducteurs, l'épaule et le cou étant les plus fréquents. Une qualité de vie liée à la santé supérieure à la moyenne a été constatée chez 64,2 % des conducteurs. Une association significative est apparue entre la PSM et les années d'expérience (p=0,049). Il existe une association significative entre la QVLS et l'âge (p=0,037), l'état civil (p=0,001) et les années d'expérience (p=0,002). Il y avait une association significative entre le MSP et la QVLS (p=0,001).

CONCLUSION: La prévalence de la PSM était élevée parmi les OPD. Il existe une association significative entre la PSM et la QVLS dans les services de santé publique. Les facteurs sociodémographiques ont une influence significative sur la QVLS des conducteurs. Les conducteurs professionnels devraient être sensibilisés aux risques et dangers liés à leur profession et aux mesures à prendre pour améliorer leur qualité de vie. **WAJM 2023; 40(2): 196–202.**

Mots clés: Conducteurs professionnels, douleurs musculo-squelettiques, qualité de vie liée à la santé.

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Abbreviations: CDC, Centre for Disease Control; **HRQoL,** Health-Related Quality of Life; **IASP,** International Association for the Study of Pain; **MOS,** Medical Outcomes Study; **MSD,** Musculoskeletal Disorder; **MSP,** Musculoskeletal Pain; **NMQ,** Nordic Musculoskeletal Questionnaire; **OPD,** Occupational Driver; **RAND,** Research and Development.

INTRODUCTION

The bones, cartilages, ligaments, tendons, and muscles constitute one of the systems in the human body known as the musculoskeletal system. This system provides support, form, movement, protection, and stability through the binding of tendons, ligaments, and fibrous tissue with bone-to-bone connection by ligaments and bone to the muscle by the tendons. This system, also known as the locomotor system, is an organ system that gives humans the ability to move using their muscular and skeletal systems.[1]

The everyday usage of the musculoskeletal system can sometimes require too much effort causing pain and resulting in musculoskeletal disorder (MSD). Musculoskeletal pain (MSP) is a known consequence of repetitive strain, overuse, and work-related musculoskeletal disorders and these injuries include a variety of disorders that cause pain in bones, joints, muscles, or surrounding structures. The inflammatory process with fibrosis, tissue degenerative process; neurotransmitters release and neurosensory disturbances have all been implicated to play roles in the pathophysiology of musculoskeletal pains[2]. Musculoskeletal pain can affect almost all parts of the body, especially the back, neck, and upper limbs, depending upon the physical movement characteristics, and the ergonomic and mechanical design of work tasks. The contributing factors to the pain may include prolonged sitting, poor postures, exposure to whole-body vibration, long driving time, heavy lifting, manual materials handling, poor diet, or other psychosocial factors. Health-related quality of life (HRQoL) is a subjective concept that refers to an individual's understanding of his position in life in terms of cultural aspects, value systems, goals, expectations, standards, and priorities[3]. It focuses on the impact of health on a person's ability to live a fulfilling life and represents a broad concept of physical and psychological with social functioning and well-being that includes both positive and negative aspects.[4] Musculoskeletal Pain accounted for 31% of all workplace injuries and illnesses requiring absenteeism from work in 2015 in the United States[5]. In Nigeria, the pattern and prevalence of musculoskeletal pain and injury in various occupations have been documented.[6–8] Documented reports of characteristics of back pain and prevalence of musculoskeletal pain among occupational drivers in Nigeria are few.[9,10] The prevalence of MSP has also been reported to be high among occupational drivers in developing countries, such as Malaysia[11] and Brazil.[12] High prevalence of MSP and spinal disorders have also been reported in other developed countries for occupational drivers.[13–15] Drivers being a major group of individuals most affected by MSP; are susceptible not only to physical but also to psychological distress from several injurious conditions that include accidents, burns, and violent incidents that adversely affect their day-to-day life events.[16] Therefore, measuring HRQOL can help determine the burden of preventable disease, injuries, and disabilities, and can provide valuable new insights into the relationships between HRQOL and risk factors.[17] Drivers in Ogbomosho a city in southwestern Nigeria are equally exposed to different factors which may lead to the development of musculoskeletal pain such as bad roads, long duration of driving, poor driving posture, poor seat arrangement and poor health-seeking behaviour's, which might lead to musculoskeletal pain and adversely affect their quality of life. Oral health-related quality of life in patients with a disability has been studied in Nigeria;[18] however, studies on the effect of musculoskeletal pain on the quality of life among drivers are limited hence why this study is being carried out on drivers in Ogbomosho. Therefore, this study is being carried out to find the relationship between the prevalence and pattern of musculoskeletal pain and health-related quality of life among occupational drivers.

SUBJECTS, MATERIALS AND METHOD

Respondents for this study were occupational drivers aged 18 years and above from the following parks: Taki motor park, Owode park, Sabo park and Ladoke Akintola University of Technology, (LAUTECH) car park in Ogbomosho, Oyo state, South West, Nigeria.

Inclusion Criteria

The participants included in this study were occupational drivers who are literate in English or Yoruba language and have engaged in occupational driving for at least 12 months.

Exclusion Criteria

The participants that were excluded in this study were occupational drivers who had an underlying musculoskeletal pathology before getting involved in driving occupationally.

Materials

The following instruments were used for data collection:

1. *Sociodemographic Data:* The age, marital status, years of experience at driving, and history of musculoskeletal pathology were collected into a data sheet
2. The Rand 36-Item Survey (Version 1.0)[19] was used to obtain data on the Health-Related quality of life of participants. It was standardized in 1990 by Rand Corporation of Santa Monica, as a self-report measure of functional health and well-being. It is a 36-item generic health instrument that consists of eight domains and yields two summary measures of physical and mental health. The eight domains are physical functioning, bodily pain, role limitations due to physical health problems, role limitations due to personal or emotional problems, emotional well-being, social functioning, energy/fatigue, and general health perceptions. It includes a single item that provides an indication of perceived change in health. This 36-Item survey is scored in a two-step process. Firstly, the pre-coded numeric values were recorded per the scoring key. The items were scored such that a high score defines a more favourable health status. Each item was scored on a 0 to 100 range so that the lowest and highest possible scores are set at 0 and 100 respectively. The

percentage of the total possible score achieved for each question was represented by scores. Secondly, the items on the same scale were averaged together to create the 8 scale scores. The total score was averaged by the number of domains on the scale. The instrument has a reliability of 0.93(physical functioning), 0.84 (role functioning), 0.83 (role functioning/ emotional), 0.86 (energy/fatigue), 0.90 (emotional well-being), 0.85 (social functioning), 0.78 (pain), 0.78 (general health).

3. The Nordic Musculoskeletal Questionnaire (NMQ):[20] The NMQ was used as a questionnaire to assess regional musculoskeletal disorders among the participants. It is divided into 2 sections; Section 1: a general questionnaire of 40 forced-choice items identifying areas of the body causing musculoskeletal problems. Completion is aided by a body map to indicate nine symptom sites being neck, shoulders, upper back, elbows, low back, wrist/hands, hips/ thighs, knees, and ankles/feet. Respondents are asked if they have had any musculoskeletal trouble in the last 12 months and last 7 days which have prevented normal activity. Section 2: additional questions relating to the neck, the shoulders and the lower back further detail relevant issues. Twenty-five forced-choice questions elicit any accidents affecting each area, functional impact at home and work (change of job or duties), duration of the problem, assessment by a health professional and musculoskeletal problem in the last 7 days.[19] The test-retest reliability of NMQ is about 23% with a validity of 0.8. Its sensitivity ranges between 66% and 92% and its specificity between 71% and 88%.[21]

Methods

This study was a cross-sectional survey. A consecutive sampling technique was used to recruit participants for this study. The sample size for this study was determined using Slovin's formula.[22]

$n = N/(1 + Ne^2)$

Where: n= sample size to be recruited
N = Total population size (assumed to be 173)

The sample size of three studies on musculoskeletal disorders among drivers done in southwest Nigeria by Akimbo[9] with sample size of 250 participants; Akinpelu[10] with sample size of 159 participants and Ojoawo[23] with sample size of 110 participants was averaged to get the assumed average population (N) for this study.

$$\text{Assumed average population (N)} = \frac{159}{3} + \frac{110}{3} + \frac{250}{3}$$

$$\text{Assumed average population (N)} = \frac{159}{3} = 173$$

e=Level of precision set at 95%
Confidence interval α=0.05
$n = 173 / (1 + 173 (0.05)^2$
$n = 173 / 1 + 0.4325$
$n = 173 / 1.4325 = 120$
Therefore, a total of 120 participants was recruited for this study.

Data Collection

Ethical approval was sought and obtained from the Bowen University Teaching Hospital (BUTH) Health Research and Ethics Committee (BUTH/ REC-162). A letter of Informed consent was obtained from prospective participants prior to completing the questionnaire. The Nordic musculoskeletal questionnaire and the 36-SF questionnaires were explained to the participants before distribution and the questionnaires were filled and collected the same day. Pre-test of the questionnaires was done on 10 randomly selected drivers to assess the understanding of the questionnaires and allow for necessary adjustments and translation of the questionnaires.

Data Analysis

Descriptive statistics of mean, standard deviation and frequency distribution was used to summarize data. Inferential statistics of Chi-square was used to analyse the association between the sociodemographic data and musculoskeletal pain of OPDs; the sociodemographic data and HRQoL of OPDs, and the prevalence of MSP and HRQoL of OPDs.

RESULTS

One hundred and twenty commercial drivers from different parks in Ogbomosho participated in this study. There was a response rate of 100% as all the copies of the questionnaires were duly completed.

Socio-demographic Characteristics of Participants

Table 1 shows the socio-demographic characteristics of the participants. The mean age of the participants was 46.55±9.21 years. The

Table 1: Sociodemographic Characteristics of the Participants (N=120)

Sociodemographic Variables	Frequency (n)	Percentage (%)
Age in Years		
30 – 40	36	30.0
41 – 52	37	30.8
51 – 60	41	34.2
≥ 60	6	5.0
Marital Status		
Single	19	15.8
Married	90	75.0
Widowed	1	0.8
Divorce	10	8.3
Years of Experience(years)		
1 – 10	42	35
11 – 20	60	50
21 – 30	15	12.5
≥ 31	3	2.5

highest population of respondents 41 (34.2%) fell within the age range of 51–60. All the participants 120 (100%) are male, a majority (75.0%) of whom are married with just one (0.8%) of them being a widow. The mean of their years of driving experience was 14.51± 6.84 years.

Prevalence and Pattern of Musculoskeletal Pain

The 12-month and 7 days' prevalence of musculoskeletal pain among the respondents in this study were 85.8% (n=103) and 71.7% (n=86) respectively as in Figure 1.

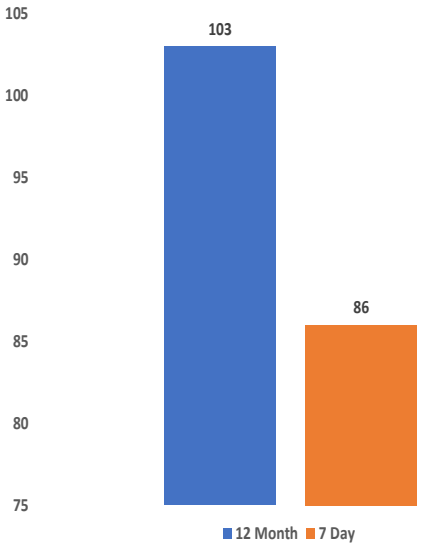

Fig. 1: 12months and 7-day Prevalence of Musculoskeletal Pain for all the Respondents

The anatomical pattern of musculoskeletal pain for respondents is presented in Table 2. The average prevalence of the most common pain site for both the 12 months and 7 days were the neck (40.45%) and the shoulder (39.2%). The result of the 12-month prevalence of musculoskeletal pain by body region indicates that the shoulders (53.3%) followed by the neck (46.7%) were the most hit anatomical sites with the elbows being the least (13.3%) affected sites.

The 7-day prevalence of musculoskeletal pain indicates that the neck (34.2%) followed by lower back pain (27.3%) were the most affected regions while the elbows (0.8%) were the least affected.

Table 2: 12-months and 7-days pattern of Musculoskeletal Pain in Different Body Region

Body Region	12-month n (%)	7-days n (%)
Neck	56 (46.7)	41 (34.2)
Shoulders	64 (53.3)	30 (25)
Upper back	40 (33.3)	17 (14.2)
Elbows	16 (13.3)	1 (0.8)
Wrists/ Hands	28 (23.3)	13 (10.8)
Lower back	53 (44.2)	34 (28.3)
Hips/ Thighs	43 (35.8)	23 (19.2)
Knees	37 (30.8)	16 (13.3)
Ankles/ Feet	22 (18.3)	11 (9.2)

Association between Selected Sociodemographic Variables and Prevalence of Musculoskeletal Pain in Drivers

Table 3 reflects the association between sociodemographic variables of respondents' age, marital status, years of experience; and 12-month prevalence of musculoskeletal pain. There was no significant association between age (p=0.143), marital status (p=0.408) and 12-month prevalence of musculoskeletal pain. However, there was a significant association between years of experience and a 12-month prevalence of musculoskeletal pain (p=0.049).

Association between Sociodemographic variables and Health-Related Quality of Life in Drivers

The association between sociodemographic variables of participants' age, marital status, years of experience and Health-Related quality of life is shown in Table 4. There was a significant association between age (p=0.037), years of experience (p=0.002), marital status (p=0.001) and health-related quality of life.

Association between Health-Related Quality of Life and Prevalence of Musculoskeletal Pain

The association between health-related quality of life and the prevalence of low back pain is shown in Table 5. There was a significant association between Health-Related quality of life and the prevalence of musculoskeletal pain (p=0.001).

DISCUSSION

This study was designed to investigate the association between musculoskeletal pain and the health-related quality of life of occupational drivers in Ogbomosho, Oyo state. Participant's ages ranged from 30 to 62, and the mean age of the participants was 46.55±9.21 years. All the participants in

Table 3: Association between 12-months Prevalence of Musculoskeletal Pain and Age, Marital Status and Years of Experience of Participants

Categories	12-month Prevalence of Musculoskeletal Pain			
	Yes N	No N	χ^2	P-value
Age				
30 – 40 years	27	9	5.430	0.143
41 – 50 years	33	4		
51 – 60 years	38	3		
≥61 years	5	1		
Marital Status				
Single	14	5	2.894	0.408
Married	79	11		
Widowed	9	1		
Divorce	1	0		
Years of Experience				
1 – 10 years	31	11	7.862	0.049*
11 – 20 years	55	5		
21 – 30 years	14	1		
≥31 years	3	0		

**P< 0.05*

Table 4: Association between Health-Related Quality of Life and each of Age, Years of Experience and Marital Status of Participants

Categories	Health Related Quality of Life			
	Good N	Poor N	χ^2	P-value
Age				
30 – 40	27	9	8.476	0.037*
41 – 52	25	12		
51 – 60	24	17		
≥60	1	5		
Years of Experience				
1 – 10 years	34	8	14.492	0.002*
11 – 20 years	37	23		
21 – 30 years	6	9		
≥31 years	0	3		
Marital Status				
Single	15	4	16.867	0.001*
Married	61	29		
Widowed	1	9		
Divorce	0	1		

*p< 0.05

Table 5: Association Between HRQoL and 12 Months Prevalence of Musculoskeletal Pain

Categories	Prevalence of Musculoskeletal Pain			
	Yes N	No n	χ^2	P-value
Health Related Quality of Life			11.221	0.001*
Good (>50)	60	17		
Poor (≤50)	43	0		

*p< 0.05

the study were males, this is a result of the gender predisposition of males to occupational driving in the country. There was no significant association between the prevalence of musculoskeletal pain and age as well as marital status; there was a significant association between the years of experience with occupational drivers and the prevalence of musculoskeletal pain. This is similar to studies carried out by Nicole[24] and Akinpelu[10] who reported that years of driving experience significantly influenced the experience of musculoskeletal pain. This could be possibly due to longer exposure to factors that contribute to causing pain which is diverse and might include prolonged sitting, poor postures, exposure to whole-body vibration and other non-driving factors such as heavy lifting, greater lumbar spine load, poor diet, or other psychosocial factors. The 12-month prevalence of musculoskeletal pain among occupational drivers in Ogbomosho was 85.8% which is similar to findings from a study by Akinpelu[10] who reported 89.3% prevalence but in contrast to 81% prevalence reported in a study by Robb and Mansfield[15]. The similar prevalence between this current study and Akinpelu[10] can be a result of the similar sample size used and these studies being carried out within the same geographical location Oyo state, Nigeria and the drivers being exposed to similar causative factors in contrast to the relatively larger sample size (n=192) recruited in the study carried out by Robb and Mansfield[15] the geographical location, Europe of their study and the drivers being exposed to different causative factors. The result of the 12-month prevalence of musculoskeletal pain by body region indicates that the shoulders (53.3%) followed by the neck (46.7%) and low back (44.2%) were the most hit anatomical sites. This is similar to findings in the cohort study by Bovenzi[25] with 31.9% and 43.4% 12-month prevalence of musculoskeletal pain in the shoulder and neck respectively. However, some studies[15,23] stated that the low back was the most hit anatomical site of Musculoskeletal pain. This could possibly be due to the fact that the bus parks within the geographical location of this study are not as standard as the parks used in previous studies, where there are bus boys who help in the loading and offloading of luggage into the buses and as such drivers perform both duties of driving and lifting heavy loads in addition to exposure to whole body vibrations. Nevertheless, some studies have reported associations between symptoms in the neck and upper extremities and driving occupations with combined exposures to whole body vibrations and other physical risks factors such as awkward postures and lifting.[26–28] There was a significant association between the age, marital status and years of experience of drivers and their Health-Related Quality of Life. The quality of life decreases as the age and the years of experience of the driver increases; this could be a result of prolonged exposure to hazards of their occupation. This is similar to findings by Kutner[29] who concluded that aging is perceived to decrease quality of life; however, when controlled for other factors, the effects of age may disappear[30]. As much as controlling some factors can have a positive effect on improving the quality of life of individuals with advancing age, certain debilitating factors associated with some occupations could be near impossible to influence. Increased years of experience as an occupational driver generally exposes such an individual to the same debilitating factors for a prolonged period of time which can have a negative effect on their quality of life. Marital status also plays an important factor as the single

and married participants had a better quality of life when compared to their divorced or widowed counterparts. The analysis of the 12-month prevalence of musculoskeletal pain in association with health-related quality of life of drivers showed a significant association, 50% of drivers with musculoskeletal pain reported a good HRQoL score and 35.8% reported a poor HRQoL score. Riise[31] in contrast to our findings reported that drivers had a poor quality of life in their study which they cited an increased risk of musculoskeletal disorders as the presumable cause for this which probably is resulting from exposure to whole-body vibration and from the working position during driving. The probable reason for this disparity could be related to differences in how different people from different geographical locations perceive the quality of life as noted by Schwanen and Atkinson[32] and Aslam and Corrado[33] who viewed the quality of life using a geographic approach and suggested that that quality of life can be based on the premise of having its own spatial dimension.

It can be concluded from this study that the majority of the occupational drivers in Ogbomosho have musculoskeletal pain. However, most of the participants had an above average (50%) score in Health-Related Quality of life with a significant association between musculoskeletal pain and Health-Related Quality of Life. We recommend, based on this outcome that occupational drivers should be educated on the risk and dangers involved with their occupation and how best to avoid them; and steps to take in improving their quality of life.

ACKNOWLEDGMENTS

The researchers acknowledge the time spent by the drivers and the driver's union in the Ogbomosho parks to answer and fill out the questionnaires.

Duality of Interest

The authors report no duality of interest.

REFERENCES

1. Wikipedia. Human musculoskeletal system. (Online) 2022. Accessed on July 19, 2022. Available from: Human musculoskeletal system – Wikipedia.
2. International Association for the study of pain. Musculoskeletal pain. 2009. Accessed on June 30, 2020. Available from: http://www.apedor.org/images/FactSheets/DorMusculoEsqueletica/en/MuesculoskeletalPain.pdf
3. Javadi M, Sepahvand MJ, Mahmudi H. The Effect of Life Skills Training on Quality of Life in Nurses of Khorramabad Hospitals. *Avicenna J Nurs Midwifery Care.* 2013; **21:** 32–42.
4. Fontaine K. Arthritis and health-related quality of life: Update 2019. John Hopkins Arthritis Centre. Accessed on March 2, 2019. Available from; https://www.hopkinsarthritis.org/patient-corner/disease-management/quality-of-life-and-arthritis/
5. Bureau of Labour Statistics of the U.S department of labour. Non-fatal occupational injuries and illnesses requiring days away from work. Access on July 25, 2022. Available from: Nonfatal Occupational Injuries and Illnesses Requiring Days Away from Work, 2015 (bls.gov)
6. Olaogun MOB, Oladimeji BY, Adedoyin RA, Olaogun AAE, Akinloye AA, Egwu MO, *et al.* Pattern of musculoskeletal pain in selected occupation. *Journal of Nigeria Association of Physiotherapy.* 2002; **14:** 24–29.
7. Ezeukwu AO, Jeneviv U, Egwuonwu AV, Abaraogu UO. Prevalence of work-related musculoskeletal pain among timber workers in Enugu Metropolis, Nigeria. *Continental Journal of Tropical Medicin*e. 2011; **5:** 11–18.
8. Ismaila AS, Victor AU, Adeolu OJ, Adamu AR, Stanley MM, Henry AO, *et al*. Prevalence of Musculoskeletal Injuries Among Factory Workers in Kano Metropolis, Nigeria. *International Journal of Occupation Safety and Ergonomics.* 2011; **17:** 99–102.
9. Akinbo SR, Odebiyi DO, Osasan AA. Characteristics of back pain among commercial drivers and motorcyclists in Lagos. *West Afr J Med.* 2008; 27: 87–91.
10. Akinpelu AO, Oyewole OO, Odole AC, Olukoya RO. Prevalence of musculoskeletal pain and health seeking behaviour among occupational drivers in Ibadan, Nigeria. *Afri J Biomed Res.* 2011; **14:** 89–94.
11. Tamrin SBM, Yokoyama K, Jalaludin J, Aziz NA, Jemoin N, Nordin R, *et al.* The association between risk factors and low back pain among commercial vehicle drivers in peninsular Malaysia: a preliminary report. *Industrial Health.* 2007; **45:** 268–227.
12. Andrusaitis SF, Oliveira RP, Barros Filho TE. Study of the prevalence and risk factors for low back pain in truck drivers in the state of São Paulo, Brazil. *Clinics (Sao Paulo).* 2006; **61:** 503–10.
13. Porter JM, Gyi DE. The prevalence of musculoskeletal troubles among car drivers. *The Journal of Occupational Medicine.* 2002; **52:** 4–12.
14. Okunribido OO, Magnusson M, Pope MH. The role of whole-body vibration, posture and manual materials handling as risk factors for low back pain in occupational drivers. *Ergonomics.* 2008; **51:** 308–329.
15. Robb MJM and Mansfield NJ. Self-reported musculoskeletal problems amongst professional truck drivers. *Ergonomics.* 2007; **50:** 814–827.
16. Bryant RA, Harvey AG, Dang ST, Sackville T, Basten C. Treatment of acute stress disorder: a comparison of cognitive-behavioural therapy and supportive counselling. The *Journal of Consulting* and *Clinical Psychology.* 1998; **66:** 862–866.
17. Centre for Disease Control and Prevention (CDC). Health related Quality of Life. 2018 Accessed on March 10, 2021. Available from: https://www.cdc.gov/hrqol/concept.htm.
18. Oyapero A, Edomwonyi A, Akinola TO. Oral Health Related Quality of Life of Patients with Disability Attending a Public Physiotherapy Clinic in Lagos, Nigeria. *J Oral Hyg Health.* 2015; **3:** 182.
19. RAND Health (1994-2016): 36 Short Form Survey Instrument (SF-36). Accessed on March 10, 2021. Available from: https://www.rand.org/health-care/surveys_tools/mos/36-item-short-form/survey-instrument.html.
20. Joanne O. Crawford. The Nordic Musculoskeletal Questionnaire. *Occupational Medicine*. 2007; **57:** 300–301.
21. Ekechukwu END, Aguwa EN, Okeke TA, Iroezindu IC, Oniyia SU, Abaraogu DO et al. Prevalence, correlates and risk factors of musculoskeletal disorders among Nigerian physiotherapy and architecture undergraduates. *Journal of the Nigeria Society of Physiotherapy.* 2020; **19:** 8–18.
22. Sevilla CG, Ochave JA, Punsalan TG, Regala BP, Uriarte GG. Research Methods. Revised edition. Manila, Philippine. Rex Bookstore; 1992.
23. Ojoawo AO, Onaade O, Adedoyin RA, Okonsi A. Assessment of work-related musculoskeletal pain among professional drivers in the service of a

tertiary institution. *American Journal of Health Research.* 2014; **2:** 56–60.
24. Nicole M. Bus driver's health and condition of work. Paper presented at the ECOHSE 2000 symposium, Lithuania: 4–7.
25. Bovenzi M. A prospective cohort study of neck and shoulder pain in professional drivers. *Ergonomics.* 2015; **58:** 1103–1116.
26. Rehn B, Bergdahl IA, Ahlgren C, From C, Ja¨rvho¨lm B, Lundstro¨m R, *et al.* Musculoskeletal Symptoms among Drivers of All-Terrain Vehicles." *Journal of Sound and Vibration.* 2002; **253:** 21–29.
27. Rehn B, Nilsson T, Lundstro¨m R, Hagberg M, Burstro¨m L. Neck Pain Combined with Arm Pain among Professional Drivers of Forest Machines and the Association with Whole-Body Vibration Exposure. *Ergonomics.* 2009; **52:** 1240–1247.
28. Hagberg M, Burstro¨m L, Ekman A, Vilhelmsson R. The Association between Whole Body Vibration Exposure and Musculoskeletal Disorders in the Swedish Work Force Is Confounded by Lifting and Posture. *Journal of Sound and Vibration.* 2006; **298:** 492–498.
29. Kutner NG, Ory MG, Baker DI, Schechtman KB, Hornbrook MC, Mulrow CD. Measuring the quality of life of the elderly in health promotion intervention clinical trials. *Public Health Reports.* 1992; **107:** 530–539.
30. Okun MA, Stock WA, Haring MJ, Witter RA. Health and subjective well-being: a meta-analysis. The *International Journal* of *Aging* and Human *Development.* 1984; **19:** 111–132.
31. Riise T, Moen BE, Nortvedt MW. Occupation, lifestyle factors and health-related quality of life: The Hordaland Health Study. *Journal of Occupational and Environmental Medicine.* 2003; **45:** 324–332.
32. Schwanen T, Atkinson S. Geographies of wellbeing: an introduction. *The Geographical Journal.* 2015; **181:** 98–101.
33. Aslam A, Corrado L. The geography of well-being. *Journal of Economic Geography.* 2012; **12:** 627–649.