

www.ajbrui.net

Afr. J. Biomed. Res. 14 (May 2011); 89 - 94

Research Article

Prevalence of Musculoskeletal Pain and Health seeking Behaviour among Occupational Drivers in Ibadan, Nigeria

¹Akinpelu A. O., ^{2S}Oyewole O. O., ¹Odole A. C and ¹Olukoya R. O.

¹*Department of Physiotherapy, College of Medicine, University of Ibadan, Ibadan, Nigeria*

²*Department of Physiotherapy, Olabisi Onabanjo University Teaching Hospital, Sagamu, Nigeria*

ABSTRACT: Musculoskeletal pain (MSP) is work-related and common among occupational drivers (ODs). Data on MSP among occupational drivers in Nigeria are few. This study therefore aimed at determining the 12-month prevalence, body distribution of MSP, influence of socio-demographics on the prevalence of MSP and illness perceptions and health seeking behaviour among ODs in Ibadan, Nigeria. The cross-sectional descriptive survey involved 159 ODs from four selected public transport terminals in Ibadan. Data on MSP experience, perception and health seeking behaviour was collected through interview using the structured and Standardized Nordic questionnaires for analysis of musculoskeletal symptoms and health seeking behaviour. Data was analyzed using Mann Whitney U and Chi square tests. Majority of ODs (89.3%) reported experience of MSP in the prior 12 months and low back was the most commonly reported pain site. The ODs who reported MSP had significantly more years of experience than those who reported no MSP. Duration of driving per week and distances covered per journey had no significant influence on reported experience of MSP. Most of the drivers used self prescribed drug, herbal preparation and hot fermentation and massage in that order to alleviate their musculoskeletal pain. Our findings suggest that MSP is highly prevalent among ODs in Ibadan and the most common MSP site is low back. The ODs engaged in self prescribed drugs and alternative medicine in alleviating their pain. Health education programmes may help reduce MSP prevalence among the occupational drivers in Ibadan.

Keywords: Musculoskeletal pain, occupational drivers, prevalence, pain perception, health seeking behaviour

INTRODUCTION

Work-related musculoskeletal disorders affect workers in many occupations including drivers of large vehicles (Walker-Bone and Palmer, 2002; Chyuan et al, 2004; Hussain, 2004; Szeto and Lam, 2007). Work-related musculoskeletal disorders 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 (Chyuan et al, 2004). Musculoskeletal Pain (MSP) may be considered a multi-factorial problem involving both work-related and non-work-related stressors (Tiemessen et al, 2008). The factors that contribute 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 (Chen et al, 2005; Robb and Mansfield, 2007; Tiemessen et al, 2008; Okunribido et al, 2008).

Occupational driving has been associated with high prevalence of MSP and the prevalence for professional truck drivers in the United Kingdom has been reported to be 81% (Robb and Mansfield, 2007). High prevalence of MSP and spinal disorders has also been reported in other developed countries for urban bus drivers (Okunribido et al, 2008), car drivers (Porter and Gyi, 2002) and police officers who were drivers (Gyi

*Address for correspondence:

oyewoleye@yahoo.co.uk ; Tel: +234 803 397 0714

Received: February 2011; Accepted: May 2011

and Porter, 1998). The prevalence of MSP has also been reported to be high among occupational drivers in developing countries, such as Malaysia (Tamrin et al, 2007) and Brazil (Andrusaitis et al, 2006).

Musculoskeletal pain comprises a major health problem for the general population, affecting their quality of life, demanding increased health care and organization (Woolf and Pfleger, 2003). It has been suggested that people have varying perceptions about their musculoskeletal problem and perceptions about illness may influence health outcomes such as pain and disability directly or indirectly by their effect on coping (Hill et al, 2007). If a person considers that musculoskeletal problem is a serious disease that medical care or the health services can do little about, this belief may have an impact on the level of interference in daily life from that disease that the person reports and on their decision to consult or seek treatment for it (Hill et al, 2007). This reveals that perceptions may be an important issue to address as part of reducing the impact of disease and encouraging appropriate management.

Although many epidemiological studies on MSP among occupational groups in Nigeria are available (Omokhodion et al, 2000; Omokhodion and Sanya, 2003; Fabunmi et al, 2005; Sanya and Ogwumike, 2005), similar studies involving occupational drivers in Nigeria are not many. Akinbo et al (2008) found the prevalence of MSP to be higher among occupational drivers than occupational motorcyclists in Lagos, Nigeria. The aims of this study were to determine the 12-month prevalence, body distribution of MSD, influence of socio-demographics and illness perceptions and health seeking behaviour among occupational drivers in Ibadan, Nigeria. Ibadan, the capital of Oyo State is the third largest city in Nigeria by population and the largest in geographical area. It is located in the South-western Nigeria and its population is 2,550,593 according to the 2006 Nigerian census results. The first television station in Africa, the first University and the first University Teaching Hospital in Nigeria are located in Ibadan. Ibadan is a hub of commercial activities and its principal inhabitants are the Yoruba people (Areola, 1994; National Bureau of Statistics, 2006).

MATERIALS AND METHODS

The research protocol was approved by the Joint Institutional Review Committee of University of Ibadan and University College Hospital, Ibadan. Three public transport terminals in Ibadan, where vehicles plough long distances to different parts of Nigeria were selected purposively. In these terminals, saloon cars,

station wagon cars and 10-14 seater-buses serve as means of public transportation and they ply interstate routes to other parts in the country, covering distances ranging from 100 to 1020 kilometres. These small-capacity vehicles are responsible for the bulk of road public transportation in Nigeria. Larger capacity buses, commonly used in developed countries and some developing countries for public transportation are not normally found in these terminals. Permission to conduct the study was obtained from the authorities of the National Union of Road Transport Workers at the public transport terminals. Occupational drivers who gave informed consent to participate in the cross sectional descriptive survey were recruited.

Socio-demographic data were recorded and weight and height of participants were measured using standard methods (Willet, 1990). Information on musculoskeletal pain was collected through interview using the Standardized Nordic questionnaires for analysis of musculoskeletal symptoms (Kuorinka et al, 1987). Information on the participants' belief and health practices in respect of musculoskeletal pain was also collected during the interview.

The years of experience of occupational drivers who reported musculoskeletal pain was compared to those of drivers who reported no pain using Mann Whitney U test. Mann Whitney U test was also used to compare the duration of driving per week of drivers who reported musculoskeletal pain and those who reported none. Association between musculoskeletal pain experience and distance travelled per journey was analyzed using Chi square test. Level of significance was set at 0.05 (95%).

RESULTS

Reported musculoskeletal pain among Occupational Drivers

A total of 159 occupational drivers participated in the study. All of them were males and they were aged 40.4 ± 10.4 years. Their mean weight was 60.8 ± 9.1 kg and their mean height was 1.7 ± 0.45 metres. Their years of experience averaged 15.5 ± 9.1 and the mean duration of driving per week 29.0 ± 16.3 hours. The common beliefs about the cause of pain among the drivers were driving, sitting for long and pile in that order.

Majority (89.3%) of the participants reported experience of musculoskeletal pain in at least one part of the body during 12 months prior to the study. The most commonly reported site of pain was low back and it was reported by 64.8% of participants. Other common sites include the shoulder (30.8%), the knee (27.0%) and the neck (17.0%). The least reported site of pain was the upper back (2.6%).

Table 1
Prevalence of Reported Musculoskeletal Pain (MSP) and Reduced Activity by Body Parts

Body	MSP		Reduced Activity	
	n	% (of total)	n	% (of MSP)
Neck	27	17.0	1	3.7
Shoulder	49	30.8	3	6.1
Elbow	21	13.2	3	13.6
Low back	103	64.8	6	5.8
Upper back	4	2.6	4	100.0
Wrist/hands	13	8.2	2	15.4
Hip/thigh	14	8.8	2	14.3
Knees	43	27.0	2	4.8
Ankle/foot	19	11.9	19	100.0
Any site	142	89.3	43	30.3

All participants who reported experience of pain in the ankles/feet and upper back also reported reduced level

of activities. Only small proportions (3.7%-6.1%) of participants who reported experience of musculoskeletal pain in the low back, shoulder, knee and neck reported reduced level of activity (Table 1).

Table 2 shows that the years of experience of drivers who reported musculoskeletal pain was significantly higher than the years of experience of those who reported no pain. The table also shows that duration of driving per week had no significant influence on experience of musculoskeletal pain. Results also indicated that there was no significant association between the distances covered per journey and reported musculoskeletal pain experience during 12 months period before the study (Table 3).

Utilization of health facility and common practices engaged in by the drivers to alleviate their musculoskeletal pain.

Table 4 showed common practices engaged in by the drivers to alleviate their musculoskeletal pain. Most of the drivers used self-prescribed drug, herbal preparation and hot fermentation and massage in that order to alleviate their musculoskeletal pain. Only 3.1% sought hospital treatment. Utilization of health facility was shown in figure 1. Only 19 (11.9%) of drivers that reported low back pain saw health practitioner during the last 12 months period to the study. While 1 (.6%) and 4 (2.5%) of drivers that reported neck and shoulder pain respectively saw health practitioner during the last 12 months period to the study.

Table 2
Influence of Years of Driving Experience and Duration of Driving per Week on Reported MSP Experience in 12 Months

	With MSP	Without MSP	Z	p
Mean driving experience (yr)	16.0±9.3	11.0±7.6	-2.521	0.012
Mean driving hours/week	28.7±16.2	31.416±0.8	-0.931	0.35

Table 3:
Association between Distance Covered per Journey and Reported MSP Experience in 12 months

Variables	With MSP		Without MSP		X ²	p
	n	%	n	%		
Short distance	58	40.8	6	35.3	0.195	>0.05
long distance	84	59.2	11	64.7		

Short distance = ≤200km
Long distance ≥800km

Table 4:
Common practices engaged in to alleviate musculoskeletal pain

Practices	frequency	%
Herbal preparation	51	32.1
Self-prescribed drug	57	35.8
Traditional medicine	4	2.5
Hot water fermentation & massage	20	12.6
Hospital treatment	5	3.1
Others	7	4.4
No response	15	9.4

DISCUSSION

The study was aimed at determining the prevalence of musculoskeletal pain among occupational drivers in Ibadan. The 12-month prevalence of musculoskeletal pain among these occupational drivers was 89.3%. This

prevalence rate is higher than 50% reported for professional drivers by Magnusson et al, (1996) and 81% by Robb and Mansfield, (2007) respectively. The difference could be due to relatively smaller sample size in the present study. In addition, the professional drivers in the previous studies were probably generally better informed than the occupational drivers in the present study. The conditions of the vehicles and the roads on which the occupational drivers in the present study normally drive are probably worse than those in previous studies. Generally, roads and vehicles in Nigeria are poorly maintained and road worthiness tests for vehicles are generally not enforced.

In this study, low back was the most common site of musculoskeletal pain, occurring in 64.8% of the drivers. This is similar to the findings of Akinbo et al, (2008) who reported 64.5% prevalence of back pain among intra-city public transport drivers in Lagos, Nigeria. This is also comparable to 60.4% prevalence of low back pain reported among Malaysian commercial vehicle drivers (Tamrin et al, 2007). Similar prevalence rates have been reported for business drivers and professional truck drivers in England (Porter et al, 1992; Robb and Mansfield, 2007) and urban taxi drivers (Chen et al, 2005) and truck drivers (Andrusaitis et al, 2006).

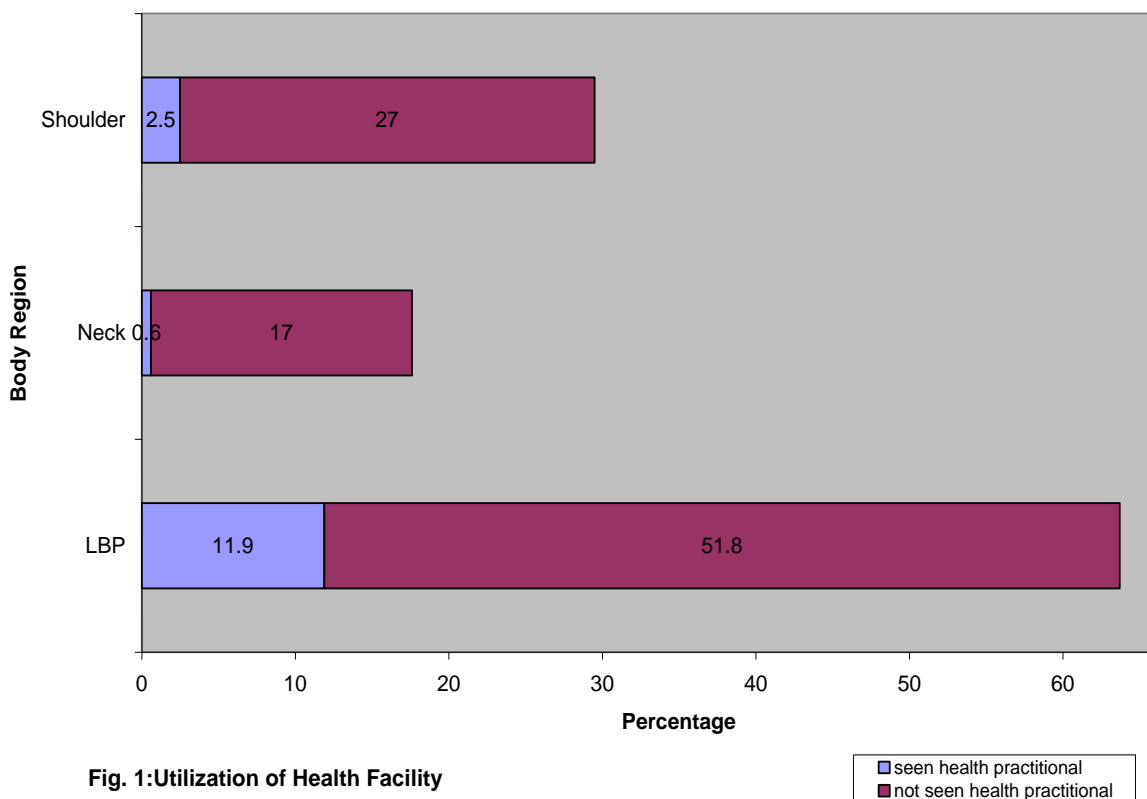


Fig. 1: Utilization of Health Facility

Results showed that the reported experience of musculoskeletal pain among the participants was not significantly associated with the distance covered per journey. This is probably because participants who travel long distances make fewer trips in a week than those who travel shorter distances. This is probably due to the fact that more people travel to very distant parts of the country by air and by large capacity buses than by small capacity vehicles. Thus passengers travelling by road to such places are relatively fewer. With longer years of driving experience, the prevalence of musculoskeletal pain was found to be higher ($p=0.012$). Nicole (2000) also reported that years of driving experience significantly influenced experience of low back. The prevalence of musculoskeletal pain was higher among those with longer years of driving though those without reported experience of pain have the possibility of developing pain after driving for long years. On the basis of the obtained data, it was found that the association between prevalence of musculoskeletal pain among drivers and different duration of driving per week was statistically insignificant. This result is contrary to the study of Pietri et al, (1997) and Porter et al, (1992) that increased time of driving was a major risk factor in development of musculoskeletal pain among drivers.

This study also investigated illness perceptions and the health seeking behaviour among ODs who reported musculoskeletal pain. Most of the drivers believed that their pain was caused by driving and prolong sitting. Quite a large percentage also believed that their pain was caused by pile. This seems to be a common belief in South Western Nigeria and this is similar to the findings of Pietri et al, (1992) and Porter et al, (1992). Hill et al, (2007) has suggested that people's perceptions of their illness may be an important explanation of the variation in their health seeking behaviour. Individuals, who perceive more severe consequences, perceive more symptoms and frustration as a result of their musculoskeletal problem are more likely to consult health Practitioners, take their medication or both. Only slightly more than half (52.8%) of the drivers believed that musculoskeletal pain could be prevented. This observation calls for health education or enlightenment programme among occupational drivers so that they can be better informed about the cause and prevention of musculoskeletal pain and thereby prevent the prevalence and the consequent disabilities.

This study showed that few drivers sought medical attention for alleviating musculoskeletal pain. Only 11.9% of those that reported low back pain had seen health practitioners because of the pain. This is contrary to the previous studies (Chris and Amanda, 2000;

Antonopoulou et al, 2007) which reported higher percentage of musculoskeletal pain report in the primary health care centres. This might be due to the disbelief or ignorance of effective treatments for musculoskeletal pains by the drivers thus; prevent them from consulting a health professional (Westert et al, 2001) or probably the symptoms are not severe enough to be reported. The most common practice engaged in by the drivers was the use of self-prescribed drugs (35.8%) to alleviate their musculoskeletal pain while only 3.1% of the respondents sought hospital care. This observation of self-prescribed drug was similar to Haetzman et al, (2003) report who reported that non-prescription medication was being taken by 57.4% of individuals with chronic pain. The present report is also contrary to the study of Chris and Amanda (2000) that musculoskeletal pain was commonly reported in primary health care centres. Herbal preparation accounts for 32.1% of practices the drivers engaged in to alleviate their pain while traditional medicine and hot water fermentation and massage account for 2.5 and 12.6% respectively. This was similar to the study of Palinkas and Kabongo (2000) who reported that musculoskeletal pain were most common health problem associated with complementary and alternative medicine use and was positively associated with level of education. Though the focus of this study was not to estimate the level of education of drivers, the drivers in this study had low level of education and that might explain their health seeking behaviour. Level of education has been shown to be inversely associated with use of traditional folk remedies of complementary and alternative medicine (Palinkas and Kabongo, 2000).

Conclusions

In conclusion, we found a high prevalence of musculoskeletal pain among occupational drivers with low back the most common site of the pain. The longer the years of driving experience the greater the chances of developing musculoskeletal pain. A large number of ODs with musculoskeletal pain are using alternative therapies and self prescribed drugs. There is a need to organise enlightenment programmes for drivers on how to avoid or probably reduce the risk factors of musculoskeletal pain.

REFERENCES

- Akinbo S.R, Odebiyi D.O, Osasan A.A (2008):** Characteristics of back pain among commercial drivers and motorcyclists in Lagos. [West Afr J Med](#) 27(2):87-91
- Andrusaitis S.F, Oliveira R.P, Filho T.E.P.B (2006):** Study of the prevalence and risk factors for low back pain

in truck drivers in the state of São Paulo, Brazil. *Clinics* 61(6)

Antonopoulou M, Antonakis N, Hadjipavlou A, Lionis C (2007): Patterns of pain and consulting behaviour in patients with musculoskeletal disorders in rural Crete, Greece. *Family Practice* 24(3):209-216

Areola O (1994): The Spatial growth of Ibadan city and its impact on the rural Hinterland in M.O. Filani, F.O. Akintola and C.O. Ikporukpo edited Ibadan region, Rex Charles Publication, Ibadan. page 99

Chen J, Chang W, Chang W, Christiani D (2005): Occupational factors associated with low back pain in urban taxi drivers. *Occup Med* 55(7):535-540

Chris JM, Amanda C de C Williams (2000): ABC of psychological medicine. *Musculoskeletal. British Medical Journal* 325:534-537

Chyuan J.A, Du C, Yeh W, Li C (2004): Musculoskeletal disorders in hotel restaurant workers. *Occup Med* 54:55-57

Fabunmi A.A, Aba S.O, Odunaiya N.A (2005): Prevalence of low back pain among peasant farmers in a rural community in South West Nigeria. *Afr. J. Med. Med. Sci.* 34(3):259-262

Gyi D.E, Porter J.M (1998): Musculoskeletal problems and driving in police officers. *Occup Med* 48:153-160

Haetzman M, Elliott AM, Smith BH, Hannaford P, Chambers WA (2003): Chronic pain and the use of conventional and alternative therapy. *Family Practice* 20(2): 147-154

Hill S, Dziedzic K, Thomas E, Baker S. R, Croft P (2007): The illness perceptions associated with health and behavioural outcomes in people with musculoskeletal hand problems: findings from the North Staffordshire Osteoarthritis Project (NorStOP). *Rheumatology* 46(6):944-951

Hussain T (2004): Musculoskeletal symptoms among truck assembly workers. *Occup Med* 54(8):506-512

Kuorinka L, Jonsson B, Kilborn A., Vinterberg H, Biering-Sørensen F, Andersson G, Jørgensen K (1987): Standardized Nordic Questionnaires for analysis of musculoskeletal symptoms. *Appl Ergon* 18:233-237

Magnisson M.I, Pope M.H, Wilder D.G, Areskong B (1996): Are occupational drivers at an increased risk for developing musculoskeletal disorders. *Spine* 21(6):710-7
National Bureau of Statistics, Nigeria, provisional results of the 2006 population census.

Nicole M (2000): Paper presented at the ECOHSE 2000 symposium, Lithuania

Okunribido O.O, Magnusson M, Pope M.H (2008): The role of whole body vibration, posture and manual materials handling as risk factors for low back pain in occupational drivers. [Ergonomics](#) 51(3):308 – 329

Omokhodion F. O, Sanya A.O (2003): Risk factors for low back pain among office workers in Ibadan, Southwest Nigeria. *Occup. Med.* 53:287-289

Omokhodion F. O, Umar U. S, Ogunnowo B. E (2000): Prevalence of low back pain among staff in a rural hospital in Nigeria. *Occup. Med.* 50(2):107-110

Palinkas LA, Kabongo ML (2000): The Use of Complementary and Alternative Medicine by Primary Care Patients. *The Journal of Family Practice* 49:1121-1130

Pietri F, Le Clerk A, Bittel L, Chastang J.F, Morcet J.F, Blondet M (1992): Low back pain in commercial travelers. *Scandinavian Journal of Work and Ergonomental Health* 18: 52-58

Porter J.M, Gyi D.E (2002): The prevalence of musculoskeletal troubles among car drivers. *Occup Med* 52(1):4-12

Porter J.M, Porter C.S, Lee V.J.A (1992): A survey of drivers discomfort in: Lovesey Eked Contemporary Ergonomics, London. Taylor and Francis 262-267.

Robb M.J.M, Mansfield N.J (2007): Self-reported musculoskeletal problems amongst professional truck drivers. [Ergonomics](#) 50(6):814 – 827

Sanya A.O, Ogwumike O.O (2005): Low back pain prevalence amongst industrial workers in the private sector in Oyo state, Nigeria. *Afr. J. Med. Med. Sci.* 34(3):245-249

Szeto G.P.Y, Lam P (2007): Work-related musculoskeletal disorders in urban bus drivers of Hong Kong. *J. Occup Rehab* 17(2):181-198

Tamrin S.B.M, Yokoyama K, Jalaludin J, Aziz N.A, Jemoin N, Mordin R, Linaing A, Abdullah Y, Abdullah M (2007): The association between risk factors and low back pain among commercial vehicle drivers in peninsular Malaysia: a preliminary report. *Industrial Health* 45:268-278

Tiemessen I.J.H, Hulshof C.T.J, Frings-Dresen M.H.W (2008): Low back pain in drivers exposed to whole body vibration: analysis of a dose-response pattern. *Occup Envir Med* 65:667-675

Walker-Bone K, Palmer K.T (2002): Musculoskeletal disorders in farmers and farm workers. *Occup Med* 52(8):441-450.

Westert GP, Satariano WA, Schellevis FG, Van de Bos GA (2001): Patterns of comorbidity and the use of health services in the Dutch population. *Eur J Public Health* 11:365-372

Willet W (1990): *Nutritional Epidemiology.* Oxford, Oxford University Press Inc. 1990; 217-219

Woolf AD, Pfleger B (2003): Burden of major musculoskeletal conditions. *Bull World Health Organ* 81:646-656