



Investigating the Relationship Between the Praying and Back Pain in Commercial Drivers

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ABSTRACT

Background: Low back pain (LBP) is the most common and multifactor problem among the commercial drivers and the individual, social, psychological and occupational factors have important role in intensifying this pain. In various studies, the role of spiritual factor was investigated less compared to other factors.

Objectives: The aim of this study was to investigate the effect of religious belief and praying on LBP among the commercial drivers.

Patients and Methods: In this cross sectional study, commercial drivers in Karaj, Iran were studied during fall and winter 2010-2011. The variables include demographic data, years of commercial driving, chronic back pain (suffering from back pain for more than three months), pain intensity, job status and the religious belief and behavior. The tools of data collection were medical history, the researcher-made questionnaire about the religious belief, praying and visual analogue scale (VAS) with a numerical range of 1-10 for intensifying the LBP. Data were compared by chi-square 2 and student t and regression tests.

Results: Two hundred and forty two drivers with the mean age of 34.30 ± 5.21 investigated and 67 of them (27.68%) had chronic back pain. Forty two of them were truck man. The mean of pain severity for the back pain suffered drivers was 5.36 ± 1.11 . The relationship between LBP occurrence and smoking, job group and positive attitude to role of praying in health was not significant. The difference of mean age and the job record in the drivers without back pain was significant. Also the outbreak of back pain in drivers who pray was less than the others and the LBP intensity in patients who pray consistently was less statistically.

Conclusions: Praying plays an important role in decreasing LBP. It is recommended to consider the spiritual and religious issues along with regarding the improvement of healthy life style between the work forces and assessment of ergonomic problems.

Keywords: Back Pain; Praying; Commercial Drivers

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► Implication for health policy/practice/research/medical education:

This article consists of results which considering to them causes the general and occupational health of drivers improve. The present study can be the start point for further researches.

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1. Background

Musculoskeletal disorders are the most common and costly medical issues among workers and the factors inducing these problems have been determined so far (1, 2). The most common of them include individual factors (aging, gender, overweight and obesity, lack of body fitness, history of past musculoskeletal, the personal and behavioral characteristics), occupational factors (working without relaxing, repetitive activity, work load, improper state of body, job dissatisfaction, stress) and psychosocial factors (2-5). What has been proposed as a determinant factor of musculoskeletal pain in occupational medicine articles is the job related ergonomic factor. So in some studies, the role of non-occupational factors in appearing this pain was significant and the role of occupational and ergonomic factors was not effective (6). One of most important non-occupational factors in this regard is job stress of the staffs. The occupational and non-occupational stress causes somewhat serious medical problems such as musculoskeletal disorders (6). Various factors cause the role of stress and the improper emotional conditions decrease and increase. The religious belief and behaviors are of this kind. The role of these factors in adjusting the psychological conditions and improving the physical problems was approved in different studies (7-9). In Islam, various evidences are found in this respect. In holy book, the Quran, God mentions the role of verses in health. In verse 82 of Isra, it is stated "We sent down of the Quran that which is a healing and a mercy to believers" (10). And also in verse 57 of Yunes: "People, an admonition has now come to you from your lord, and a healing for what is in the chests, a guide and a mercy to believers" (11). In verse 44 of Fossilat, it is stated "to the believers it is a guidance and a healing" (12). The attractive point in the similar studies is that their aim focuses on some limited aspects of the diseases and psychological problems and the variety of diseases and other disorders are not considered. For instance, Ajit et al. studied the relationship between Islam and reduction of suicide (13) and this case is observed in other studies (14, 15). Also Gomez et al. investigated the role of religion orientation (Christianity) in decreasing the psychological problems and recovering from pain and improving the quality of life (16). Kafman et al. investigated the role of spirituality in cognitive disorders resulting from Alzheimer's (17). The physical problems especially, the occupational disorders were investigated less. Of course, in some studies, the effect of spirituality and religion on fibromyalgia and the chronic pain was surveyed (18). However, the link of religious beliefs and behaviors in controlling the musculoskeletal disorders as the most common disorder related to work and back pain as the most common point of anatomic involvement, was not surveyed so far. Among the different jobs, driving is the most complex one with regard to the damaging factors. In this job, different factors cause the pain in neck, shoulder and back. These factors are shak-

ing, sitting for a long time, awkward postures during driving, carrying the wheel and chains, consistent activity without stretching, forcing a lot of pressure to body for getting in and off the vehicle (19). In this relation, the instruction for medical examinations and issuing the drivers' health card from the health center of ministry of health IR Iran, therapy and medical education was notified. According to the instruction, drivers are bound to refer to the specialty centers and get the health card in one or two year interval. According to data, back pain is the most common complain of referees. The previous studies have not proposed the role of religious beliefs and praying in reduction of the problems from occupation so much. On the other hand, this issue is limited to the psychological disorders, however; the musculoskeletal problems resulting from occupations are common. With respect to the outbreak of these diseases among the professional drivers (20), and the verses related to the role of religious belief and praying in the back pain, the present study was conducted.

2. Objectives

The aim of this study was to determine the role of religious beliefs and praying in back pain of professional drivers.

3. Patients and Methods

In this cross sectional study, 242 commercial drivers requesting to get health card in Karaj, Iran were investigated. The time interval for data collection was from September 2010 to March 2011. The inclusion criteria were having the number 1 drivers' license and at least one year experience in road transportation. Exclusion criteria consisted of the structural problems of the spine, history of rheumatologic diseases, history of cancer, past surgery of spine, and using the corticosteroids for a long time are the criteria for excluding from the study. The tools of data collection were medical history of patients, the researcher-made questionnaire about the religious belief, praying/devotion and visual analogue scale. The questionnaire consists of two parts, in the first part, the viewpoint of individuals to the effect of religious beliefs and praying on the physical health and prosperity in this world and hereafter was surveyed in the form of three choice questions (Table 1). In the second questionnaire, praying was investigated (Table 2). In the first parts of the questionnaire, the questions related to the personal and demographic information such as age, job record, the kind of automobile (bus, truck), weight and height were proposed.

Three specialists in psychology, epidemiology and Islamic sciences assessed the questions and their reliability was investigated by pilot studying, and Cronbach alpha equal was estimated as 0.73. The patients having chronic back pain during the last year (according to the definition having back pain for four weeks) were known as LBP patients (21).

Table 1. The Questions of First Part of the Researcher Made Questionnaire (the Religious Belief Related to the Aim of the Study)

Questions	Choices		
Praying before working causes reduction of pains and diseases resulting from driving.	I agree	I disagree	I have no idea
Praying during working causes reduction of pains and diseases resulting from driving.	I agree	I disagree	I have no idea
Praying obligatory prayers causes reduction of pains and diseases resulting from driving.	I agree	I disagree	I have no idea

Table 2. The Questions of Second Part of the Researcher Made Questionnaire (Praying and Obligatory Prayers)

Questions	Choices				
Do you pray before starting your work?	always	often	sometimes	rarely	never
Do you pray during your work?	always	often	sometimes	rarely	never
Do you pray obligatory prayers?	always	often	sometimes	rarely	never

After the primary physical exam by physician and checking inclusion and exclusion criteria, the informed consent were filled the patients. Then the studied group filled out the questionnaire. The patients with chronic back pain were asked to show their back pain in VAS and range of 1-10. So the pain intensity was determined (the slight pain equals 1 and the intense pain equals 10). Data were analyzed by SPSS version 16. With regard to the back pain, the difference between two groups of having and not having religious beliefs were compared by chi-square test. Also the difference in pain intensity was evaluated by student t-test. In the following stages, the regression tests were used to omit the confounding factors.

4. Results

Two hundred forty two commercial drivers were evaluated in the present study. Their personal information was shown in Table 3. The range of their employment in driving between 2 to 42 years.

Sixty seven drivers (27.68 %) had chronic back pain of which 42 drivers (62.27) were truck drivers. The pain intensity in patients having back pain was calculated with VAS index which equals 5.36 ± 1.11 .

Pain severity among LBP groups had not significant

Table 3. The Personal Information of Participants

Variables	Value
Age, y, Mean \pm SD	34.30 \pm 5.21
Experience, y, Mean \pm SD	12.67 \pm 3.21
Body mass, kg/m ² , Mean \pm SD	27.28 \pm 3.63
Activity type, No. (%)	
Taxi driving	83 (34.30)
Cargo driving	159 (65.70)
Cigar smoking, No. (%)	79 (32.63)

difference between bus and truck drivers. ($P = 0.12$). Also the mean of age and experience in two groups of patients having and not having back pain was significantly different. ($P = 0.034$). As shown in Table 4, more than 70 and 80 drivers had positive viewpoint to the role of praying in occupational health. Also 71.49 % of drivers always pray (Table 5).

4.1. Statistical Comparison

In each three questions related to the viewpoints, the difference in back pain among the drivers with various answers was not significant. (The Sig value for question one, two and three was 1.12, 0.87, and 0.06 respectively). The difference of mean age and experience in LBP and non LBP

Table 4. Answers to the Questions About the Viewpoint to the Role of Praying in Health

	I agree		I disagree		I have no idea	
	No.	%	No.	%	No.	%
Health and reduction of job related pain and diseases by praying before working	189	78.10	32	13.22	21	8.68
Health and reduction of job related pain and diseases by praying during working	176	72.73	25	10.33	41	16.94
Health and reduction of job related pain and diseases by praying	200	82.64	16	6.61	26	10.75

Table 5. Answers to the Questions About Praying and Obligatory Prayers

	Always		Often		Sometimes		Rarely		Never	
	No.	%	No.	%	No.	%	No.	%	No.	%
Praying before working	102	42.15	99	40.91	22	9.09	15	6.20	4	1.65
Praying during working	97	40.08	111	45.87	16	6.61	10	4.13	8	3.31
Praying obligatory prayers	173	71.49	22	9.09	23	9.50	10	4.13	14	5.79

drivers was significant and the relationship between the back pain and smoking and job type was not significant (Table 6). As shown in Table 7, the outbreak of back pain in drivers who often and always pray was less than other groups even by ignoring the probable confounding factors like age and experience. These findings were signifi-

cant in statistical tests for all three questions. The difference in mean of back pain intensity between the drivers who pray and don't pray obligatory prayers was significant ($P = 0.038$) and this issue was not significant with regard to devotion ($P = 0.17$).

Table 6. Distribution of Age, Experience, Smoking and Occupation in Drivers Having Back Pain and the Safe Drivers

	Having Back Pain	Not Having Back Pain	P-Value
Age, y, Mean \pm SD	38.45 \pm 3.17	31.39 \pm 3.17	0.027
Experience, y, Mean \pm SD	15.26 \pm 2.07	11.81 \pm 4.18	0.033
Smokers, No. (%)	48 (60.76)	31 (39.24)	0.065
Occupation, No. (%)			
Cargo Drivers	42 (26.42)	117 (73.58)	0.128
Taxi Drivers	25 (30.12)	58 (69.88)	

Table 7. Distribution of Back Pain Based on the Religious Belief (Praying and Namaz)

	Having Back Pain, No. (%)	Not Having Back Pain, No. (%)	P-Value	
			Before omitting the damaging factors	After omitting the damaging factors
Praying (devotion) before driving, always or often	38 (18.90)	163 (81.10)	0.000	0.035
Praying (devotion) before driving, sometimes, rarely or never	29 (70.73)	12 (29.27)		
Praying (devotion) during driving, always or often	46 (22.12)	162 (77.88)	0.001	0.023
Praying (devotion) during driving, sometimes, rarely or never	21 (61.76)	13 (38.24)		
Praying (devotion) Obligatory prayers, always or often	29 (14.87)	166 (85.13)	0.000	0.018
Praying (devotion) Obligatory prayers, sometimes, rarely or never	38 (80.85)	9 (19.15)		

5. Discussion

The results of the present study suggested that praying decreases the chronic back pain in commercial drivers and even by ignoring the confounding factors like age and experience, also the attitude of drivers to religious belief has not significant relationship with LBP. Also back pain in individuals who are bound to pray before and during working is not so intense. Different studies about the relation between the religious belief and physical

and mental health was conducted and the effect of religious belief on health and prevention of diseases and increasing the ability to overcome the medical problems (22). In previous studies, the effect of mental health on physical health was considered more, but we studied, the role of religious belief (23). The most important finding in the present study was less back pain intensity in drivers who prays the prayers. In an study on 74 patients with back pain, it was found that the individuals who were religious and faithful had less back pain , in other words,

increasing the praying causes the back pain reduce (24). The similar result was obtained in this study. The interesting point is that the researchers' aim had not been the musculoskeletal problems and occupational disorders so far but this study has both of these characteristics. Also Christianity was considered in international studies while what was regarded in this study was Islam. Why the religion leads to body health was discussed by proposing different theories. Some researchers believe that the faithful and religious people have more social support, and are more optimists and continence and these issues cause the body health (25). With respect to the physiological and immunological view, the matters related to religion effect on the system of endocrine glands especially, the cortisol blood level and serotonin receptors and also the neuropsychosocial process. Some others believe that decrease of interleukin 6 which suggests the body immunity is related to the faith (26). One of the cases which should be discussed in the studies is that finding out the direct effect of religious rituals on health is difficult (27) and the important event which is called damaging factor in this relation is that the people who are bound to Islamic principles, consider the other Islamic instructions for healthy life and preventing from the harmful factors on physical and mental health such as overeating, drinking alcoholic beverages, drug abusing, and doing exercises and this case can be related to the findings of this study. This relation is suggested in the verse of 45 Ankaboot surah which states "prayer forbids indecency and dishonor" (28). This issue was important for some researchers with regard to the occupational health. For instance, Proonk et al. found that people having the safe life style suffer less from the occupational disorders than other people (29). At first sight, the findings of the present study suggest the role of faith and religious belief in reduction of back pain. What should be considered is that the data were collected subjectively. Another point is that back pain is one of the occupational problems which result from the physical, mental, social and occupational factors. For this, measuring the effectiveness of these factors is problematic and is included in our study. One of the secondary findings of this study was that most of the patients who had back pain were cargo drivers. Regarding that the vibration and unsuitable seat are the most important ergonomic factors in back pain, and in loading vehicles, the whole body vibration is more than bus, this finding is justifiable (3, 4). Of course, the intensity of pain in both of these occupational groups was not different. In various studies, the job record was related to the back pain (30). In the present study, this relationship was significant but with respect to the interpretation of this finding, the distribution of this variable among drivers should be considered. Currently, by improving in technology, the preventive measures were adapted to resolve the ergonomic disorders and consequently reduction of musculoskeletal disorders (21). Need to say that, innova-

tion and modern civilization can effect on the religious beliefs (31). With respect to the various aspects of this article, what has been obtained from the results is that praying has positive effect on the physical health of career people and their spiritual elevation should be considered as a preventive technique against the damages and diseases related to occupations. It is proper that the improvement of spiritual conditions and religion orientation of working people be involved in the risk management plans. One of the limitations of this study was that the participants' sayings were used for extracting most of data. On the other hand, as the statistical samples were the applicants for receiving health card, it was probable that inaccessibility of the non-applicant drivers decrease the accuracy of results. However, in entire country, issuing the health card among the drivers with number one drivers' license is completely done (100%). With regard to the relation of praying and health, it is recommended to consider the spiritual elevation as well as regarding the improvement of life style among the working people and evaluation of occupational ergonomic problems. Also doing cohort and case control studies with high number of samples among the occupational groups and doing the psychosocial studies will prove the results of study. The verses of Quran and sayings of leaders of Islam subjected to the religion orientation and its role in spiritual elevation suggest the significance of the research focused on the safety of religious and faithful people.

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Authors' Contribution

Two authors cooperated in design of the study, writing and scientific search.

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References

1. Mathew AJ, Chopra A, Thekkemuriyil DV, George E, Goyal V, Nair JB. Impact of musculoskeletal pain on physical function and health-related quality of life in a rural community in south India: A WHO-ILAR-COPCORD-BJD India Study. *Clinical rheumatology*. 2011;30(11):1491-7.
2. Macfarlane GJ, Pallewatte N, Paudyal P, Blyth FM, Coggon D, Crombez G, et al. Evaluation of work-related psychosocial factors and regional musculoskeletal pain: results from a EULAR Task Force. *Ann Rheum Dis*. 2009;68(6):885-91.
3. Hoogendoorn WE, van Poppel MN, Bongers PM, Koes BW, Bouter LM. Physical load during work and leisure time as risk factors for back pain. *Scand J Work Environ Health*. 1999;25(5):387-403.
4. Rezaee M, Ghasemi M, Jonaidi Jafari N, Izadi M. Low Back Pain

- and Related Factors among Iranian Office Workers. *Int J Occup Hyg*. 2008;5435/11/31-23-28.
5. Moreira-Almeida A, Koenig HG. Religiousness and spirituality in fibromyalgia and chronic pain patients. *Current pain and headache reports*. 2008;12(5):327-32.
 6. Aroori S, Spence RA. Carpal tunnel syndrome. *Ulster Med J*. 2008;77(1):6-17.
 7. Wachholtz AB, Pearce MJ, Koenig H. Exploring the relationship between spirituality, coping, and pain. *J Behav Med*. 2007;30(4):311-8.
 8. Burke M, Jean SM. Coping strategies and health status of elderly arthritic women. *Journal of Advanced Nursing*. 1993;18(1):7-13.
 9. Keefe FJ, Caldwell DS, Queen KT, Gil KM, Martinez S, Crisson JE, et al. Pain coping strategies in osteoarthritis patients. *J Consult Clin Psychol*. 1987;55(2):208-12.
 10. Verse 82, Al-Isra. *Quran-e-Karim, Translated by Qarib*. Available from: <http://www.parsquran.com/data/show.php?sura=17&ayat=%DB%B8%DB%B2&user=far&lang=eng&tran=1>.
 11. Verse 57, Yunus. *Quran-e-Karim, Translated by Qarib*. Available from: <http://www.parsquran.com/data/show.php?sura=10&ayat=%DB%B5%DB%B7&user=far&lang=eng&tran=1>.
 12. Verse 44, Fussilat. *Quran-e-Karim, Translated by Qarib*. Available from: <http://www.parsquran.com/data/show.php?sura=41&ayat=%DB%B4%DB%B4&user=far&lang=eng&tran=1>.
 13. Shah A, Chandia M. The relationship between suicide and Islam: a cross-national study. *J Inj Violence Res*. 2010;2(2):93-7.
 14. Soni Raleigh V, Bulusu L, Balarajan R. Suicides among immigrants from the Indian subcontinent. *Br J Psychiatry*. 1990;156:46-50.
 15. Stack S. Suicide and religion: comparative analysis. *Sociological Focus*. 1981;14:207-20.
 16. Lucchetti G, Lucchetti AG, Badan-Neto AM, Peres PT, Peres MF, Moreira-Almeida A, et al. Religiousness affects mental health, pain and quality of life in older people in an outpatient rehabilitation setting. *J Rehabil Med*. 2011;43(4):316-22.
 17. Kaufman Y, Anaki D, Binns M, Freedman M. Cognitive decline in Alzheimer disease: Impact of spirituality, religiosity, and QOL. *Neurology*. 2007;68(18):1509-14.
 18. Thune-Boyle IC, Stygall JA, Keshtgar MR, Newman SP. Do religious/spiritual coping strategies affect illness adjustment in patients with cancer? A systematic review of the literature. *Soc Sci Med*. 2006;63(1):151-64.
 19. Anderson D, Raanaas R. Psychosocial and physical factors and musculoskeletal illness in taxi drivers. *Contemporary Ergonomics*. London, England: Taylor & Francis; 2000. p. 322-7.
 20. B.P. Bernard. Department of Health and Human Services, National Institute for Occupational Safety and Health, Cincinnati, OH. 1997 [updated 1997]; Available from: <http://www.cdc.gov/NIOSH/>.
 21. William J. *Environmental and occupational medicine*. 3rd ed. Philadelphia: Lippincott Williams and Wilkins; 2007. p. 937-942.
 22. Fitchett G, Rybarczyk BD, DeMarco GA, Nicholas JJ. The role of religion in medical rehabilitation outcomes: A longitudinal study. *Rehabilitation Psychology*. 1999;44(4):333-53.
 23. Sulmasy DP. A biopsychosocial-spiritual model for the care of patients at the end of life. *Gerontologist*. 2002;42 Spec No 3:24-33.
 24. Turner JA, Clancy S. Strategies for coping with chronic low back pain: Relationship to pain and disability. *Pain*. 1986;24(3):355-64.
 25. Koenig H, King D, Carson VB. *Handbook of Religion and Health*. Oxford University Press, USA; 2012.
 26. Lutgendorf SK, Russell D, Ullrich P, Harris TB, Wallace R. Religious participation, interleukin-6, and mortality in older adults. *Health Psychol*. 2004;23(5):465-75.
 27. Bongers PM, Ijmker S, van den Heuvel S, Blatter BM. Epidemiology of work related neck and upper limb problems: psychosocial and personal risk factors (part I) and effective interventions from a bio behavioural perspective (part II). *J Occup Rehabil*. 2006;16(3):279-302.
 28. Verse 45, Al-Ankaboot. *Quran-e-Karim, Translated by Qarib*. Available from: <http://www.parsquran.com/data/show.php?sura=29&ayat=%DB%B4%DB%B5&user=far&lang=eng&tran=1>.
 29. Pronk NP, Lowry M, Kottke TE, Austin E, Gallagher J, Katz A. The association between optimal lifestyle adherence and short-term incidence of chronic conditions among employees. *Popul Health Manag*. 2010;13(6):289-95.
 30. Sadeghian F, Javanmard M, Khosravi A, Adelnia S. An epidemiological survey of Low back pain and its relationship with occupational and personal factors among nursing personnel at hospitals of Shahrood Faculty of Medical Sciences. *HBI_Journals-ISMJ*. 2005;8(1):75-82.
 31. Stack S. The effect of religious commitment on suicide: a cross-national analysis. *J Health Soc Behav*. 1983;24(4):362-74.