Effect of musculoskeletal pain of care workers on job satisfaction

DEOKJU KIM¹)

¹) Department of Occupational Therapy, Health Science College, Cheongju University: 298 Daesung-ro, Cheongwon-gu, Cheongju 363-764, Republic of Korea

Abstract. [Purpose] The purpose of this study was to examine the musculoskeletal pain of care workers and investigate its effect on their job satisfaction. [Subjects and Methods] Subjects were 87 care workers working at C elderly care service center in P region. The average age of men was 62.5 ± 3.4 years and that of women was 57.3 ± 2.7 years. The ‘Guidelines for Risk Factor Survey on Tasks with Musculoskeletal Burden’ of the KOSHA CODE (H-30-2003) of the Korea Occupational Safety and Health Agency (KOSHA) was used for measurement of musculoskeletal pain. This survey tool for job satisfaction consisted of 12 questions including the areas of wage satisfaction, professional satisfaction, job performance satisfaction, and relationship satisfaction. [Results] Study results showed that musculoskeletal pain varied depending on professional satisfaction, job performance satisfaction, and relationship satisfaction. The correlation between the areas of musculoskeletal pain and job satisfaction was examined and the following was revealed. Professional satisfaction was correlated with arm/elbow pain and lower back pain, job performance satisfaction with lower back pain, and relationship satisfaction with shoulder pain and lower back pain. [Conclusion] In this study, subjects were older and could have been easily exposed to diseases because of their age. To improve job efficiency among care workers, continuing education related to the job should take precedence. In addition, social support is required that can alleviate the heavy workload related to physical activity support, which is among the responsibilities of care workers. Moreover, application standards and coverage of industrial insurance for the treatment of musculoskeletal disorders of care workers should be extended further to relieve the burden of medical costs. A series of such measures will have a positive effect on improving the job satisfaction of care workers.

Key words: Musculoskeletal pain, Job satisfaction, Care worker

INTRODUCTION

The development of medical technologies and changes in living environment since industrialization have brought about a dramatic increase in the elderly population every year. The elderly population aged 65 years or older, estimated to be 5,890,000 in 2012, is expected to reach 8,100,000 in 2020. In other words, Korea is about to become an aged society¹). The number of elderly people requiring care has increased due to rapid aging and industrialization coupled with the economic participation of women. This has resulted in social circumstances in which care for the elderly is more difficult, which has in turn increased the need for long-term care insurance for the elderly²). Therefore, the role of care workers, who take care of the elderly at home or at care centers, has largely increased along with the introduction of the long-term care insurance for the elderly. In general, care workers perform tasks such as hygiene management, assistance in eating and taking medicine, toileting, exercise assistance, emotional support, and daily life support³). However, many care workers suffer musculoskeletal pain due to excessive workload and experience various stresses due to the lack of social recognition, for example, because
In terms of job performance and the performance environment, the tasks of care workers involve factors such as harmful positions, which may cause musculoskeletal disorders, socio-psychological burdens, and biomechanical elements. When pain continues, it is inevitable that job performance ability falls considerably, and job satisfaction is highly likely to be affected as a result. Job satisfaction is defined as a pleasurable or positive emotional state that results from one’s own evaluation of his/her job, and is highly important for members of organizations with respect to humane values and position of the members, mental health, and physical health. Currently, researchers are actively conducting numerous studies concerning the prevention of musculoskeletal disorders and improving consequent job satisfaction in many different areas. However, only a few cases have applied these types of results to care workers. Ensuring the health of care workers will improve the quality of life of the elderly who receive the care service. For this reason, this study conducted an in-depth examination of musculoskeletal pain and areas of pain among care workers who performed care services by personally visiting elderly individuals at home, and investigated its effect on their job satisfaction. Finally, the study suggested measures for care workers’ pain management based on the results. This study investigated the musculoskeletal pain of care workers working in the real field of care service. The study results will provide the area of physical therapy with helpful guidance for developing pain treatment and exercise programmes for care workers.

**SUBJECTS AND METHODS**

This study surveyed 120 care workers working at C elderly care service center based in P city. The survey was conducted from March 3 to May 31, 2017. The supervisor of this study gave a precise explanation about the study objective, participation method, and the procedure, and collected data on general information, degree of musculoskeletal pain, and job satisfaction from care workers who had consented to study participation, using a survey questionnaire. Among the 120 copies of recollected survey questionnaires, 87 copies were finally used for investigation, excluding 33 copies in which the respondents did not have musculoskeletal pain or gave inappropriate answers. All details of this study’s research plan were submitted to the Science Research Council of Cheonju University, which gave its approval to the study. For the measurement of musculoskeletal pain, the “Guidelines for Risk Factor Survey on Tasks with Musculoskeletal Burden” of the KOSHA CODE (H-30-2003) was used, which was modified by the KOJSHA based on the “National Institute for Occupational Safety and Health,” the survey questionnaire used by the National Institute for Occupational Safety and Health (NIOSH) of the US. These guidelines consist of questions about the frequency and duration of subjective symptoms felt in five body parts: neck, shoulders, upper limbs, lower back, and lower limbs. For job satisfaction, the questionnaire used in the study by Shin (2012) was modified for use. It consists of 12 questions on the areas “wage satisfaction, professional satisfaction, job performance satisfaction, and relationship satisfaction.”

The collected data were analyzed using SPSS ver. 20.0. ANOVA was used to investigate the effect of musculoskeletal pain on job satisfaction, and Pearson’s correlation coefficient was used to assess the correlation between the subitems of musculoskeletal pain and those of job satisfaction. To find how the general characteristics of caregivers influence musculoskeletal pains, multiple regression analysis was conducted. The significance level for the statistical significance test was set to 0.05.

**RESULTS**

The following are the general characteristics of the subjects. There were more female care workers than male, and the ages were 51 to 60 (51.7%), 61 or older (34.5%), and 41 to 50 (9.2%). The majority had work experience ranging between 7 months and less than a year (49.4%), and the most common daily work hours were 4 hours or less (58.6%) and 7 to 8 hours (21.8%). Most patients were aged between 76 and 80 (41.3%). In terms of disability, brain injury (34.5%) was the most frequent, and the most frequent disability grade was grade 3 (34.4%) followed by grade 5 (special dementia grade) (21.8%) and grade 2 (19.5%) (Table 1). The examination of the causes of care workers’ musculoskeletal pain revealed that care worker’s age (β= 0.215, p<0.01), patient’s disability (β= 0.265, p<0.05), and patient’s disability grade (β= 0.241, p<0.05) had an effect (Table 2).

The study results showed that musculoskeletal pain varied according to professional satisfaction, job performance satisfaction, and relationship satisfaction (p<0.05, p<0.01). When musculoskeletal pain was lower, professional satisfaction, job performance satisfaction, and relationship satisfaction were higher. Musculoskeletal pain did not have any effect on wage satisfaction (Table 3).

The correlation between the areas of musculoskeletal pain and job satisfaction was analyzed as follows. Professional satisfaction was related to arm/elbow pain (r=−0.344, p<0.05), and lower back pain (r=−0.421, p<0.01); job performance satisfaction to lower back pain (r=−0.385, p<0.05); and relationship satisfaction to shoulder pain (r=−0.314, p<0.05) and lower back pain (r=−0.546, p<0.01) (Table 4).
DISCUSSION

This study was conducted to examine the degree of musculoskeletal pain of care workers, and investigate its correlation with job satisfaction.

The study results showed that care worker’s gender and patient’s disability and disability grade were the factors influencing the musculoskeletal pain of care workers. At present, the age of most care workers in Korea is very high. Many were old people aged 65 or older, and this is an age that can present with health problems. The physically demanding job of care workers is thought to worsen the musculoskeletal pain along with increasing age. Additionally, the degree of care varies physically depending on patient’s disability grade. Thus, a higher disability grade is expected to increase the musculoskeletal pain of care workers. Various studies suggest that care workers working for patients with dementia experience greater mental stress whereas those working for patients with physical disorders experience increased physical pain in the shoulders and
The study results revealed that musculoskeletal pain varied according to professional satisfaction, job performance satisfaction, and relationship satisfaction. Professional satisfaction was examined to identify perceptions of job importance and job satisfaction. Job performance satisfaction indicates the degree of satisfaction felt concerning workload and providing quality service. Relationship satisfaction indicates the degree of satisfaction concerning the relationship with colleagues and care subjects. When care workers have difficulties due to pain, it is hard for them to be satisfied with their given job. It would also be hard for them to provide quality care to clients and to maintain a pleasant relationship with the care subjects. Wage satisfaction did not have much effect on musculoskeletal pain.

The examination of the correlation between the areas of musculoskeletal pain and job satisfaction revealed that professional satisfaction was correlated with arm/elbow pain, shoulder pain, and lower back pain; job performance satisfaction with lower back pain; and relationship satisfaction with shoulder pain and lower back pain. The results further indicated that shoulder pain and lower back pain were correlated with most of the types of satisfaction. A survey on the musculoskeletal disorder status of care workers showed that respondents demonstrated the highest prevalence for “lower back/back pain”; “shoulder” and “knee/leg” then followed, which was similar to the results of this study\(^5\). Lower back is the area that receives the most physical stress in dynamic terms when performing physical activity assistance, and the shoulders receive considerable stress together with the lower back when moving or assisting care clients\(^11\). In other words, the perceived areas of musculoskeletal disorder symptoms are evenly distributed across the chest area of the body. If the pain in the lower back and shoulder continues every time the care worker performs the task, it is natural to assume that pride in one’s job and performance satisfaction will likely decrease.

The study results showed that the average age of male care workers was 62.5 ± 3.4 years and that of female workers was 57.3 ± 2.7 years. The average age of most Korean care workers is quite high. Older age is one factor that can cause health problems. To enhance the job efficiency of care workers, continued education related to their tasks should take precedence\(^9\).

It has been shown in various studies that task-related education increases the job satisfaction of care workers and that the perception on professionalism influences the quality of service\(^5, 12\). In addition, social support is required, which eases excessive work intensity related to physical activity support in the task areas of care workers. In particular, equipment for risky and difficult tasks such as bathing should be obligatory and care workers should be strongly encouraged to use it.

Finally, the application standards and coverage of industrial insurance should be extended further for the treatment of musculoskeletal disorders of care workers. The musculoskeletal disorders of care workers should be recognized as industrial accidents and support measures should be provided to allow them to receive treatment at various medical institutions without any burden. Education on effective prevention of musculoskeletal disorders should be established and promoted to protect more care workers from the risk of musculoskeletal disorders, and thus to increase their job satisfaction.

The limitation of this study is that the subjects were from a limited number of institutions; therefore, it is not possible to represent all care workers. Future studies should cover a greater number of care workers in more regions. This will allow further detailed investigation of more practical content concerning the kind of tasks performed by care workers and their effects on musculoskeletal pain as well as the relationship between musculoskeletal pain and job satisfaction.

This study is distinct because it investigated the musculoskeletal pain of care workers working under the Long-term Care Insurance for the Elderly instead of health care professionals (nurses and physical therapists), who have been widely investigated in many previous studies. Further, the study is valuable as it identified the most frequent areas with pain, which will serve to develop practical physical therapy programmes for care workers.
REFERENCES

1) Statistics Korea: Population projection 2014. Seoul: Statistics Korea.
2) Shin NS: An influence on job changing intention by working stress for home care workers. Daegu, Catholic University, 2014.
3) Yim HY: The factors affecting on recognition of professionalism of caregivers. J Kor Acad Welf Counsel Edu, 2012, 1: 65–80.
4) Korea Occupational Safety and Health Agency: Rules on industrial health standards. Seoul: KOSHA.
5) Hwang BR, Yun KH, Lee JY, et al.: An exploratory study on self-perceived symptoms and pain-inducing factors of musculoskeletal diseases among care workers in residential settings. Soc Sci Resear Rev, 2014, 30: 69–100.
6) Eun JH, Lee JH: A study on the effect of frontline fire officers’ job satisfaction on their organizational commitment: focusing on the moderator effect of job types. KorAssoci Local Govern Study, 2015, 19: 273–297.
7) Shin YG: The theory of organizational administration. Seoul: Dasan, 1983.
8) Korea Occupational Safety and Health Agency: Safety & health information. Seoul: KOSHA, 2002.
9) Dhaini SR, Zúñiga F, Ausserhofer D, et al.: Care workers health in Swiss nursing homes and its association with psychosocial work environment: a cross-sectional study. Int J Nurs Stud, 2016, 53: 105–115. [Medline] [CrossRef]
10) Kim MS, Jeon ES: A study on care giver’s job satisfaction. Kor Asso Soc Innov, 2012, 3: 115–140.
11) Lee GH, Cho KW: The influence of job stress of care workers on customer orientation—The moderation effect of self-perceived health level—. Kor J Health Ser Manage, 2016, 10: 173–184.
12) Sin MS, Jeon ES: A study of care giver’s job satisfaction. Kor Asso Soc Innov, 2012, 3: 115–140.