A study on physical status and life satisfaction of workers

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Abstract. [Purpose] This study was conducted to examine physical status and life satisfaction of workers in Korea. [Subjects] In total, 25,455 workers from eight geographical areas were evaluated from 2007 to 2008. [Methods] Physical status of the subjects was measured based on cardiopulmonary endurance, muscular strength, muscular endurance, flexibility, and explosive muscular strength, and a life satisfaction index was used to measure life satisfaction. [Results] Higher levels of cardiopulmonary endurance, muscular strength, muscular endurance, flexibility, and explosive muscular strength of workers were correlated with higher life satisfaction. [Conclusion] The result suggests it is necessary to improve life satisfaction through continuous health management of workers.

Key words: Life satisfaction, Physical status, Worker

INTRODUCTION

In today’s highly developed societies, many physical activities have been replaced by machines, and people do not maintain healthy levels of physical activity, which reduces their physical stamina1). For workers, health is a basic requirement for their happy life, and, for industry, it is an important factor that contributes to improving productivity2). However, most workers exposed to risks such as stress from excessive workloads, frequent eating, drinking, and lack of exercise3). Recently, more people are actively engaging in physical activities and exercise because of lack of exercise, stress, and increased leisure time4). Also, people are becoming increasingly interested in quality of life due to improved standards of living from developments in society, the economy, and science5). Although many studies on personal health are being conducted, there are not many that are related to life satisfaction and health6). Therefore, it seems necessary to study mental and physical aspects of workers7).

In this study, physical status and life satisfaction were studied to examine whether physical stamina can improve life satisfaction and show the necessity of exercise.

SUBJECTS AND METHODS

This study was conducted between January 1, 2007, and December 31, 2008, with 25,455 industrial workers from eight regions in the Republic of Korea as subjects. All the elements of this study were in compliance with the agreement form proved by the science research council of Inje University. Life satisfaction and physical status of subjects were measured. The measurement of physical status and life satisfaction was as follows: investigating each participant’s subjective life satisfaction, precise physical measurements were obtained for about 6–12 minutes while the subjects maintain a speed of 50 RPM. Muscular strength measurements were performed with a Jamar dynamometer, and maximum grip was indicated in kg/force. Sit-ups were performed for 30 seconds to measure the dynamic endurance of the abdominal muscles. For this, the mirror-type photo sensor method was used; subjects place a sensor on one of their earlobes when they sit on the bike. By lowering the saddle height such that the knees can be lowered a measurements are obtained for about 6–12 minutes while the subjects maintain a speed of 50 RPM. Muscular strength measurements were performed with a Jamar dynamometer, and maximum grip was indicated in kg/force. Sit-ups were performed for 30 seconds to measure the dynamic endurance of the abdominal muscles. For this, the mirror-type photo sensor method was used; in this method, the subject begins performing sit-ups after a beep is sounded, are the number of times the elbows touch the thighs is counted for 30 seconds. Flexibility by measuring sit and reach of waist and legs with sit-and-reach, maintaining a constant pushing speed, the maximum of two measurements was used. Explosive muscular strength was measured by measuring the standing high jump (representative measurement category) twice, and the ceiling value was...
displayed in cm.

The data were processed by using PASW Statistics 18.0, and the correlations of life satisfaction, cardiopulmonary endurance, muscular strength, muscular endurance, flexibility, and explosive muscular strength were analyzed by using the Pearson correlation coefficient. The statistical significance level was set at 0.01.

RESULTS

There were 20,564 (80.78%) male subjects and 4,891 (19.22%) female subjects, and the average age of the subjects was 36.89 (Table 1).

Life satisfaction had a positive correlation with cardiopulmonary endurance, muscular strength, muscular endurance, flexibility, and explosive muscular strength, and higher cardiopulmonary endurance, muscular strength, muscular endurance, flexibility, and explosive muscular strength meant more life satisfaction (p<0.01) (Table 2).

DISCUSSION

Physical status and life satisfaction of workers were examined. The results show that people who were more satisfied with life had better physical statuses. Physical health is one of the most general elements of work continuity, and healthy workers are more likely to retire, continue to work, and maintain their health than unhealthy workers9, 10. In this study, life satisfaction was increased in subjects with better physical statuses, and this improved quality of life. Recently, society is changing in a way that values quality of life rather than focusing only on improving productivity11. However, few studies have looked into factors that influence workers’ quality of life. Therefore, the results of this study suggest the necessity of managing physical status for a better quality of life. The results can be used as data for preparing welfare programs for the workplace.

Table 2. Correlation between the life satisfaction, cardiopulmonary endurance, muscular strength, muscular endurance, flexibility, and explosive muscular strength

|       | LS  | CE  | MS  | ME  | FL  | EM  |
|-------|-----|-----|-----|-----|-----|-----|
| LS    |     | 0.032** | 0.028** | 0.065** | 0.037** | 0.058** |
| CE    | 0.032** |     | 0.338** | 0.356** | 0.025** | 0.353** |
| MS    | 0.028** | 0.338** |     | 0.575** | -0.005 | 0.581** |
| ME    | 0.065** | 0.356** | 0.575** |     | 0.599** | 0.620** |
| FL    | 0.037** | 0.025** | -0.005 | 0.059** |     | 0.010  |
| EM    | 0.058** | 0.353** | 0.581** | 0.620** | 0.010 |     |

**Significant difference p<0.01.
LS: life satisfaction; CE: cardiopulmonary endurance; MS: muscular strength; ME: muscular endurance; FL: flexibility; EM: explosive muscular strength

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