General health, stress associated to the work and job satisfaction of Hormozgan Cement Factory employees in Iran

Shahnaz Tabatabaei a, Simin Hosseinianb, Bahman Gharanjikic

a- Assistant Professor, Faculty of Health, Safety and Environment, Shahid Beheshti University of Medical Science, 1Hakimieh, Tehranpars, Nour Blvd, Beside Sahel Park, Tehran, PC: 16596-44311, Iran
b- Professor, Faculty of Education, Al Zahra University, Deh Vanak Ave., Tehran, PC: 18581-14369, Iran
c- MD, Researcher and Head of Occupational Health Department, Hormozgan Cement Factory, Bandar Abbas, Bandar Khamir PC: 7931564547, Iran

Abstract

The aim of the paper was to study the general health, stress associated to the work and job satisfaction of the Hormozgan Cement Factory employees. The research was semi-experimental with the pre-test and post-test without control group. In order to improve mental health of employees, psychological trainings and motivational models were performed. Results showed that general health and job satisfaction of employees were higher than average (α=0.01) but their job stress was lower than average (α=0.01). After intervention, results revealed improvement of job stress. Therefore, such trainings and models suggested for improvement of employees stress.

Key words: General health, work stress, job satisfaction, employees, Cement Factory.

1. Introduction

In order to study, improve and promote the level of employees' mental health, a research was conducted under the name of “general health, stress associated to the work and job satisfaction of the Hormozgan Cement Factory employees in Iran”. General health is the full ability of human to play social, mental and physical roles. Job stress is a status resulting from an adapted reaction against job events and incentives which sometime impose heavy mental load on an individual and can produce physical and mental diseases. Job satisfaction is an emotional pleasant and positive status which is resulting from the job assessment or job experience of an individual (Saatchi, 2008). Different studies on job satisfaction show that organizational, environmental, individual factors and the nature of work are related to the variable. Hakman and Oldham (1980) consider that factors such as meaningfulness of work,
responsibility for work outputs, and awareness of the real results of working activities are effective in the increase of job satisfaction.

1.1. Background
Lazarus (1981) believed the effects of the dramatic events of life have been overestimated and that daily challenges which are more frequent but irritating everyday transaction may play a greater role in stress creation. He found that major events do have some long-term effects, but in the short term, hassles seem to have a stronger impact on mental and physical health. In the field of job satisfaction, motivation-hygiene theory is related to orthodox job enrichment primarily insofar as the two incorporate certain overlapping concepts (Herzberg, Mausner and Snyderman, 1959). According to the theory, job satisfaction is an outgrowth of five intrinsic aspects of the work, the motivators (achievement, verbal recognition, the challenge of the work itself, responsibility, and opportunity for advancement and promotion). When they are present in a job, a person’s basic needs for personal growth and self-actualization will be satisfied. Positive feelings and improved performance will result. Opportunity for growth is also treated as a motivator, although this category lacks support in the original theoretical research. Job satisfaction is said resulting from a completely different set of factors, which characterize the context in which work is performed. Primary among these factors, which are called: company policies and administrative practices, technical quality of supervision, interpersonal relations, especially with supervisors, physical working conditions, job security, benefits and salary. Hygiene can serve to remove dissatisfaction and improve performance to a point, but beyond that, improving them does nothing. Instead, to elicit strongly positive feeling and high levels of performance, it is necessary to concentrate on motivators (Miner, 1992).

There is a direct relationship between stress provoking factors and frequency of mental-physical disorders among employees (Ahola et al, 2009). Mahdad (2002) and Saatchi (2008) declared that mental health problem of employees was the main hazard for organizational productivity in Iran. Shields (2006) studied on stress and depression in the employed population. Women reported higher levels of job strain and general day-to-day stress. When the various sources of stress were considered simultaneously, along with other possible confounders, for both sexes, high levels of general day-to-day stress and low levels of Co-workers support were associated with higher odds of depression, as was high job strain for men. Haslam and others (2005) concluded that anxiety and depression were associated with impaired work performance and safety. Boya et al (2008) showed that qualitative and quantitative job insecurity significantly affected perceived anxiety and depression levels in nurses working in private hospitals in Izmir, Turkey. Takada and others (2009) found that lifestyle factors and working environment associated with depressive symptoms were exposed to high job stress, problem drinking, a feeling of insufficient sleep, absence of confidence, and no use of stress relation techniques in both sexes' employees in Japan. Stoetzer and others (2009) declared that problematic interpersonal relationship at work can be determinants of depression in Swedish employees. Date et al (2009) showed that long working hours per day were significantly associated with high CES-D score and found that older age (30-49 yr) was marginally associated with high CES-D score in Chinese factory workers in Japan. Wieelaw and others (2008) concluded that psychological work exposures related to the risk of depressive and anxiety disorders differ as between the sexes in Danish work force.

Research objective was to study the general health, stress resulting from work and job satisfaction of the employees of Hormozgan Cement Factory. The main hypotheses of this research were that general health of the employees of Hormozgan Cement Factory is poor (H1). Job stress of the employees of Hormozgan Cement Factory is at a high level (H2). Job satisfaction of the employees of Hormozgan Cement factory is at a low level (H3).

2. Method
2.1. Data
This research was a quasi-experimental which had performed with a design of pre-test and post-test without control group. Statistical community included all (750) employees of Hormozgan Cement Factory in the second six months of the year 2010. 120 employees who worked in different parts of Hormozgan Cement Factory in the above mentioned time were randomly selected out of 750 employees.
2.2. Tools

1. **Questionnaire of Personal-Occupational Information:** This questionnaire was consisted of 14 questions.

2. **Questionnaire of General Health (Goldberg, 1972, 60 questions):** Cronbach’s Alpha coefficient of this questionnaire was estimated 0.96 and its validity through test- retest was 0.90. Its reliability was calculated through factor analysis with four sub-scales (Tabatabaei, 2003 and Goldberg, 1972). In the present research, Cronbach’s Alpha coefficient was 0.73 and its reliability was confirmed by five psychometrics.

3. **Questionnaire of Job Stress and Its Sources (Davis et al, 1991, 20-Questions Stress Symptoms and 50-Questions Stress Sources Forms):** The validity co-efficient of both questionnaires were calculated by Cronbach’s Alpha which for the job stress was 0.86 and for sources of job stress was 0.92. Its reliability was confirmed by a few psychometrics(Davis et al,1991 in Jahed Bozorgan).

4. **Questionnaire of Job Satisfaction (Smith et al, 1969, JDI):** This questionnaire included six sub-scales. Its validity by using coefficient of Cronbach’s Alpha was 0.83 and its reliability confirmed by some of the psychometrics. Each tested case in these questionnaires were given a total score.

2.3. Psychological Trainings and Motivational Models: It included social and life skills, control of anger, increasing self-confidence and stress management. Besides, in some cases job enrichment and enlargement were used. They were performed totally for 24 sessions (2 hours).

2.4. Statistical Method: Descriptive statistics and t-test were used.

3. Results

The majority of sample group (40.8%) were at the age range of 36-40 years, 94.3% men, 76.4% married, 44.5% with a high school diploma degree, 50% with working experience of 10-15 years, 44.7% skilled worker, 61.3% shift-based worker, 65.7% day workers and 34.3% night workers.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mode</th>
<th>Median</th>
<th>Mean</th>
<th>RV</th>
<th>V</th>
<th>SD</th>
<th>SE</th>
<th>SK</th>
<th>KU</th>
</tr>
</thead>
<tbody>
<tr>
<td>General health</td>
<td>194</td>
<td>200</td>
<td>194.94</td>
<td>104</td>
<td>43.15</td>
<td>20.93</td>
<td>1.91</td>
<td>-0.8</td>
<td>0.95</td>
</tr>
<tr>
<td>Stress resulting of work</td>
<td>29</td>
<td>36</td>
<td>38.58</td>
<td>55</td>
<td>164.78</td>
<td>12.83</td>
<td>1.17</td>
<td>0.65</td>
<td>-0.27</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>217</td>
<td>195.50</td>
<td>174</td>
<td>192.60</td>
<td>129.21</td>
<td>35.06</td>
<td>3.20</td>
<td>0.70</td>
<td>0.55</td>
</tr>
</tbody>
</table>

Table No. 1 showed that there was a slight difference among mode, median and mean, since the rate of slanting index and draw index was less than figure 1, so it could be said that the above distribution, had the assumption of being normal and mean could be used as the representative of the index of central inclination and also the models of parametric statistics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>TM</th>
<th>EM</th>
<th>t</th>
<th>Fd</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>General health</td>
<td>112.28</td>
<td>194.94</td>
<td>43.25</td>
<td>119</td>
<td>0.001</td>
</tr>
<tr>
<td>Stress associated to the work</td>
<td>50.06</td>
<td>38.58</td>
<td>-9.79</td>
<td>119</td>
<td>0.001</td>
</tr>
</tbody>
</table>
Table No. 2 revealed that there was a significant difference ($\alpha=0.01$) between the experimental mean and theoretical mean in general health, stress associated to the work and job satisfaction. The general health and job satisfaction of employees were higher than average level and stress associated to the work was lower than average level.

<table>
<thead>
<tr>
<th>Time</th>
<th>M</th>
<th>SD</th>
<th>T</th>
<th>fd</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>38.58</td>
<td>12.83</td>
<td>-7.03</td>
<td>119</td>
<td>0.001</td>
</tr>
<tr>
<td>Post-test</td>
<td>49.31</td>
<td>14.40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table No. 3 showed that there was a significant difference between the mean of stress associated to the work of employees before and after psychological trainings. After psychological trainings the rate of employee's job stress (49.31) had increased and was closer to the average level (50.06).

4. Discussion
The results of present research were in conformity with the results of researches of Mahdad (2002) and Saatchi (2008) in relation to the mental health of employees and productivity. In addition, the findings of this research were in conformity with the findings of Ahola (2009) on job stress provoking factors, Shields (2006) regarding stress and depression among employed people, Haslam and others (2005), Boya et al (2008), Takada and others (2009), Stoetzer and others (2009), Date et al (2009) and Wieelaw and others (2008) on depression and anxiety of employees and their relationship with job stress, impaired work performance, safety, lifestyle factors, working environment, problematic interpersonal relationship at work, long working hours per day and finally psychological work exposures.

Employee's general health mean was higher than theoretical mean. Employee's stress mean was lower than theoretical mean which was not ideal from psychological point of view. It means that stress at the average level for conducting daily living activities (either personal or job life) is necessary. The low rate of stress can also show the shortage of motivation and interest in work among employees. So, after conducting some of the psychological trainings and motivational models for employees at workplace, the rate of job stress of employees was measured and its rate was increased by the average level. Employee's job satisfaction mean was higher than theoretical mean. This indicated that their job satisfaction was related to the environmental factors (health factors). In fact, workers were satisfied regarding environmental factors (health factors) such as organizational policies and procedures, relationship with supervisors and colleagues, salary and allowances, job promotion and work conditions.

Considering the observance of standards related to industrial safety and occupational health in this factory, relatively suitable salary and allowances, delegation of responsibilities to qualified individuals, etc., all made employees job satisfaction in the above mentioned dimensions (Herzberg and others, 1959). All above factors were related to the remaining employees in their jobs and their job satisfaction did not mean that they were not unhappy but it showed they did not leave their jobs and remained in their posts. In fact, the results indicated that the workers were dissatisfied regarding individual factors (motivational factors). The evidence for this issue, was the results of performing the questionnaires of job stress which clearly showed the job stress of employees was lower than average. In order to increase the employee's job stress to the average level, psychological trainings and motivational models were presented to them, so that their job stress was increased after these trainings. Such trainings recommended to the employees with job stress.
Acknowledgment
We would like to express our thanks to the respectable officials and employees of Hormozgan Cement Factory.

References