JOURNAL OF FOREST SCIENCE, *63*, 2017 (2): 70–74

doi: 10.17221/111/2015-JFS

Prevalence of burnout among forest workers in Mazandaran, Iran

*Majid LOTFALIAN[1], Fatemeh SHEIKHMOONESI[2], Mahbobeh SABZI[1], Mahbobeh ABASPOUR[1], Saba PEYROV[1]**

[1]*Department of Forestry, Faculty of Natural Resources, Sari University of Agricultural Sciences and Natural Resources, Sari, Iran*

[2]*Psychiatry and Behavioral Sciences Research Center, Mazandaran University of Medical Sciences, Sari, Iran*

**Corresponding author: peyrovsaba@gmail.com*

Abstract

Lotfalian M., Sheikhmoonesi F., Sabzi M., Abaspour M., Peyrov S. (2017): Prevalence of burnout among forest workers in Mazandaran, Iran. J. For. Sci., 63: 70–74.

Burnout imposes consequences and costs on the organization and employees, such as frequent job and workplace replacement, frequent absenteeism and permissions, and reduced work quantity and quality. So it seems necessary to perform institutional interventions to reduce the staff burnout. The aim of the present study was to determine prevalence of burnout among forest workers in Mazandaran. This descriptive cross-sectional study was conducted on a sample of workers in the forests of Mazandaran province. Result showed that a significant proportion of workers had burnout in terms of the three dimensions of Maslach Burnout Inventory. 46.90% of respondents suffered from high emotional exhaustion, 43.36% had high depersonalization and 49.56% of respondents suffered from low personal accomplishment. In this study it was shown that people with bachelor or higher degree (compared to people with a lower education level) were in better conditions in terms of all three dimensions of burnout; they had higher personal accomplishment and higher emotional exhaustion and lower depersonalization. It was shown that burnout is highly prevalent among chainsaw operators and skidder drivers.

Keywords: Maslach Burnout Inventory; emotional exhaustion; personal accomplishment; psychological stress

Burnout is a syndrome characterized by emotional exhaustion that results in depersonalization and decreased personal accomplishment at work (Kinnunen, Hätiner 2002). Burnout is a serious syndrome related to the job resulting from long-term exposure to occupational stressors that lead to an extensive psychological stress. The most common definition of burnout was presented by Maslach and Leiter (2008) that includes three components: emotional exhaustion, depersonalization, and reduced personal accomplishment. The main symptom of burnout is emotional exhaustion that appears as feeling under pressure and depletion of emotional resources of the person. Depersonalization appears as apathy and negative attitudes to people who are recipients of services and reduced personal accomplishment is characterized by the loss of a sense of competence and negative evaluations of oneself related to work.

Some of the factors in the workplace predispose the forest workers to burnout, including work overload, conflict and confusion in the workplace, unpredictability of work and lack of social cooperation and support (Schaufeli et al. 2004; Borritz et al. 2005; Kristensen et al. 2005). Researches have shown that burnout is associated with mental disorders and physical illnesses (Ahola, Hakonen 2007). In longitudinal studies, it has been found that

burnout is linked to myocardial infarction (Appels, Schouten 1991), depression (Ahola, Hakonen 2007) and increased absence of the staff from work due to illness (Borritz et al. 2006). On the other hand, chronic diseases are considered to be the main causes of burnout. Workers suffering from depression and heart diseases and other chronic diseases are reported to have higher rates of fatigue and emotional exhaustion (Donders et al. 2007). Some occupations in the forestry sector are among the difficult and stressful occupations, and occupational accidents and related diseases as well as premature disability have been reported in these occupations in several studies (Gandaseca, Yoshimura 2001; Yoshimura, Acar 2004).

Most studies performed on the forest workers are related to physical and job-related illnesses as well as safety issue. In a study Lotfalian et al. (2012) assessed the mental health in stressful jobs including skidder drivers and chainsaw operators in the forestry sector and they compared these results with a control group which showed a significant difference between the two groups. According to this study, mental health in stressful jobs was found to be lower than in the control group ($P < 0.001$) (Lotfalian et al. 2012).

The main objective of this study is to evaluate the extent of burnout in workers working in the forests of Mazandaran area, Iran, in 2012. By collecting data in this field and reporting this information one can improve working conditions and promote workers' health by relevant organizations and executives of forestry plans.

MATERIAL AND METHODS

Study area. This was a descriptive study. The statistical population included all employees in the forests of Mazandaran wood and paper as well as Neka-Chob companies in northern Iran. A number of 120 persons from this population were randomly selected and studied. The target population was categorized into four groups according to occupational groups and at least 30 samples were examined from each group. These four groups included skidder operators, chainsaw operators and administrative staff and workers in other forest-related parts.

Research methodology. Maslach and Leiter (2008) questionnaire is known as a gold standard evaluation tool for measuring occupational burnout. Questionnaires were distributed among people of the mentioned groups by research associates and the aim of the study was explained to them, then questionnaires were filled out if these people were inclined to participate in the study. All questionnaires were nameless and the people were assured that their personal information would remain confidential.

Maslach Burnout Inventory (MBI) consists of 22 items: emotional exhaustion (nine items), depersonalization (five items) and personal accomplishment (eight items). Each item can be answered on a 7-point Likert scale ranging from "never" (= 0) to "daily" (= 6). The sub-score obtained in each of the three aspects is classified in low, medium or high classes based on the reference score (Maslach, Leiter 2008). The high scores in emotional exhaustion and depersonalization and low scores in personal accomplishment indicate burnout.

Maslach and Jackson (1981) reported internal reliability of the questionnaire ranging from 0.71 to 0.90 and internal reliability of subscales of emotional exhaustion, depersonalization, and personal accomplishment as $r = 0.90$, $r = 0.79$ and $r = 0.71$, respectively.

In this study the Persian version of the tool was used. The questionnaire was translated into Persian by Filian (1993) and its reliability and validity were confirmed. Data from the completed questionnaires were analysed using SPSS (Version 20, 2015) and descriptive statistics (mean, median and standard deviation) and one-way ANOVA.

RESULTS

Of the 120 questionnaires distributed, 113 questionnaires were fully completed. The response percent was 94.16%. The mean age of the subjects (respondents) was 18.8 years (SD = 8.18). Age classes of 20–30, 31–40, 41–50, and more than 51 years of people over 51 years constituted 23.89, 32.74, 38.05, and 5.32% of the total population. Most people had diploma and associate degree level of education with the contractual employment. Table 1 shows the frequency of the three dimensions of burnout in terms of demographic variables in the study group.

Average scores of burnout for emotional exhaustion, depersonalization and personal accomplishment were 29.19, 10.59 and 31.57, respectively. The results of this study indicate that the mean scores for emotional exhaustion and depersonalization are moderate and for personal accomplishment they are low compared to the reference score (Maslach, Leiter 2008) (Table 2).

The results showed that 46.90% of respondents reported high emotional exhaustion, 43.36% re-

Table 1. The frequency of the three components of burnout according to demographic variables

Variables	Frequency	Percentage	High emotional exhaustion ≥ 30 (%)	High depersonalization ≤ 12 (%)	Low personal accomplishment < 34 (%)
Age					
20–30	27	23.89	11 (40.74)	9 (33.33)	12 (18.19)
31–40	37	32.74	16 (43.24)	17 (45.95)	18 (48.65)
41–50	43	38.05	22 (51.16)	20 (46.51)	23 (53.49)
> 50	6	5.32	4 (66.67)	3 (50.00)	2 (33.33)
Education					
Elementary	18	15.94	12 (66.67)	10 (55.56)	10 (33.33)
Middle and high school	25	22.12	15 (60.00)	15 (60.00)	18 (33.33)
Diploma and Associate Degree	57	50.44	25 (43.86)	23 (40.35)	28 (33.33)
Bachelor and Master of Science	13	11.50	1 (7.69)	1 (7.69)	0
Employment status					
Daily wage and a company	12	10.62	4 (33.33)	2 (16.67)	4 (33.33)
Contractor	55	48.67	29 (52.73)	28 (50.91)	30 (54.54)
Official and contractual	46	40.71	30 (43.48)	19 (41.30)	22 (47.83)
Total	113	100	53 (46.90)	49 (43.36)	56 (49.56)

Table 2. The mean scores of the three components of burnout

Dimensions of burnout	Mean	SD
Emotional exhaustion	29.19	15.71
Depersonalization	10.51	8.37
Personal accomplishment	31.57	12.93

SD – standard deviation

ported high depersonalization and 49.56% of respondents reported low personal accomplishment and totally 34 respondents (30.09%) were reported to have high emotional exhaustion, high depersonalization and low personal accomplishment simultaneously that were characterized by burnout according to Maslach and Leiter (2008) definition. Table 3 shows the frequency of the different components in varying scores (low, medium and high). One-way ANOVA was used to compare different dimensions of burnout in different age, education and employment groups.

Table 3. Frequency of different components of burnout

Component of burnout	Class	Frequency (%)
Emotional exhaustion	low (< 18)	31 (27.43)
	medium (19–29)	29 (25.67)
	high (≥ 30)	53 (46.90)
Depersonalization	low (< 6)	38 (33.63)
	medium (6–11)	26 (23.01)
	high (≥ 12)	49 (43.36)
Personal accomplishment	low (< 34)	56 (49.56)
	medium (34–39)	25 (22.12)
	high (≥ 40)	32 (28.32)

Data analysis showed that emotional exhaustion in people with bachelor or higher degree was significantly lower than in other people ($P > 0.01$, $F = 74.5$). Personal accomplishment was significantly higher in people with bachelor or higher degree compared to other degrees ($P > 0.01$, $F = 74.5$). Depersonalization was significantly lower in people with bachelor or higher degree compared to other degrees ($P > 0.05$, $F = 2.3$). There was no significant difference between different dimensions of burnout (emotional exhaustion, depersonalization and personal in accomplishment) in groups with different employment conditions as well as different age groups.

DISCUSSION AND CONCLUSIONS

Interest in the psychological status of employees is not a new issue. In recent decades, occupational stress and its consequences have been increasingly studied; among these studies are the effects of job stress and burnout on psychosomatic diseases and occupational stress prevalence in a large scale of the society. In this regard it should be noted that occupational stress is an inevitable phenomenon in the job space. Some jobs are connected with much stress because of the specific duties and responsibilities. In a previous study, it is showed that when a person is exposed to prolonged and persistent mental pressure and is not able to adapt to the environment, he (she) will suffer from burnout (Inzlicht et al. 2006). Investigations of burnout conducted in the country have mostly focused on the hospital staff; however, it is necessary to study burnout in other stressful jobs. This descriptive cross-sec-

tional study conducted on a sample of workers in the forests of Mazandaran province showed that a significant proportion of workers had burnout in terms of the three dimensions of MBI. 46.90% of respondents suffered from high emotional exhaustion, 43.36% had high depersonalization and 49.56% of respondents suffered from low personal accomplishment. In this study it was shown that people with bachelor or higher degree (compared to people with a lower education level) were in better conditions in terms of all three dimensions of burnout; they had higher personal accomplishment and higher emotional exhaustion and lower depersonalization. This finding is consistent with studies of Soleimani et al. (2005) and Esfandiari (2007). As previously mentioned, the majority of studies performed on burnout have mainly focused on the nurses; in these mentioned studies, high emotional exhaustion (20–35%), high depersonalization (4 to 23%) and low personal accomplishment (9–28%) have been reported based on the MBI (Filian 1993; Soleimani et al. 2005; Esfandiari 2007). However, the present study shows that workers in high stress jobs of forest such as chainsaw operators and skidder operators experience much higher emotional exhaustion and depersonalization even in comparison with a stressful job like nursing. However, comparison of the results is difficult due to significant differences between the samples in terms of different occupational and demographic variables. In the study of Ahola et al. (2009) in Finland, the Finnish forest workers were evaluated for eight years, and results showed that 39% of them suffered from burnout. In the present study, 30.09% of respondents suffered from burnout. However, one difference between our study and the study of Ahola et al. (2009) was that in the present study a cross-sectional study was conducted. Ahola et al. (2009) conducted a longitudinal study of burnout that is more accurate compared to our study, while in Iran unfortunately no such data are available. Numerous studies have reported a contradictory relationship between age and job burnout (Esfandiari 2007; Ahola et al. 2009), but Ahola et al. (2009) reported that there is a relationship between age and burnout. In the present study, emotional exhaustion in the age group of more than 51 years was 66.67% and higher than in people younger than 30 years (40.74%), and also depersonalization in the age group of more than 51 years was 50%, again higher than in the age group of less than 30 years (33.33%), although the difference was not statistically significant. One of the limitations of our study was that our statistical population was relatively small comprising only the men, in particular, these jobs are difficult and masculine, and so there was no opportunity to examine burnout in terms of the gender. Studies have shown that burnout results in many consequences and costs imposed on the organization and employees, such as frequent job and workplace replacement, frequent absenteeism and permissions, and reduced work quantity and quality (Soleimani et al. 2005), so it seems necessary to perform institutional interventions to reduce staff burnout. These interventions can be job supports, reduced job conflicts and increased people's control over job events.

Refrences

Ahola K., Hakonen J. (2007): Job strain, burnout and depressive symptom: A prospective study among dentists. Journal of Affective Disorders, 104: 103–110.

Ahola K., Toppinen-Tanner S., Huuhtanen P., Koskinen A., Väänänen A. (2009): Occupational burnout and chronic work disability: An eight-year cohort study on pensioning among Finnish forest industry workers. Journal of Affective Disorder, 115: 150–159.

Appels A., Schouten E. (1991): Burnout as a risk factor for coronary heart disease. Journal of Behavioral Medicine, 17: 53–59.

Borritz M., Rugulies R., Christensen K.B., Villadsen E., Kristensen T. (2006): Burnout as a predictor of self-reported sickness absence among human service workers. Journal of Occupational and Environmental Medicine, 63: 98–106.

Borritz M., Bültmann U., Rugulies R., Christersen K.B., Villadsen E., Kristensen T. (2005): Psychological work characteristics as predictors for burnout: Findings from 3-year follow up of the PUMA study. Journal of Occupational and Environmental Medicine, 47: 1015-1025.

Donders N.C.G.M., Roskes K., Vander Gulden J.W.J. (2007): Fatigue, emotional exhaustion and perceived health complaints associated with work-related characteristics in employees with and without chronic diseases. International Archives of Occupational and Environmental Health, 80: 577–587.

Esfandiari G.R. (2007): Survey of the rate of occupational burnout between nursing staff of Sanandaj hospitals affiliated to Kurdestan University of Medical Sciences in 2007. Scientific Journal of Kurdestan University of Medical Sciences, 6: 31–35. (in Persian)

Filian E. (1993): Evaluation of burnout and its correlation with coping mechanisms in nurses of educational hospitals of Tehran. [Ph.D. Thesis.] Tehran, Tehran University of Medical Sciences: 45. (in Persian)

Gandaseca S., Yoshimura T. (2001): Occupational safety, health and living conditions of forestry workers in Indonesia. Journal of Forest Research, 6: 281–285.

Inzlicht M., Aronson J., Good C., McKay L. (2006): A particular resiliency to threatening environments. Journal of Experimental Social Psychology, 42: 323–336.

Kinnunen U., Hätiner M. (2002): Job burnout from a developmental perspective. Journal of Psychological Perspective, 37: 274–281.

Kristensen T.S., Borritz M., Villadsen E., Christensen K.B. (2005): The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. Work & Stress: An International Journal of Work, Health & Organisations, 19: 192–207.

Lotfalian M., Emadian S.F., RiahiFar N., Salimi M., Sheikh Moonesi F. (2012): Occupational stress impact on mental health status of forest workers. Middle-east Journal of Scientific Research, 11: 1361–1365.

Maslach C., Jackson S.E. (1981): The measurement of experienced burnout. Journal of Organizational Behavior, 2: 99–113.

Maslach C., Leiter M.P. (2008): Early predictors of job burnout and engagement. Journal of Applied Psychology, 93: 498–512.

Schaufeli W.B., Bakker A.B. (2004): Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. Journal of Organizational Behavior, 25: 293–315.

Soleimani K., Sharifi V., Tehrani Doost M. (2005): Job burnout in medical staff of Roozbeh Psychiatric Hospital. Journal of Advances in Cognitive Science, 7: 36–42.

Yoshimura T., Acar H.H. (2004): Occupational safety and health conditions of forestry workers in Turkey. Journal of Forest Research, 9: 225–232.

Received for publication December 6, 2015
Accepted after corrections December 7, 2016