Burnout Predicts Health Behaviors in Ambulance Workers

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Abstract: *Introduction*: Ambulance workers report higher levels of burnout compared to other health professionals which puts them at risk for a variety of health problems. Despite the evidence about the link between burnout and worsened health, it is still not known whether this relationship is a direct one or mediated by health behaviours. The purpose of the article is to examine the association between burnout and health behaviours in ambulance workers.

Materials and Methodology: 347 ambulance workers participated in this cross-sectional study. A series of multiple regression models were tested to examine the associations of burnout to eating and exercise behaviour, smoking, and drinking, controlling for age, working experience, caseload, and social support.

Results: Burnout and workload positively predicted consumption of fast-food meals per week while burnout was the only predictor of reduced weekly exercise. Burnout and workload positively predicted frequency of social drinking while burnout was the sole predictor of the quantity of drink-units consumed socially. Social support predicted frequency and quantity of drinking at home.

Discussion: This study shows that burnout is related to unhealthy eating, reduced exercise behavior and excessive drinking among ambulance workers. In addition it highlights the fact that alcohol consumption in different settings is related to different needs. The implications of these findings for the healthcare sector are discussed.

Keywords: Health behaviors, ambulance workers, burnout.

INTRODUCTION

Occupational stress and in specific, job burnout, a particular type of prolonged job stress has been linked to cardiovascular problems, psychosomatic complaints, and increased vulnerability to infectious diseases [1]. There is increasing evidence that burnout levels among ambulance personnel rank among the highest in health professionals [2]. Consequently ambulance workers are at high risk of developing health problems associated with burnout. Ambulance workers report more frequently lower back pain problems, stomach problems, headaches and sleeping problems in comparison with other occupational populations [3-4]. They also retire earlier in comparison with the general working population and other health professionals [5]. This high rate of early retirement has been linked to mental disorders, and alcohol-dependency problems [6].

However, very few studies have examined whether the reported association between burnout and health is a direct one or it is moderated by health behaviors, such as smoking, drinking, unhealthy eating or exercising [7, 8]. Even fewer studies have examined the association of burnout to health behaviors in ambulance personnel [9].

The purpose of the present study was to examine the association between burnout and health behaviors in a sample of ambulance workers. Health behaviors were categorized into high-risk behaviors, such as smoking or drinking, and protective behaviors, such as exercising or having breakfast. Based on previous studies among health professionals indicating that burnout decreases with age and working experience, while it increases with increased workload, age working experience, and workload, were examined as potential confounders [10, 11]. In addition previous studies have shown that people with high levels of social support engage in health-protective behaviors [12]. Therefore the potential confounding role of social support was also examined in the study.

MATERIALS AND METHODOLOGY

Participants

A self-administered questionnaire together with an invitation letter and information about the study were sent to all ambulance workers registered in the ambulance service in North Greece. The final sample consisted of 347 ambulance workers, representing a response rate of 62%. Participants were 57% male, with an average age of 33.8 (SD=5.9) years. They worked for an average of 5.8 (SD= 6.6.) years in the ambulance service, and for 42 hours per week (SD= 8). 57% of participants were married or lived together with their partner.

Materials

Burnout was assessed using the Maslach Burnout Inventory (MBI) [13]. This scale has been previously validated

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and used with Greek health care professionals [14]. In this study only the total score of burnout was used (α=0.85). Health behaviors were assessed with a questionnaire constructed for the purposes of the study assessing protective health behaviors, and high-risk behaviors. High-risk behaviors included drinking (frequency of drinking socially, and at home, drink-units consumed socially and at home), smoking (cigarettes per day), and unhealthy eating (fast food meals per week). Protective behaviors included exercise (hours of exercise per week), healthy eating (breakfasts per week, number of meals per day). Social support was assessed with the social support sub-scale of the Leiden Screening Questionnaire [15]. It assesses three types of social support (emotional, practical, informational) from different providers (spouse, friends, colleagues etc); e.g. "To what extent can you rely in each of the following persons every time you have emotional problems". The internal consistency coefficient for the sample of this study was: α=.79. Workload was assessed by the mean working hours per week, while caseload was assessed by the mean number of cases per week. In addition the total months of working experience was assessed. Participants received the questionnaire together with a return envelope. They were instructed to return the questionnaire by post without any information on the sender. Ethical approval for the survey was obtained from the Ethics Committee of the Medical School of Aristotle University of Thessaloniki.

Analysis

Bivariate analyses were initially conducted to examine the associations between burnout and health behaviours. Secondly, in order to examine the role of burnout controlling for age, social support, working experience, caseload, and working hours per week, a hierarchical multiple regression model was tested for each health behavior that was shown to be significantly associated with burnout. Age, workload, working experience were entered in the first step, while burnout and social support were entered in the second step.

RESULTS

The mean score for burnout was 37.21 (SD=11.8, range: 4-62). The mean score for social support was 17.4 (SD=4.4, range: 10-27). The mean number of cigarettes smoked per day was 1.5 (SD=1.9). Participants consumed fast food on average twice per week (SD=1.2), had breakfast on average three times per week (SD=2.2), and exercised on average 1.8

(SD=1.9) hours per week. They consumed alcohol socially on average 5.9 times per week (SD=2.1) and consumed on average 1.5 drink units (SD=0.5) per time. Finally, they consumed alcohol at home on average 4.2 times per week (SD=2.3) with an average number of 1.3 drink units (SD=0.5) per time.

Table **1** shows the standardized beta coefficients for the independent predictors of health behaviours.

Results showed that burnout and workload positively predicted fast-food meals per week ($R^2 = .42$, $\Delta R^2 = .22$, F=.251, p <.05), while burnout was the only predictor of weekly exercise ($R^2 = .27$, $\Delta R^2 .25$, F=.532, p <.01). Burnout and workload positively predicted frequency of social drinking ($R^2 = .39$, $\Delta R^2 .19$, F=.245, p <.05) while burnout was the only predictor of the quantity of drink-units consumed socially ($R^2 = .35$, $\Delta R^2 .33$, F=.577, p <.01). Alternatively, frequency of drinking at home, and number of drinks consumed at home were negatively predicted by social support ($R^2 = .29$).

DISCUSSION

This study showed that burnout was related to increased consumption of unhealthy food, and reduced exercise behavior in ambulance workers. Burnout also positively predicted frequency and quantity of drinking in social occasions. The more that ambulance workers experienced job burnout, the more they tended to drink socially. On the contrary, frequency of drinking and quantity of drink-units consumed at home were predicted by social support. The less supported participants felt from their social network, the more often, and the more they tended to drink at home.

Similar to our findings, Payne *et al.* found job stress to be related to less frequent exercise behavior, and higher consumption of high lipid foods in employees [16]. In contrast to our findings, the study of Sterud *et al.* did not support the notion of a strong relationship between occupational stress and alcohol use [9]. However, that study did not differentiate between alcohol use in different settings.

Findings in this study did differentiate between social drinking, and drinking at home, in terms of their underlying causes. They suggest that while burnout is implicated in social drinking, it is not related to drinking at home, whereas feeling lonely, and not-supported is. The stress-buffering effects of social support, and the link between lack of social support and alcohol use have been well established [17].

Table 1.   Standardised Beta Coefficients for Health Behaviors (N=347)

	Fast food meals per week	Frequency of social drinking per week	Frequency of drinking at home per week	Drink-units consumed socially	Drink-units consumed at home	Exercise
Burnout	.325**	.251**	-.701	.277**	-.101	-.218**
Working hours per week	.315**	.249**	.857	.135	-.008	-.115
Years of working	-.195	.141	.315	.073	-.023	.113
Age	-.113	.171	-.163	.056	-.035	.112
Social Support	.018	.098	-.276**	-.004	-.329**	.118

*p<.01 **p<.001.
Note. Health behaviors that were not related to burnout in the univariate analysis were not included in this analysis.

This finding could suggest that drinking in different settings is related to different personal or social needs. For example, burnt-out individuals are more likely to drink socially after work, while individuals low in social resources are more likely to drink alone at home. Future studies should further explore whether different stressors impact upon different drinking behaviors.

Findings of this study should be interpreted with caution due to several limitations. The study was based on a cross-sectional design, while the relatively low response rate and the "healthy worker effect" may have under-estimated the levels of burnout in the total sample. The purpose of this study was to explore associations between burnout and health behaviors, and therefore detailed diagnosis of alcohol-dependency problems was not performed. However the relationships identified in the study were controlled for several demographic and work-related factors, and corresponded to medium effect sizes. The present study tested associations between burnout and health behaviors. Future research should further examine the mediating role of health behaviors in the relationship between burnout and health outcomes.

CONCLUSION

To the best of our knowledge, this is the first study to show associations between burnout, high risk, and protective health behaviors in ambulance workers.

In the healthcare sector, high-risk behaviors are detrimental in that they influence occupational performance, well being at work and quality of care provided to the patient. Occupational health services should target the early detection of such behaviors, as well the development of interventions including the assessment of work conditions and management of work-related stress and burnout.

KEYPOINTS

- Burnout is related to unhealthy eating and reduced exercise behavior in ambulance workers

- Burnout is related to excessive social drinking in ambulance workers

- Lack of social support is related to excessive drinking at home in ambulance workers

- Occupational health services should the development of interventions including the assessment and management of work-related stress and burnout.

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