

Prevalence of Burnout Syndrome and Associated Factors Among Rural Health Workers (*Behvarzes*) in South Khorasan

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Abstract

Background: Essential primary health care is delivered through the public health center PHC network by public health workers (*Behvarzes*). Health workers are exposed to different types of stresses while working.

Objectives: The aim of this study is to determine the prevalence of burnout and associated factors among rural health workers in the health centers of Birjand University of Medical Sciences.

Patients and Methods: All rural health workers of health centers under the coverage of the Birjand University of Medical Sciences selected through census sampling participated in this cross-sectional study. The Maslach Burnout Inventory, GHQ-12 questionnaire, and demographic questionnaire were completed by the participants. Data were analyzed by SPSS 15 using descriptive statistics, chi-square (χ^2), t-test, and ANOVA test.

Results: A total of 423 health workers participated in this study, and their mean age was 39 ± 8.4 years. Among the participants, 34.5% had moderate to severe levels of burnout. About 31.4% of the subjects had abnormal scores in emotional exhaustion, 16.8% in depersonalization, and 47% in the personal accomplishment subscales. The rate of abnormal mental health among the participants was 36.68%. The prevalence of mental disorders was 24.5% in subjects with low burnout or without burnout against 60.4% of subjects with moderate or severe burnout ($P = 0.001$). Age, education level, number of children, and years of employment were found to have a significant association with the burnout level of the participants ($P < 0.05$).

Conclusions: Burnout was prevalent among health workers. Based on the high level of burnout among health workers, reducing job ambiguity/conflict, participating in planning new programs, and improving interaction with health authorities may help them to overcome their job-related pressure and to give a more desirable performance.

Keywords: Professional Burnout, Health Personnel, Prevalence, Primary Health Care

1. Background

In the Islamic republic of Iran, primary health care is provided by community health workers (*behvarzes*) in a health house. The rural health house is the most basic unit of health service delivered to villagers of about 1500 people. This unit is governed by the community health workers known as *behvarz*. Each health house usually has two *behvarzes*, one male and one female, and it covers one main village and one or more surrounding village(s). The *behvarzes* have a pivotal role in the success of the country's public health center (PHC) networks (1).

Iran's health system has progressed dramatically after the Islamic revolution. The most rapid developments have been devoted to the Iranian version of the primary health care system with the central role of the *behvarzes* (2). The role of community health workers (CHWs) in improving access to basic healthcare services is widely recognized (3).

Some of the more important tasks of health workers well established in the health system are as follows: training the community on health matters, family health, maternal and child health care, care of school-aged children, family planning services, vaccination, visiting homes for follow-up of drop-out cases, and follow-up for infectious diseases (TB and malaria), mental health problems, and more recently other chronic illnesses such as diabetes and hypertension, environmental health activities, counseling and recording information, limited symptomatic treatment, and occupational health (4).

Health workers are exposed to different types of stresses while working. Multiplicity of tasks and the difference in their nature cause interference in their tasks and sometimes create conflicts in playing their roles and confusion in providing services, and they can create many problems for them (5).

The term burnout syndrome, which was entered into scientific texts for the first time in 1974, is a condition that has three aspects, namely, emotional exhaustion, depersonalization, and reduction of personal accomplishment (6). Professional burnout results from prolonged exposure to chronic, job-related stressors (7). Vocational burnout is a syndrome that appears with symptoms including exhaustion, frustration, anger, cynicism, and feeling of inefficiency and failure. An important element of this syndrome is its negative effect on job performance (8). Burnout can create stress-related health problems, low temperament and physical exhaustion, insomnia, adverse effect on interpersonal and family relationship, increased use of alcohol and drugs, and increased family problems (4, 9, 10). Only a few studies have been conducted on vocational burnout in health workers in Iran; these studies reported moderate to high vocational burnout among community health workers (4, 11-13).

CHWs (*behvarzes*) spend long hours providing services to referents. Therefore, identifying the factors influencing vocational burnout can be useful in improving the provision of health services.

In the past 30 years, the increasing duties of health workers seem to have imposed too much mental and physical pressure on them that they can become incapable of performing their assigned duties (4).

2. Objectives

This study aims to investigate vocational burnout, mental health, and the associated factors among rural health workers in South Khorasan.

3. Patients and Methods

3.1. Participants

All rural health workers of PHCs under the coverage of the Birjand University of Medical Sciences participated in this cross-sectional study. The census sampling method was used. A list of health workers of PHCs under the coverage of the Birjand University of Medical Sciences was requested from the department of health. All rural health workers with at least one year of work experience were included. The exclusion criteria were defect in information or absence in the workplace. A total of 425 rural health workers had at least one year of work experience. Two health workers were excluded because of defects in information. Finally, 423 questionnaires were analyzed.

This study was conducted in the Birjand, Quen, Sarayan, Ferdous, Boshrooyeh, Darmian, Sarbisheh, and Nehbandan counties in South Khorasan Province in East Iran between October 2012 and March 2013.

3.2. Instrument

This study adopted the demographic check list, Maslach Burnout Inventory (MBI), and GHQ-12 questionnaire.

The demographic check list includes items indicating the participants' background information such as age, gender, and educational status, among others.

The MBI was developed by Maslach and Jackson in 1980, and it includes 22 separate items that measure the frequency and the intensity of vocational burnout among the personnel of human services in three aspects, namely, emotional exhaustion [EE] (9 items), depersonalization [DP] (5 items), and personal accomplishment [PA] (8 items). All 22 items are scored on a seven-point scale ranging from never (0) to everyday (6). The scores can range from 0 to 54 on the EE subscale, from 0 to 30 on the DP subscale, and from 0 to 48 on the PA subscale (14). The total scores of each dimension are summed up and categorized into low, moderate, or high.

According to the primary definition by Maslach, vocational burnout is classified into high emotional exhaustion (27 and the higher), high depersonalization (10 and the higher), and low personal accomplishment (33 and the lower). High levels of EE and DP and low levels of PA indicate an increased risk of vocational burnout.

Psychological symptoms were measured by GHQ-12. In this questionnaire, any response to the items is scored 0 for the first and second options and 1 for the third and fourth level options. The final score of the questionnaire ranges from 0 to 12. Subjects with a score of equal or less than 4 ($s \leq 4$) are considered normal, and those with a score higher than 4 ($s > 4$) are considered as suspected of having a mental disorder.

3.3. Validity and Reliability

The reliability, validity, and simplicity of the instrument used for measuring the vocational burnout among Iranian health workers have been confirmed with a reliability coefficient of 86% (15). Factorial validity of the MBI was examined in Akbari's study, the findings of which confirm the appropriateness of the original three-factor model proposed by Maslach and Jackson for the Persian version of the MBI (16).

In study of French teachers, the Cronbach's alpha coefficient was 0.87 for the emotional exhaustion subscale, 0.61 for depersonalization, and 0.82 for personal accomplishment (17).

The questionnaire has been frequently assessed and confirmed to have a reliability of over 90% by Iranian researchers (14).

According to Montazeri, the Iranian version of the GHQ-12 is a reliable and valid instrument that can be used

for measuring psychological well-being in Iran ($\alpha = 0.87$) (18).

3.4. Ethical Considerations

The study was approved by the institutional review board of the deputy of research technology of the Birjand University of Medical Sciences (code 602 dated 1/8/2011). Confidentiality of personal information and informed consent were obtained in this study. None of the authors had any conflict of interests.

3.5. Data Analysis

Data were analyzed by SPSS for Windows version 15.0. The one-sample Kolmogorov-Smirnov test was used to evaluate the distribution of continuous variables. GHQ-12, EE, DP, and PA had no normal distribution. The univariate analysis between categorical variables was assessed by the chi-square test. The association between overall burnout status and some nominal variables, such as sex, age group, marital status (single/ married), level of education, and number of children (0 - 3 and ≥ 3), was assessed by the chi-square test.

A high score on the subscales of EE and DP and a low score on the PA scale reflect severe burnout. *Behvarzes* with a high score on either the EE or DP subscale were considered to have a moderate degree of burnout. We divided the subjects into two groups of severe and moderate burnout.

4. Results

A total of 423 *behvarzes* working in health houses in the villages of South Khorasan province participated in this study. The participants' mean age was 39 ± 8.4 years, with a minimum age of 20 years and a maximum of 58 years. Most of the participants were in the age group of 30 - 40 years, and most of them were women (245 individuals = %57.9). The demographic characteristics of the subjects are shown in Table 1.

The mean years of employment were 16.6 ± 8.7 (minimum of 1 year and maximum of 30 years). Among the subjects, 268 (63.2%) had normal mental health and 155 (36.8%) had a mental disorder based on the cut-off point of 4 in the GHQ-12. About 40.2% of the female and 32.2% of the male participants had mental disorders. No significant difference was found in the prevalence of mental disorders between men and women ($P = 0.09$). The mean score of general health was 3.7 ± 3.4 (median = 3) ranging from 0 to 12.

Mean score of EE was 15.4 ± 12.1 (median = 12), that of DP was 2.5 ± 4 (median = 1), and that of PA was 30.8 ± 12.3 (median = 33). About 34.5% of the subjects had a moderate-to-severe level of burnout. About 31.4% of the subjects had

Table 1. Frequency Distribution of the Demographic Characteristics of the *behvarzes*

Characteristics	Frequency (Percent)
Age group	
20 - 30	79 (18.7)
30 - 40	131 (31)
40 - 50	187 (44.2)
≥ 50	26 (6.1)
Sex	
Male	178 (42.1)
Female	245 (57.9)
Marital status	
Married	403 (95.3)
Single/Divorced	20 (4.7)
Educational level	
Pre-high school	187 (44.2)
High school graduated	236 (55.8)
Years of employment	
< 15 year	160 (37.8)
≥ 15 years	263 (62.2)
Number of children	
0 - 3	291 (72.2)
> 3	112 (27.8)
Previously visited a psychiatrist	
Yes	88 (20.8)
No	335 (79.2)

abnormal scores in the EE, 16.8% in the DP, and 47% in the PA subscales.

The prevalence of moderate-to-severe burnout in subjects with normal mental health was 21.4% and that in subject with mental disorders was 56.1%. In subjects with normal mental health, the prevalence of moderate and severe burnout was 18.8% and 2.6%, respectively (Table 2).

Among the subjects, 68 (24.5%) with low burnout or without burnout and 57 (60.4%) with moderate or severe burnout had a GHQ score > 4 and were suspected to have mental disorders.

A significant association was found between mental disorder and vocational burnout among health workers ($P = 0.001$) (Table 3).

Age, educational status, number of children, and years of employment had a significant association with vocational burnout among the subjects. Burnout was significantly higher in the 40 - 50 age group, those with a diploma education, those having more than three children, and

Table 2. Frequency Distribution of the Dimensions, Mean, and Standard Deviations of the Burnout Inventory Scales^a

Dimension	All Subjects (n = 423)	Subjects With Normal Mental Health (n = 266)
Emotional exhaustion		
Low	290 (86.6)	221 (83.1)
Moderate	58 (13.7)	28 (10.5)
High	75 (17.7)	17 (6.4)
Depersonalization		
Low	352 (83.2)	231 (86.8)
Moderate	44 (10.4)	23 (8.6)
High	27 (6.4)	12 (4.5)
Personal accomplishment		
Low	244 (53)	123 (46.2)
Moderate	77 (18.2)	49 (18.4)
High	122 (28.8)	94 (35.3)
Overall burnout		
Moderate	122 (28.8)	50 (18.8)
Severe	24 (5.7)	7 (2.6)

^aValues are expressed as No.(%).

those with more than 15 years of employment (Table 3).

Gender and marital status had no significant association with burnout among the participants.

5. Discussion

One of the main vocational problems commonly observed in the form of an organizational response to job stress among employees is vocational burnout, which indicates the reduction of an individual's adaptation to environmental stressors. As jobs that provide public health are almost unique in Iran, only a few studies have been conducted on this susceptible stratum. Moreover, these studies are limited to Iran.

In the present study, 34.5% of the subjects had vocational burnout, and 5.7% had severe vocational burnout. In the study by Malakouti et al. on public health workers under the rules of Iran University, 16.6% of the subjects had moderate-to-severe vocational burnout, and 1% of them had severe vocational burnout (4), which is less than that in our study. The frequency of job burnout among health workers in Golestan Province was 30.3% at the low level, 53.5% at the moderate level, and 16.2% at the high level (13).

In the present study, 31.4%, 16.8%, and 47% of the subjects had abnormal scores on the EE, DP, and PA subscales, respectively. Compared with those in a study on health workers in Tehran (4), the results were higher in EE and DEP and lower in PA. In comparison with the results of Quri's study, those in our study were higher in all three subscales (11).

As the rate of mental disorder among the subjects was high, the prevalence of burnout in subjects with normal mental health was calculated separately. After matching with the mental health status, the prevalence of burnout was 21.4%, which is considerable and similar to that in a study on health workers in Tehran (4).

The difference in the rate of vocational burnout and its subscales can be attributed to the differences in the geographical area and the number of subjects. As South Khorasan Province is one of the deprived provinces of the country, and its climate and geographical conditions in comparison with the western provinces are less than desirable, this study can be effective in determining the prevalence of vocational burnout among health workers. Moreover, all health workers in South Khorasan Province were analyzed, and the sample size was higher than those in other studies conducted in the country.

The rate of mental disorder among health workers in this study was 36.8%, which is higher than that of the general population of Iran (19) and Tehran University health workers (28.4%). In our study, a significant association was found between mental disorder and burnout in health workers, consistent with the study of Iran University (4).

The rates of health workers' occupational satisfaction were measured in studies conducted in Qazvin (20), Sabzevar (21), and Zahedan (22), and the obtained results indicate the moderate occupational satisfaction of health workers in Zahedan and the relatively high occupational satisfaction of health workers in Sabzevar. In another study that measured the levels of job stress among health workers in Mashhad, the overall results were reported a normal range (23).

As stress and dissatisfaction in the workplace can lead to vocational burnout, the vocational burnout prevalence is predicted to also be low in areas with low stress and high job satisfaction.

Studies have been conducted on the prevalence of vocational burnout among health personnel in other countries. For example, the mean of the obtained scores is similar to that in our study in a research conducted on personnel of health services in Brazil (24). The prevalence of burnout in clinical nurses in a hospital in Latin America was 10.1%, and 4% of the subjects had severe vocational burnout (25). The prevalence of vocational burnout in Barcelona's primary health care teams was 17.2%, and 46.2%

Table 3. Comparison of the Demographic Characteristics Between *behvarzes* with Low Burnout and Those With Moderate-to-Severe Burnout^a

Characteristics	Low Burnout	Moderate to Severe	P Value
Age group			0.001
20 - 30	65 (82.3)	14 (17.7)	
30 - 40	95 (72.5)	36 (27.5)	
40 - 50	102 (54.5)	85 (45.5)	
≥ 50	15 (57.7)	11 (42.3)	
Sex			0.18
Male	123 (65.3)	55 (30.9)	
Female	154 (62.9)	91 (37.1)	
Marital status			0.66
Married	263 (65.3)	140 (34.7)	
Single/Divorced	14 (70)	6 (30)	
Educational level			0.001
Pre-high school	106 (56.7)	81 (43.3)	
High school graduated	171 (72.5)	65 (27.5)	
Years of employment			0.001
< 15 year	129 (80.6)	31 (19.4)	
≥ 15 years	148 (56.3)	115 (43.7)	
Number of children			0.02
0 - 3	181 (67.8)	86 (32.2)	
> 3	62 (55.4)	50 (44.6)	
Previously visited a psychiatrist			0.001
Yes	41 (46.6)	47 (53.4)	
No	236 (70.4)	99 (29.6)	
GHQ12			0.001
< 4	211 (75.5)	68 (24.5)	
≥ 4	57 (39.6)	87 (60.4)	

^aValues are expressed as No. (%).

of the participants had high scores in at least one of the three aspects (subscales) of burnout (26). In a study conducted in Southeast Nigeria, 24.5% of health workers had high burnout scores (27). The prevalence of anxiety symptoms among community healthcare workers in China was 38.0% (28).

In the present study, the rate of burnout increased among health workers with the increase in age and work experience. Moreover, gender and marital status had no significant association with burnout.

This result may be related to the fact that older health workers with more work experience face much mental and physical pressures due to fatigue caused by overwork and repetitive duties that make them incapable of performing

their assigned duties.

In a study conducted in Tehran, gender and marital status had no significant association with vocational burnout (4). However, vocational burnout had a significant relationship with gender and marital status in a study conducted in East Azerbaijan (12). In a study on vocational burnout among health workers in Koohrang City, a significant association was not found between vocational burnout and gender, age, marital status, work experience, type of employment, and level of education (11). In a study conducted in Golestan Province, the intensity and frequency of burnout had a significant relationship with age, years of experience, level of education, and the place of residence (13).

The differences in the prevalence of vocational burnout and its associated factors may be due to the differences in managerial procedures in different areas, the differences in expectations of health workers, the differences in facilities and opportunities required for the promotion of individuals, the assignment of various responsibilities and overloading of health workers with duties, the lack of integrity between payments and rewards with the amount of work, the lack of positive and rewarding feedback, and the differences in the working environment.

The strengths of the current study are its high sample size (we included all *behvarzes* in South Khorasan without using sampling methods), the use of standard and valid questionnaires, the low rate of missing data because of direct supervision, and follow-up research.

Nevertheless, this study has some limitations. First, the cross-sectional design prevented the determination of causality. Second, in the method of gathering data, some questions were not clear for the *behvarzes* even if we attempted to explain them. Third, the results may not be representative of the entire health workers in Iran because of the geographical and cultural differences.

The prevalence of vocational burnout among health workers in South Khorasan is considerable. Therefore, the prevention and reduction of vocational burnout among primary health care providers is an important task of managers of the health system. Teaching of strategies for coping with stress and training life skills, providing consultations and psychology services, and creating supportive environments are some of the ways that can limit the prevalence of vocational burnout. These actions will result in increased efficiency and effectiveness of health workers, decrease their vocational burnout, and improve the overall health of society.

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Footnotes

Authors' Contribution: Bita Bijari designed the research and collaborated in writing the manuscript and statistical analysis; Ali Abbasi participated in the design, data collection, and writing of the manuscript.

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