ORIGINAL ARTICLE

The Frequency and Determining Factors of Psychiatric Symptoms in Healthcare Professionals

Serhat Tunc[1], Samet Kose[2,3]

[1]Kafkas University School of Medicine, Department of Psychiatry, Kars, Turkey
[2,3]University of Texas Medical School of Houston, TX, USA and Center for Neurobehavioral Research on Addictions, Houston, TX, USA

ABSTRACT

Objective: This study aimed to explore the psychiatric symptoms, the factors affecting their frequencies, and their relationship between perceived health status among health care professionals.

Methods: Four hundred twenty-five people (doctors, nurses, midwives, and other health personnel-technicians, auxiliary health personnel) were enrolled in this cross-sectional study. It was aimed to reach the whole universe without sampling. General Health Questionnaire (GHQ-12), the sociodemographic characteristics of the healthcare professional, perceived health status were applied. The data were evaluated by Mann-Whitney U, Student T-test, and the chi-square test in SPSS program.

Results: There was a statistically significant difference in general health questionnaire results among the nurse-midwives and those who perceived their health status as bad (respectively, p=0.015, p=0.001). There was a statistically significant difference in verbal violence exposure for the last year among the doctors and those who perceive their health status as bad, with shorter heights, and a high number of daily examined patients (respectively, p=0.001, p=0.001, p=0.010, p=0.001). There was a statistically significant difference in physical violence exposure for the last year among the doctors and with a high number of daily examined patients (respectively, p=0.035, p=0.001). In logistic regression analysis being a nurse-midwife and perceiving health status as bad were determined as risk factors for psychiatric illness in healthcare workers.

Conclusions: It can be said that the psychiatric symptoms are in high frequency and therefore constitute an important risk group for psychiatric illnesses in healthcare professionals.

Keywords: Health status, medical staffs, mental health, perception, prevention, violence

INTRODUCTION

Violence is the purposeful individual and collective actions which cause physical and mental harm to a human being by applying force and pressure (1). The violence in the health institution is defined as verbal or behavioral threat, physical or sexual assault which may pose a risk to the health worker by the patient and their relatives, or another person (2). Many studies have been conducted on the exposure of violence to healthcare workers. The common point of the findings; that the violence in the health field is much higher than the other occupations, however, reported less (3). It is reported that health workers have 4 to 16 times greater risk of exposure to violence than employees in other sectors (4). The severe events such as injuries were only perceived as violence and reported; however, others were not reported (3). Violence against healthcare workers has increased in recent years (5,6). More than 50% of health workers have been exposed to violence at any time when they are practicing their profession (7). This situation causes physicians and health workers to feel uneasy and increase their health and social problems. Mental problems come to the forefront among the increasing health problems (4,8,9).

On the other hand, the perception of health is based on the evaluation of people's health status in general, which reflects the multidimensionality of health. It is a simple, however powerful indicator that allows the person to evaluate his / her own biological, mental, and social situation (10). The perception of health status affects health behaviors and responsibility. It is essential to know how a person perceives and controls their health behaviors in order to acquire a new behavior (11).

Healthcare professionals are an important risk group for mental illnesses. The protection of the mental health of healthcare workers is as essential and priority as the patients. This study aimed to explore the psychiatric symptoms, the factors affecting their frequencies, and their relationship between perceived health status among health care professionals.

METHODS

The population of the cross-sectional study consisted of doctors, nurses, midwives, and other health personnel (technicians, auxiliary health personnel) working in the University Health Education and Research Hospital and State Hospital of Kars. It was aimed to reach the whole universe without sampling. Four hundred twenty-five people were reached from 574 personnel in total, including 274 in the university hospital and 300 in a state hospital. Twenty-seven people were on post duty leave, 23 people were on annual leave, 90 people refused to participate in the study, and nine people were assigned to another location despite the list, including their names. Data were collected from January 2019 to April 2019. Data collection form was prepared by the researchers with reviewing literature (1-12). Each participant also provided written informed consent after a full explanation of the study. The study was approved by the local Ethical Committee and was conducted according to the declaration of Helsinki. The questionnaire consisted of the sociodemographic characteristics of the healthcare professional, perceived health status, and the General Health Questionnaire-12 (GHQ-12).

GHQ-12: Developed by Goldberg and Williams. The Turkish validity and reliability study was conducted by Kilic et al. (12). GHQ-12 was used to determine the presence of general mental symptoms (depression and anxiety). GHQ-12, a 12-item form of the scale is widely preferred because it is short, has high sensitivity and specificity to differentiate cases, and can be used in various socio-cultural settings. The reliability coefficient of the scale was 0.78, and the retest coefficient was 0.84 (12). GHQ-type scoring, which is a common practice, was used to evaluate the GHQ-12 by calculating the total score by giving zero points to the first two columns and one point to the last two columns. The optimal cut-point was taken as 1/2 (12).

The dependent variables of the study were the presence of psychiatric symptoms, exposure to verbal and physical violence. The independent variables were the sociodemographic characteristics, height, weight, currently, and the total years of work in the institution, the number of daily examined patients and the perceived health status of a person.

Perceived Health Status: This marker is positioned primarily on survey questionnaires that include, in different formulations, the question: How do you assess your health? The probable responses to this question rely on some choices among the best and worse condition. The answer is assumed to reflect the person's feeling concerning the state of his health (13).

Statistical Analysis

Research data were evaluated through SPSS (Statistical Package for Social Sciences) for Windows 20.0 (SPSS Inc, Chicago, IL). The descriptive statistics were calculated as mean±standard deviation, median, frequency, and percentage. Chi-square test was used to evaluate categorical variables. The variables with homogeneous distribution were analyzed using Simple Student T-Test. The relationship between nonhomogeneous distributed groups was analyzed using the Mann-Whitney U test. Furthermore, significant independent variables according to the Mann-Whitney U test and Simple Student T-Test were analyzed with logistic regression (Backward LR) for

determining the factors affecting the frequency of mental symptoms. Statistical significance level was accepted as p<0.05 for all tests (Confidence Interval-CI: 95%).

RESULTS

The study group consisted of 425 people which include 8 (1.9%) in basic medicine, 216 (50.8%) in internal medicine, 117 (27.5%) in surgical medicine and 84 (9.8%) in other departments of hospital (The distribution of hospital staff according to the departments in which they work) (Table 1).

In Table 2, general health questionnaire results were also statistically significant in nurse-midwives and those who perceived their health status as bad (respectively, p=0.015, p=0.001). However, there was no statistically significant difference between all other independent variables and GHQ in Table 2. The rate of those who have exposed verbal violence in the last month is 44.3%. 31.9% of those who had been exposed to verbal violence in the last month have a normal GHQ, and 68.1% have impaired GHQ (Table 2).

When Table 3 is followed, there is a statistically significant difference in verbal violence exposure for the last year among the doctors compared to the other healthcare professional (p=0.001), in healthcare professionals who perceive their health status as bad compared to good, those with shorter heights compared to tall ones, and those with a high number of daily examined patients compared to less (respectively, p=0.001, p=0.010, p=0.001). Although women were more exposed to verbal violence, there was no statistically significant difference between men and women (p=0.074).

According to Table 4, there is a statistically significant difference in physical violence exposure for the last year among the doctors compared to the other healthcare professional (p=0.035), in healthcare professionals with a high number of daily examined patients compared to less (p=0.001).

When Table 5 is followed, nurses' GHQ scores are 1.838 (CI: 1.055-3.200) times higher when referring to doctors. When we take as a reference to those who perceive their health status as good in the last month, higher GHQ scores are 4.039 (CI: 2.556-6.384) times higher than those perceived as a medium, and 34.053 (GA: 8.042-144.199) times higher than those who perceive it as bad.

DISCUSSION

In this study, the frequency and the affecting factors of the psychiatric symptoms were evaluated in healthcare professionals in Kars. The prevalence of psychiatric symptoms was 57% for physicians, 73.5% for nurses and midwives, and 65.4% for other healthcare professionals in healthcare workers in Kars. It was statistically significant that the frequency of psychiatric symptoms was higher in those who perceived their health status as bad. In conclusion, it can be said that the psychiatric symptoms are in high frequency and therefore constitute an important risk group for psychiatric illnesses in healthcare professionals.

In this study, the frequency of psychiatric symptoms was found to be high in GHQ among the nurses and those who perceive their health status as bad. Exposure to verbal violence in the last year was higher in doctors compared to other healthcare personnel, in those who perceive the health status as bad compared to good, in those with shorter heights compared to tall ones, and those with a high number of daily examined patients compared to less. Exposure to physical violence in the last year was higher in doctors compared to other healthcare personnel and in those with a high number of daily examined patients compared to less. In the study, statistically significant parameters in binary analyses (Table 2, 3, and 4) were taken into multiple analyzes (Table 5). Although there was a statistically significant difference between the parameters mentioned above in binary comparisons, being a nurse and perceiving health

Table 1: Distribution of hospital staff according to their departments

	Number (%)
Basic medicine	8 (1.9)
Internal medicine	216 (50.8)
Surgery	117 (27.5)
Other	84 (9.8)

Table 2: Analysis of the relationship between sociodemographic data with Chi-square and Mann-Whitney U test when the total score of General Health Questionnaire was taken as dependent variable in healthcare professionals

Independent Variables		Dependent Variable: GHQ total score (with Chi-square analysis)				
		Normal ($\leq$1) n (%)	Impaired ($\geq$2) n (%)	*Total n (%)	χ^2	p
Gender	Female	85 (34.8)	159 (65.2)	244 (58.0)	0.471	0.493
	Male	56 (31.6)	121 (68.4)	177 (42.0)		
Occupation	Doctor	46 (43.0)	61 (57.0)	107 (25.2)	8.373	0.015
	Nurse-midwife	48 (26.5)	133 (73.5)	181 (42.7)		
	Other healthcare personnel	47 (34.6)	89 (65.4)	136 (32.1)		
Physician title	General practitioner	8 (44.4)	10 (55.6)	18 (17.1)	0.063	0.969
	Assistant doctor	13 (41.9)	18 (58.1)	31 (29.5)		
	Specialist	25 (44.6)	31 (55.4)	56 (53.3)		
Exposure to verbal violence in the last month	Yes	60 (31.9)	128 (68.1)	188 (44.3)	0.273	0.601
	No	81 (34.3)	155 (65.7)	236 (55.7)		
Exposure to verbal violence in the last year	Yes	92 (33.2)	185 (66.8)	277 (65.3)	0.001	0.980
	No	49 (33.3)	98 (66.7)	147 (34.7)		
Exposure to physical violence in the last month	Yes	12 (25.0)	36 (75.0)	48 (11.5)	1.726	0.189
	No	127 (34.5)	241 (65.5)	368 (88.5)		
Exposure to physical violence in the last year	Yes	19 (26.0)	54 (74.0)	73 (17.5)	2.171	0.141
	No	120 (35.0)	223 (65.0)	343 (82.5)		
Perceived health status	Good	96 (54.9)	79 (45.1)	175 (41.3)	70.162	0.001
	Medium	43 (22.6)	147 (77.4)	190 (44.8)		
	Bad	2 (3.4)	57 (96.6)	59 (13.9)		

	Dependent Variable: GHQ (with Mann-Whitney U analysis)				
	GHQ total score	n	Mean Rank	Median (Min-Max)	p
Age	Normal ($\leq$1)	141	228.76	30 (19-57)	0.054
	Impaired ($\geq$2)	283	204.40	29 (20-50)	
Height	Normal ($\leq$1)	141	199.79	168 (100-185)	0.161
	Impaired ($\geq$2)	281	217.38	168 (150-198)	
Weight	Normal ($\leq$1)	140	199.71	65 (45-110)	0.111
	Impaired ($\geq$2)	282	217.35	67 (44-125)	
Total years of work	Normal ($\leq$1)	138	210.29	6 (0.10-34)	0.691
	Impaired ($\geq$2)	275	205.35	6 (0.1-17)	
Currently years of work in the institution	Normal ($\leq$1)	135	192.45	3 (0.10-13)	0.117
	Impaired ($\geq$2)	275	211.91	3 (0.1-17)	
the number of daily examined patients	Normal ($\leq$1)	133	207.98	40 (0-600)	0.360
	Impaired ($\geq$2)	267	196.77	35 (1-600)	

GHQ: General Health Questionnaire, n: Number of people, *percentage of columns

Table 3: The analysis of the relationship between exposure to verbal violence in the last year and sociodemographic data with Chi-square and Mann-Whitney U test in healthcare professionals

Independent variables		Dependent variable: Exposure to verbal violence in the last year (with Chi-square analysis)				
		Yes n (%)	No n (%)	*Total n (%)	χ^2	p
Gender	Female	168 (68.9)	76 (31.1)	244 (58.0)	3.196	0.074
	Male	107 (60.5)	70 (39.5)	177 (42.0)		
Occupation	Doctor	89 (83.2)	18 (16.8)	107 (25.2)	22.415	0.001
	Nurse-midwife	101 (55.8)	80 (44.2)	181 (42.7)		
	Other healthcare personnel	87 (64.0)	49 (36.0)	136 (32.1)		
Physician title	General practitioner	16 (88.9)	2 (11.1)	18 (17.1)	3.131	0.209
	Assistant doctor	28 (90.3)	3 (9.7)	31 (29.5)		
	Specialist	43 (76.8)	13 (23.2)	56 (53.3)		
Perceived health status	Good	94 (53.7)	81 (46.3)	175 (41.3)	19.862	0.001
	Medium	135 (71.1)	55 (28.9)	190 (44.8)		
	Bad	48 (81.4)	11 (18.6)	59 (13.9)		

	Dependent variable: Exposure to verbal violence in the last year (with Mann-Whitney U analysis)	n	Mean Rank	Median (Min-Max)	p
Age	Yes	277	219.25	29 (19-57)	0.119
	No	147	199.78	28 (20-53)	
Height	Yes	276	200.33	168 (100-198)	0.010
	No	146	232.62	170 (152-188)	
Weight	Yes	276	208.09	65 (44-125)	0.430
	No	146	217.94	67 (45-110)	
Total years of work	Yes	270	213.42	6 (0.1-34)	0.133
	No	143	194.88	5 (0.1-27)	
Currently years of work in the institution	Yes	269	206.25	3 (0.1-17)	0.859
	No	141	204.07	3 (0.1-16)	
the number of daily examined patients	Yes	265	224.70	50 (2-410)	0.001
	No	135	153.00	20 (0-600)	

n: Number of people, *percentage of columns

status as bad were determined as risk factors for psychiatric illness in healthcare workers when logistic regression analysis was performed. The factor affecting the frequency of psychiatric symptoms among the parameters in this study is occupation. The frequency of psychiatric symptoms of nurses was found 1.838 (CI: 1.055-3.200) times higher than the doctors. In another study conducted with GHQ, nurses have been reported to have a psychiatric problem at the level of anxiety or depression (14). Nurses and midwives have a higher incidence of psychiatric symptoms. Nurses were reported to be the group of health workers most exposed to violence by both national and international studies (3,15). According to these data, the high level of psychiatric symptoms of nurses can not be explained with more exposure to verbal violence.

Table 4: The analysis of the relationship between exposure to physical violence in the last year and sociodemographic data with Chi-square and Mann-Whitney U test in healthcare professionals

Independent variables		Dependent variable: Exposure to physical violence in the last year (with Chi-square analysis)				
		Yes n (%)	No n (%)	*Total n (%)	χ^2	p
Gender	Female	36 (15.3)	200 (84.7)	236 (57.1)	2.219	0.136
	Male	37 (20.9)	140 (79.1)	177 (42.9)		
Occupation	Doctor	27 (25.2)	80 (74.8)	107 (25.7)	6.729	0.035
	Nurse-midwife	23 (13.1)	152 (86.9)	175 (42.1)		
	Other healthcare personnel	23 (17.2)	111 (82.8)	134 (32.2)		
Physician title	General practitioner	6 (33.3)	12 (66.7)	18 (17.1)	1.062	0.588
	Assistant doctor	8 (25.8)	23 (74.2)	31 (29.5)		
	Specialist	12 (21.4)	44 (78.6)	56 (53.3)		
Perceived health status	Good	24 (14.0)	148 (86.0)	172 (41.3)	3.001	0.223
	Medium	36 (19.3)	151 (80.7)	187 (45.0)		
	Bad	13 (22.8)	44 (77.2)	57 (13.7)		

	Dependent variable: Exposure to physical violence in the last year (with Mann-Whitney U analysis)	n	Mean Rank	Median (Min-Max)	p
Age	Yes	73	221.30	29 (21-52)	0.316
	No	343	205.78	29 (19-57)	
Height	Yes	73	217.16	169 (150-198)	0.446
	No	341	205.43	168 (100-188)	
Weight	Yes	73	223.71	67 (47-110)	0.202
	No	341	204.03	65 (44-125)	
Total years of work	Yes	70	222.96	8 (0.5-28)	0.116
	No	335	198.83	5 (0.1-34)	
Currently years of work in the institution	Yes	69	210.43	3 (0.1-17)	0.482
	No	333	199.65	3 (0.1-16)	
The number of daily examined patients	Yes	68	243.85	50 (3-400)	0.001
	No	324	186.56	30 (0-600)	

n: Number of people, *percentage of columns

Table 5: Results of logistic regression (Backward LR) analysis of factors affecting psychiatric symptom score according to General Health Questionnaire in Healthcare Professionals

Independent variables		Dependent Variable "General Health Questionnaire Score"					
		B	S.E.	Wald	Sig.	Odds ratio	%95 CI (Min-Max)
Occupation	Nurse-midwife	0.609	0.283	4.623	0.032	1.838	1.055-3.200
	Other healthcare personnel	0.188	0.294	0.411	0.522	1.207	0.678-2.148
	Doctor				1.000 (Reference)		
Perceived health status	Medium	1.396	0.234	35.746	0.001	4.039	2.556-6.384
	Bad-very bad	3.528	0.736	22.953	0.001	34.053	8.042-144.199
	Good-very good				1.000 (Reference)		

CI: Confidence interval

The frequency of psychiatric symptoms may increase in the health workers (especially the nurses) due to limited free time, long working hours, having difficulty in subsistence, poor sleep quality by working with the shift system (14), and personality characteristics (3).

Another reason affecting the frequency of psychiatric symptoms is the perceived health status. Psychiatric symptoms were found to be 4.039 (CI: 2.556-6.384) times higher in those who perceived their health status as medium and 34.053 (CI: 8.042-144.199) times higher in those who perceived it as bad compared to those who perceive their health status as good. Healthy lifestyle behaviors (exercise, nutrition, stress management, interpersonal support) were found to be low in those who perceive their health status as bad, and therefore, health perception was reported as necessary (11,16). A person's view of health according to his / her own values system has a positive or negative effect on the application of health behaviors according to the health promotion model (17). Perceived health status has been reported to have an impact on health responsibility related to self-realization (18). The association of increased perceived stress with decreased work efficiency and worse quality of life among health care workers is also reported by a recent study (19). Perceiving health status as bad may increase the frequency of psychiatric symptoms by decreasing healthy lifestyle behaviors.

GHQ-12 was used to determine the frequency of psychiatric symptoms. In order to detect general psychiatric disorders in various occupations and diseases in our country, studies have been conducted by using the 12 and 28 question forms of GHQ (20-22). In the literature, the limited number of studies using GHQ-12 in a similar risk group with our study led to a limitation in the comparison of the research findings.

Studies that include more parameters examining the frequency of psychiatric symptoms may be more useful in defining the mental symptom status of health workers. Despite the GHQ-12, roughly evaluates sub-diagnostic psychiatric symptoms, inventories assessing anxiety, and depressive symptoms have not been used in the study, which is a limitation for generalizing the results to whole health care professionals. Perceived health status evaluation seems to be subjective. Therefore, it may not reflect the real medical condition of the subjects.

As a result, approximately six out of ten people have psychiatric symptoms in health workers.

It is seen that health workers constitute an important risk group for mental illnesses in this period of increasing violence in health. Factors that increase psychiatric symptoms are being a nurse and perceived health status as bad in this risk group.

In this context, while providing health services to the community, healthcare workers should be screened and determined if there are psychiatric symptoms. Nowadays, psychiatric problems become a public health problem due to their prevalence and chronicity tendencies. GHQ-12 is an important screening test that can be used for this purpose (12,23). Therefore, those with a high GHQ score can be treated early, and the development of more serious psychiatric illnesses can be prevented. On the other hand, perceived health status should be increased with training that will reinforce healthy lifestyle behaviors towards exercise, nutrition, stress management and interpersonal support areas in order to support the belief of health workers to control their health.

Ethics Committee Approval: The study was approved by the local Ethical Committee.

Informed consent: A written informed consent was also provided by each participant after a full explanation of the study.

Conflict of Interest: No conflict of interest.

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