Measurement of anxiety and depression level for nurses

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ARTICLE INFO

ABSTRACT

This research has been conducted in order to carry on the nursing profession efficiently with the aim of determining relationship between anxiety and depression level and sociodemographic features (education, marital status, whether they have chronic diseases or not, whether they have children or not etc.) between shift/non-shift working and working department of nurses (emergency room, inpatient room, intensive care unit, operating room and other/hospital administration and training units). The research was carried out as based on volunteering and in line with permissions got from the hospital management and nurses, who work in Bitlis state hospital between December, 2016 and May, 2017. The form prepared with the purpose of determining socio-demographic features, which is composed of 16 questions including age, gender, education level, working unit and description of workplace stressors which can cause anxiety disorder and hospital anxiety and depression scale were evaluated by collecting data. Survey forms was prepared in the way that participants can answer them easily serving purpose of research

1. Introduction

The definition of the job of nurses in our country is not clear. Nurses from different levels of education are doing the same work. This situation and shift work affect nurses' level of anxiety and depression (1). In addition, low wage work, lack of materials, high weekly or monthly working hours and high number of patients who are under obligation affect the mental health of nurses negatively. One of the health outputs of encountering constant stress in working life is anxiety. The object of anxiety is not clear and anxiety is defined as a state of discomfort experienced by an internal threat or danger that can't be recognized by a person. Anxiety is a psychological response to extreme energy which is the result of stress reaction in the person (2, 3, 4). In this case, anxiety can be seen as a factor and depression can be seen as a result if anxiety is prolonged.

2. Material and Method

2.1. Form of the Research and Sample

This study was carried out descriptively to determine the anxiety and depression levels of nurses working at Bitlis State Hospital. The universe of the research is Bitlis State Hospital and the sample is consisted of nurses working in the same state hospital between December 2016 and May 2017. The number of nurses who accepted to participate the study is 120. The questionnaire was distributed in person and all of them were received back. All 120 questionnaires were also used for data analysis.

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2.2. Statistical Analysis

Data obtained from the study were recorded in the program SPSS 22.0 (Armonk, NY:IBM Corp.). Categorical measurements were recorded as number and percentage and continuous measurements were recorded as mean and standard deviation. Suitability of normal distribution to continuous variables was investigated by Shapiro Wilk test. Student-t test was used for the parameters which have normal distribution in the comparisons between groups. The relationship between sub-dimensions was examined by Pearson Correlation Test. Values of $P \leq 0.05$ were considered statistically significant.

2.3. Data Collection Tools

"Information Form" consisting of 16 questions were applied to reach the demographic information of participants who constitute the sample. Also, Hospital Anxiety and Depression Scale (HAD) were used to measure anxiety and depression levels.

2.4. Socio-demographic Information Form

The personal information form to identify the socio-demographic information that might be associated with anxiety and depression levels has been prepared in accordance with the research. The form is consisting of 16 questions and variables such as age, gender, marital status, department, title, occupation year, working status, speciality, institution and whether they choose their speciality voluntarily or unwillingly were asked. Thereby some information about the participants has collected.

2.5. Hospital Anxiety and Depression Scale (HAD)

Hospital Anxiety and Depression Scale (HAD) were used to measure anxiety and depression levels during the collection of data. The HAD is the four point likert scale. HAD scale consists of 14 questions: 7 of which are investigating the causes of depression and 7 of which are investigating the causes of anxiety. Odd numbers measure level of anxiety, even numbers measure level of depression. The cut-off point of the scale for anxiety and depression was determined as 7. Scoring of the scale is figured 0-7 normal, 8-10 suspect, 11 and over depressive. The validity and reliability of the form in Turkish was made by Aydemir (1997). It has been determined that the scale is safe to screen signs of anxiety and depression in people with physical illnesses. There is anxiety (HAD-A) and depression (HAD-D) subscales. The cut-off point is determined 10 for anxiety and determined 7 for depression. Anxiety is mentioned when the score of anxiety is 11 or more and depression is mentioned when the score of depression is 8 or more.

Table 1. Subscales of the HAD Scale, Question Numbers, Minimum and Maximum Score of the Scale and Reliability Coefficient

HAD Subscales	Question Numbers	Minimum Score	Maximum Score	Cronbach alpha
Anxiety	1, 3, 5, 7, 9, 11, 13	0.00	21.00	0,793
Depression	2, 4, 6, 8, 10, 12, 14	0.00	21.00	0,784

The Cronbach Alpha coefficient which expresses the reliability of the anxiety sub-dimension was found as 0,793 and the Cronbach Alpha coefficient which expresses the reliability of the depression sub-dimension was found as 0,784. It is acceptable because these values are over 0.7.

Table 2. Varimax Rotation with Principle Component Analysis for Factor Analysis Describing Structural Validity of Sub-dimensions of the HAD Scale

items	1	2
Variance explain	28,514	18,850
had1	0,594	0,338
had3	0,419	0,642
had5	0,226	0,756
had7	0,603	0,011
had9	0,014	0,664
had11	0,616	0,448
had13	0,157	0,775
had2	0,557	0,131
had4	0,624	0,297
had6	0,586	0,241
had8	0,555	0,31
had10	0,589	0,166
had12	0,734	0,056
had14	0,64	0,097

Varimax Rotation with Principle Component Analysis for Factor Analysis Describing Structural Validity of Sub-dimensions of the HAD Scale is made in the above table. Accordingly, when the dimensions above the factor loads 0.3 were examined, all items except the 7th question of the Anxiety dimension were found to be compatible with the dimension they were included in.

3. Results

120 nurses were included in the study. The socio-demographic characteristics of the nurses were examined in Table 1 according to HAD-A and HAD-D values. In the study, 82.5% of the nurses are women, %17.5 of the nurses are male. Both HAD-A and HAD-D scores of female nurses were found meaningful higher than males (respectively p=0.043,

p=0.049). HAD-A and HAD-D values of the nurses, who were divided into three groups according to their ages, were evaluated and there was no statistically significant difference between HAD-A and HAD-D values of the groups (p>0.05). When the HAD-A and HAD-D values were examined, there was no statistically significant difference between the HAD-A and HAD-D values of married and single nurses (p>0.05). When we evaluate the nurses according to their educational situation; the most common rate is university graduates with %80, high school graduates with %15.8 and master or doctoral degree graduates with %4.5. There was no significant difference between the HAD-A and HAD-D values of this three groups (p>0.05). Also, no significant indication was found regarding alcohol, smoking and drug usage (p>0.05).

Table 3. Hospital Anxiety and Depression Scale Scores According to Socio-demographic Characteristics of Nurses

		Anxiety Scale			Depression Scale		
		n	mean	SS	n	mean	SS
AGE	Age of 25 and below	38	9.74	4.96	38	9.71	5.13
	Age betw. 26-34	57	9.12	3,57	57	8,42	4.33
	Age of 35 and above	25	7.96	3.79	25	8.4	3.37
	T	1.607			1.224		
	P	0.113			0.226		
GENDER	Male	21	7.43	3.52	21	71	3.6
	Female	99	9.42	4.17	99	9.19	4.52
	T	-2.045			-1.993		
	P	0.043			0.049		
EDUCATION STATUS	High School	19	8.37	3.71	19	9.32	4.06
	University	96	9.14	4.13	96	8.5	4.37
	Master-Doctorate	5	10.6	5.68	5	13.2	5.45
	F	0.629			2.898		
	p	0.535			0.059		
MARITAL STATUS	Married	61	9.13	3.83	61	9.15	4.18
	Single	59	9.02	4.43	59	8.49	4.69
	t	0.151			0.809		
	p	0.88			0.42		
SMOKING	Not Smoking	92	9.16	4.16	92	8.87	4.55
	Smoking	28	8.79	4.04	28	8.68	4.1
	t	0.423			0.199		
	p	0.673			0.843		
ALCOHOL OR DRUG USE	Not Use	115	9.18	4.15	115	8.88	4.48
	Use	5	6.6	2.07	5	7.6	3.29
	t	1.379			0.629		
	p	0.171			0.53		

Table4. Anxiety and Depression Scale Scores According to Nurses' Way of Working

		Anxiety Scale			Depression Scale		
		n	mean	SS	n	mean	SS
THE WAY OF WORKING	Shift Work	38	8.89	4.18	38	8.13	3.79
	Shiftless Work	82	9.16	4.11	82	9.15	4.69
	t	-0,32			-1.168		
	p	0.74			0.245		
MONTHLY WORKING HOURS	160-180 hours	45	8.91	3.75	45	8.27	4.11
	181 hours and above	75	9.17	4.34	75	9.16	4.61
	t	-0.337			-1.069		
	p	0.737			0.287		

The HAD scale levels and range levels according to nurses' way of working is shown in Table 2. According to this, the HAD-A and HAD-D scores of the nurses (mean±SD) did not differ according to the shift work status and monthly working hours (p>0,05).

Table 4. Working Unit of Nurses, Monthly Income Level, Anxiety and Depression Scale Scores According to Psychological Treatment in the Past or Present and Chronic Illness Situations

		Anxiety Scale			Depression Scale		
		n	mean	SS	n	mean	SS
WORKING UNIT	Emergency Units	10	10.1	5.72	10	7.2	3.33
	Bed Units	47	9.26	4.37	47	10.23	5.15
	Intensive Care Units	15	8.4	3.96	15	8.27	4.43
	Surgery Rooms	9	9.56	2.83	9	8.89	4.43
	Others	39	8.74	3.75	39	7.74	3.32
	f	0.364			2.254		
	p	0.834			0.068		
MONTHLY INCOME LEVEL	Sufficient	77	9.84	3.89	77	9.7	4.17
	Insufficient	43	7.7	4.2	43	7.26	4.5
	t	2.818			2.992		
	p	0.006			0.03		
PSYCHOLOGICAL TREATMENT IN THE PAST OR PRESENT	No	105	8.88	4.09	105	8.71	4.56
	Yes	15	10.47	4.17	15	9.6	3.44
	t	-1.406			-0.722		
	p	0.162			0.472		
CHRONIC ILLNESS	No	100	9.04	4.29	100	8.72	4.52
	Yes	20	9.25	3.21	20	9.35	4.04
	t	-0.207			-0.578		
	p	0.836			0.564		

The average HAD-A and HAD-D scores of the nurses who expressed monthly income as sufficient were significantly higher than the nurses who expressed the monthly income as insufficient (respectively p=0.006, p=0.003). The mean value of HAD-A and HAD-D was found not different according to working unit, psychological treatment in the past or present and chronic illness (p>0,05).

Table 5. Anxiety and Depression Scale Scores According to Nurses' Satisfaction Status of Their Profession, Satisfaction Status of Working Unit and Reasons of Nurses' Dissatisfaction with Their Profession and with Their Working Unit

		Anxiety Scale			Depression Scale		
		n	mean	SS	N	mean	SS
SATISFACTION STATUS OF THEIR PROFESSION	No	66	9.74	4.08	66	9.36	4.69
	Yes	54	8.59	4.15	54	8.17	4.04
	t	1.163			1.479		
	p	0.247			0.142		
SATISFACTION STATUS OF THEIR WORKING UNIT	No	41	10.1	4.37	41	10.83	4.93
	Yes	79	8.54	3.9	79	7.78	3.78
	t						
	p						
REASONS OF NURSES' DISSATISFACTION WITH THEIR PROFESSION	Difficulty of Working Conditions	13	10.46	3.36	13	11.92	4.41
	Inadequate Number of Employee	16	11.25	5.42	16	12.19	4.93
	Others	7	7.14	2.91	7	7.29	5.06
	t	1.984			3.759		
	p	0.05			<0.001		
REASONS OF NURSES' DISSATISFACTION WITH THEIR WORKING UNIT	Difficulty of Working Conditions	10	10	3.23	10	12.6	4.77
	Inadequate Number of Employee	19	11.37	5.13	19	11.79	4.65
	Others	7	7.14	2.91	7	7.29	5.06
	t	2.444			2.945		
	p	0.102			0.067		

Nurses' dissatisfaction with the work they are doing or nurses' dissatisfaction with their working unit are factors that increase the level of anxiety and depression. The mean scores of HAD-A and HAD-D scores of nurses who expressed their reasons of dissatisfaction with their profession as difficulty working conditions or inadequate number of employee were found to be significantly higher than the other reasons (have not enough time for the family, feeling unworthy or unsatisfying with salary) (respectively, p= 0.05 p<0.001). The mean values of HAD-A and HAD-D were found not different according to satisfaction of their profession, satisfaction of their working unit and reasons of dissatisfaction with their profession and reasons of dissatisfaction with their working unit (p> 0,05).

Table 6. Relationship between Anxiety and Depression Sub-Dimension Scores

		Depression Scale
	r	0,118
Anxiety Scale	p	0,201
	n	120

Relationship between anxiety and depression sub-dimensions was examined by correlation test and there was no relationship between two sub-dimensions (p> 0.05).

4. Conclusion and Recommendations

Today, working life is a field where people are experiencing intense stress, especially the healthcare field. Nursing profession is an area where anxiety and depression are

experienced quite frequently (5,6). The ability of individuals to overcome the stress is different. Different personality can increase stress in the same business environment. Prolonged exposure to stress can lead to anxiety and depression, as well as many physiological changes (7,8,9). According to these findings, it is said that the anxiety and depression levels of nurses are statistically high and significant according to shift and non-shift situations (10,11,12). The causes of dissatisfaction of the nurses taking part in the research affected also anxiety and depression level in a negative way. Dissatisfaction of the nurses with their professions is caused by worthless, difficult working conditions, financial incapability (13,14,15). Also, the reasons dissatisfaction of the nurses with their working unit is lack of number of staff and difficult working conditions (16).

4.1. Accordingly, the following can be suggested

Working conditions of nurses should be improved. There must be enough rest breaks for in shift workers. The social, physical, psychological problems because of busy working hours should not be ignored.
The specific needs of nurses should take into account for planning monthly or weekly work lists. Night shifts can be shared in equal for everyone.

Insomnia and body rhythm disorders due to shits can cause injuries and work accidents. Shifts should be organized to reduce these injuries and work accidents.

Administrators should determine anxiety and depression level of nurses and provide them social and psychological support. Psychological counselling services can be provided at the hospital where nurses work to protect their mental health.

Acknowledgements

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