Research Article

PREDICTING NURSES MENTAL HEALTH BASED ON JOB SATISFACTION COMPONENTS

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Abstract

Background: Mental health is one of the indicators of mental health that shows the general attitude and evaluation towards life as a whole. Job satisfaction can affect various aspects of life. The aim of the study was to predict nurses' mental health based on job satisfaction components.

Methods: Cross-sectional study was a descriptive correlation type. 160 nurses of three teaching hospitals in Ilam city were selected by stratified random sampling in 2022. Data were collected with the Minnesota MSQ job satisfaction questionnaires and the Diener SWLS (1985) mental health questionnaires. Then, they were analyzed in SPSS-16 software with Spearman, Kruskal-Wallis and step by step regression tests. The significance level was less than 0.05.

Result: The average mental health was 20.48 ± 6.80 and the average job satisfaction was 49.34 ± 12.39 and in all three hospitals it was average. The relationship between total job satisfaction score and mental health score was significant ($r=0.267$, $p=0.001$). The correlation between the mental health score and the score of each of the components of job satisfaction except "type of job" and "leadership style" was significant ($p<0.05$). With the increase in the score of payment system, advancement opportunities, organizational atmosphere and physical conditions, the mental health score also increased. According to the regression model, only the organizational climate ($p=0.009$) and physical conditions ($p=0.017$) contributed to predicting the mental health of nurses.

Conclusions: By increasing the scores of job satisfaction components, the mental health of nurses increases. According to the regression model, each unit of nurse's mental health is equal to the sum of the fixed value of 13.33 plus 0.4 units of organizational climate plus 0.59 units of their physical conditions. *ASEAN Journal of Psychiatry, Vol. 24 (7) July, 2023; 1-7.*

Keywords: Mental health, Nurse, Job satisfaction, Regression model, Evaluation

Introduction

Mental health is one of the indicators of mental health and a person's attitude and general evaluation towards life as a whole or some aspects of life such as family life and educational experience. Mental health is not considered an internal and stable quality, but rather sensitive to environmental changes, and a person's perspective on his well-being is of outstanding importance. Mental health reflects the balance between a person's desires and a person's current situation. In other words, the more the gap between the level of a person's aspirations and his objective situation increases, the more satisfaction the person decreases. In some studies, prominent elements such as job involvement and job satisfaction have been listed as effective factors in the formation of mental health. Job satisfaction is a positive or pleasant emotional state that is the result of job evaluation or individual experience and provides the possibility of achieving or facilitating the achievement of important job values. The signs of job satisfaction of nurses are very wide and comprehensive and can affect the quality of life of nurses, reducing job burnout, reducing work tension and stress, reducing job leaving and absenteeism, and increasing the quality of care and patient satisfaction. Job satisfaction is related to mental health. Nurses help other people in the most difficult conditions of life, such as physical and mental illnesses and disabilities, and they play an important role in taking care of the patient and the satisfaction of him and his family. In their jobs, nurses are always faced with challenges caused by increased workload, risk of infectious diseases, facing death and pain and suffering, poor communication, little social support, shift work, and emotional demands of

clients. As a result, they have high job burnout, which harms their mental health in the work environment. Dissatisfaction with life in nurses can negatively affect the level of job satisfaction and the quality of patient care and lead to long term stays in hospitals and increased costs [1-5]. One of the ultimate goals of human life is to achieve mental happiness, and in principle, they seek mental health and job satisfaction in their professional life as well. Having high levels of mental health is one of the main indicators of people's social progress. Researchers believe that low mental health can have negative effects on an organization. Because employees with low mental health will have lower productivity, lower quality decisions, more absenteeism, and a steady decline in their overall engagement with the organization. Also, in the organizational field, job satisfaction, which is defined in terms of employees' subjective judgments about their work conditions, is linked to the field of mental health. Research has shown that job outputs such as burnout and job satisfaction affect mental health. For example, research conducted on Korean nurses has shown that average levels of mental health were related to low levels of job satisfaction and high levels of burnout. However, in Iran, little research has been done to investigate factors affecting mental health in nurses. For example, in a descriptive correlation study that was conducted under the title of investigating the role of individual factors on the mental health of 309 nurses working in eight hospitals affiliated with Rasht university of Medical Sciences in 2011, it was shown that gender and average income monthly is the best predictor of mental health in nurses. Having mental health in nurses and its relationship with job satisfaction leads to improving the quality of patient care and increasing productivity and improving the services provided by them. Therefore, conducting scientific research in this field and using its results in various aspects of the nursing profession can have useful consequences for playing the role of care, education, management, therapy, and also the personal life of the nurse. This study was conducted to predict nurses mental health based on job satisfaction components [6-8].

Materials and Methods

The current study is a correlational descriptive study that was conducted cross sectional on 160 nurses working in teaching hospitals in Ilam city in 2022. The samples were selected by stratified random sampling [9,10]. The criteria for entering the research included: working in one of the teaching hospitals of Ilam city and informed consent to participate in the study. Exclusion criteria included: Failure to complete one of the questionnaires, incomplete completion of the questionnaire, or unwillingness to cooperate in the study. The data collection tool included a questionnaire with three parts. The first part included the demographic information of nurses, *i.e.* age, gender, work history, marital status, education level, hospital, department, position, income, employment status, number of children, and type of home. The second part was the Minnesota job satisfaction questionnaire. This tool has 19 items and 6 subscales of the payment system, job type, advancement opportunities, organizational climate, leadership style, and physical conditions. The scoring of the Minnesota job satisfaction questionnaire is based on a 5 point Likert scale from "completely disagree" to "completely agree" and scores from 1 to 5. The scores of all the items are added together to obtain the overall score of the questionnaire. Scores between 19 and 38 indicate poor job satisfaction, scores between 38 and 57 mean job satisfaction, and scores between 38 and 57 indicate very good job satisfaction. This questionnaire has been used in many types of research inside and outside the country. Its reliability was also measured from the aspect of internal consistency ($\alpha=0.87$). The third part was Diener's (1985) mental health questionnaire. This is a 5-item instrument scale designed to measure a person's cognitive and overall judgment of life.

The scoring of mental health scale is a 7 point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). The overall score of this scale is calculated by summing the answers and the range of scores is between 5 and 35. A higher score indicates higher levels of mental health. This questionnaire has also been used in many types of research inside and outside the country. Its reliability was also measured from the aspect of internal consistency with Cronbach's alpha coefficient ($\alpha=0.86$). After being entered into SPSS 22 software, the data were analyzed using descriptive tests (frequency, mean percentage, and standard deviation). To check the normality of the variables, the Kolmogorov-Smirnov test was used, which showed that the distribution of job satisfaction scores and its dimensions follows the normal distribution; but the distribution of mental health scores in the research samples does not have a normal distribution [11,12]. Therefore, to analyze the correlation between these variables and the relationship between their dimensions,

Spearman and Kruskal Wallis non parametric correlation tests were used, and stepwise regression was used to predict the relationship between these two variables. Also, the level of significance was considered less than 0.05 [13,14].

The present study was approved by the ethics committee of Ilam University of Medical Sciences with the ethics ID IR.MEDILAM.REC.1400.229. To comply with the ethical standards, the research was carried out based on the Nuremberg and Helsinki declarations and the 26 codes of ethics.

Results

Out of 160 nurses participating in the research, the majority are female (61.2%), aged 26-29 (40%), single (52.5%), childless (75%), owning a private home (5.5%) 72%) and with an income of 6-10 million tomans (70%). Most of them have a bachelor's degree (88.8%), with less than 6 years of work experience (70%), have the position of ward nurse (91.2%), official (45%), and working in a special ward (45%) they were [15,16]. The average mental health of nurses was 20.48 ± 6.80, the average job satisfaction of nurses was 49.34 ± 12.39, and it was average in all three hospitals (Table 1).

Table 1. The level of job satisfaction and mental health of research samples by hospital.

Variable/Hospital	Job satisfaction M(SD)	Mental health M(SD)
IImam Khomeini (RA)	50/53 ± 77/12	20/15 ± 7/01
Shahid Mustafa (RA)	45/07 ± 10/09	19/50 ± 6/40
Ayat A... Taleghani (RA)	53/72 ± 13/18	22/58 ± 6/72
Total	49/34 ± 12/39	20/48 ± 6/80

The correlation between the mental health score and the score of each of the components of job satisfaction except "type of job" and "leadership style" was significant (p<0.05). With the increase in the score of the payment system, advancement opportunities, organizational atmosphere, and physical conditions, the mental health score also increased. The relationship between total job satisfaction score and mental health score was also significant (p=0.001, r=0.267) (Table 2).

Table 2. Correlation matrix of job satisfaction, its components and mental health (Spearman correlation).

Row	Variable	Components	Correlation meaningful	1	2	3	4	5	6	7	8
1	Job satisfaction	Payment system	r	1							
			P								
2		Job type	r	0/2	1						
			P	0/011							
3		Opportunity for advancement	r	0/576	0/256	1					
			P	0/001	0/001						
4		Organizational atmosphere	r	0/204	0/165	0/237	1				
			P	0/01	0/038	0/003					
5		Method of leaderships	r	0/434	0/202	0/559	0/428	1			
			P	0/001	0/01	0/001	0/001				
6		Physical conditions	r	0/534	0/218	0/522	0/252	0/468	1		
			P	0/00	0/00	0/00	0/00	0/00			

					1	6	1	1	1		
7	Overall job satisfaction	r			0/701	0/491	0/778	0/499	0/759	0/764	1	
		P			0/001	0/001	0/001	0/001	0/001	0/001		
8	Mental health	r			0/277	0/127	0/178	0/162	0/138	0/23	0/267	1
		P			0/001	0/11	0/025	0/041	0/083	0/003	0/001	

To determine the relationship between job satisfaction and mental health according to demographic characteristics, the Kruskal-Wallis test was performed. This test showed that gender variables (k=0.037, p=1, DF=4.34) with the highest rank related to women, marital (p=0.034, k=1.04, DF=4.47) with the highest rank related to married people, and job status (p=0.032, DF=6.88, k=6.88) with the highest rank related to the project force had a statistically significant relationship with mental health. Examining the scores of these two variables based on employment status revealed that the level of mental health and job satisfaction among project employees is more than others (p<0.05) (Table 3).

Table 3. Relationship between job satisfaction and mental health according to demographic characteristics (Kruskal-Wallis).

Variable	Subgroup	Job satisfaction				Mental health			
		Mean	K	df	P	Mean	K	df	P
Gender	Man	75/34	1/25	1	0/262	70/92	4/34	1	0/037
	Female	83/77				86/56			
Marital status	Single	86/79	3/26	1	0/071	73/14	4/47	1	0/034
	Married	73/55				88/63			
Employment status	Plan	100/61	14/37	2	0/001	93/55	6/88	2	0/032
	A treaty	85/46				85/02			
	Official	66/44				70/47			

The step by step regression analysis showed that only the organizational atmosphere and physical conditions contributed to predicting nurses mental health from the components of job satisfaction (Table 4). The regression model is as follows:

$$Y = 13.31 + 0.4X_1 + 0.59X_2$$

(Y=satisfaction with life, X_1=organizational atmosphere and X_2=physical conditions).

Table 4. Prediction of mental health of research samples based on job satisfaction components.

Predictor variables (of job satisfaction components)	B	SE	β	t	P
Constant	13/310	1/780	-	7/477	0/001
Organizational atmosphere	0/404	0/152	0/210	2/651	0/009
Physical conditions	0/593	0/246	0/191	2/414	0/017
Dependent variable: Satisfaction with life					

Discussion

The results of the research through the analysis of Spearman's correlation coefficient and step by step regression showed that only organizational atmosphere and physical conditions contributed to predicting nurses mental health from the total job satisfaction components. According to the

beta coefficient, variables of organizational climate and physical conditions had a positive and direct relationship with employees mental health. Although these components have been able to predict mental health, both have not been equally effective. Based on the results, physical conditions have contributed more to this prediction than the organizational climate. Based on the findings of research by Baron, et al., about predicting nurses' mental health through job satisfaction, it can be said that job satisfaction has a direct relationship with mental health. As experts have suggested, there is a close and two way relationship between job satisfaction and mental health. Different parts of life are interconnected; if there is tension and dissatisfaction in one part of life, it can disturb other parts and spread to other parts. That is why the organizations try to facilitate the extra-organizational life of the employees as much as possible and organize the family and social life of the employees by providing all kinds of facilities and counseling.

The relationship between each of the components of job satisfaction, except for the "type of job" and "leadership style" components, was significant with mental health (p<0.05). Also, there was a positive and significant relationship between the total job satisfaction score and the mental health score (p=0.001). In other words, it can be said that with the increase in job satisfaction scores, the mental health of nurses increased. The results of the survey study aimed at investigating job satisfaction and the most important factors related to it showed that there is a high correlation between the variables of mental health and job satisfaction. In other words, increasing mental health is associated with increased job satisfaction. The results of the meta-analysis study showed that the correlation between these two variables is 0.47 and is at a significance level of 99%, which is in line with the results of the present study. In a study, Zhang et al. investigated the role of mediators of self-esteem, emotional commitment between work and family, and mental health on employee job satisfaction. In this model, enrichment of work with family and enrichment of family with work are considered positive predictors of job satisfaction. Self-esteem and commitment can be considered to some extent as an indirect influencing factor on job satisfaction and work and family enrichment. The results of Amini et al.'s research also indicated that nurses in other departments are significantly higher than nurses in special departments in terms of mental health. Since the relationship between work factors and

overall mental health is two way, work related feelings can enter the whole life. Research conducted in 2004 on Korean nurses has shown that average levels of mental health were related to low levels of job satisfaction and high levels of job burnout.

In the present study, gender, marital status, and job status had a significant relationship with nurses' mental health (p<0.05), which was consistent with the results of the study of Asarroudi, et al. Their study showed that marriage has a positive and significant relationship with mental health; So that mental health was higher in married people than single people. In their study on 384 nurses working in selected army hospitals in 2019, Ziaa Khodadadian et al. concluded that there is a significant relationship between gender and mental health. In this way, satisfaction with life is significantly more in men than in women (p<0.005), which is inconsistent with the results of the present study. Also, the score of this variable was higher in married people than others, and married people have higher mental health than single people. Which is consistent with the results of the present study. The mental health score showed a significant difference between formal and contract nurses, and formal and contractual nurses, but there was no significant difference between contractual and contract nurses.

Conclusion

In sum, the findings of the present study showed that with increasing job satisfaction scores, the mental health of nurse's increases. On the other hand, some components of job satisfaction are capable of predicting the mental health of nurses, therefore, examining the factors that constitute nurses' job satisfaction and measuring their level of job satisfaction, as well as examining other factors that affect nurses mental health improve the quality level of services provided by nurses. By revealing the strengths and weaknesses in this field, necessary measures can be planned and implemented to increase the level of job satisfaction and mental health of nurses and to eliminate existing gaps. Society's attitude towards the nursing profession should be taken into consideration by the practitioners of this profession. Culture making in this field can cause a change in public opinion towards this profession and increase career motivation in nursing. Increasing the motivation of nurses and improving their working conditions will make them satisfied with their jobs and consequently

improve their satisfaction with life. One of the limitations of the current research that can be pointed out is that considering that the data collection tool was a questionnaire, the correctness of the accurate response of the information expressed by the nurses is hidden from the researcher. For this reason, the researcher tried to attract the participation of the nurses participating in the research by explaining the importance of the subject and the objectives of the research to the participants, presenting the questionnaire to them at the right time, place, and conditions and giving them enough time to complete the questionnaire.

Acknowledgments

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