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The Relationship Between the Effort-Reward Imbalance and Psychosocial Health in Nurses

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ABSTRACT

The health of nurses as providers of health affects the quality of care provided by health care organizations to patients. The effort-reward imbalance is accompanied by repressive responses that can lead to physical and psychological diseases as well as stressful experiences in nurses' activity. Regarding the existence of some discrimination in the system of health, the present study was conducted to determine the relationship between the effort-reward imbalance and psychosocial health in nurses. In this descriptive cross-sectional study, 270 nurses working in five medical-educational centers in Tabriz participated through random-quota sampling. The research tool included a demographic questionnaire, Siegrist effort- reward imbalance questionnaire and Copenhagen Psychosocial questionnaire. Data were analyzed by SPSS V18 and descriptive and inferential statistics. In the present study, 54.8% of the patients were suffering from effort- reward imbalance model (occupational stress). The relatively high prevalence of this can be attributed to the conditions of the hospital's working environment. The results of this study showed a significant relationship between psychosocial health and balance of reward and effort in nurses and also the findings of the research showed a positive and significant relationship between mental and social health and the score of effort-reward imbalance model (0.95 = R, and P <0.05). There was a significant relationship between effort and work commitment and job burnout. Considering the stressful nature of the profession among many reasons, the mental health of nurses is at a higher risk than that of other groups in the society. Because some factors related to the imbalance in the effort and reward (stress) is inevitable, it is necessary in the profession of nursing for managers to review their employees' position and characteristics to find out their staff's attitudes and behaviors and direct them in the right path.

Key words: Nurse, Effort- Reward Imbalance, Mental Health

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INTRODUCTION

Mental health depends on how people think, feel, and act. Likewise, the people with mental health have a positive attitude toward life and have a higher degree of accountability in the workplace and their relationships. Mental health is in many cases the same as physical health and should be given due consideration. For mental health, there are some factors, the lack of which jeopardizes the health of the individual, creating problems for the job. Nursing is a job that requires a lot of interaction between oneself and patients. Nurses are required to put patients in the best mental and physical condition. Therefore, it is necessary to maintain acceptable conditions for this purpose (3).

Nursing is at the top of 40 professions with a high prevalence of stress-related illnesses and it is believed that nursing is likely to be at the top of high-stress occupations among healthcare professions. Nurses play the role of counselors and guides in health issues, being one of the members of the health department to have acquired the necessary professional knowledge and skills, and are active in their fundamental tasks, namely the promotion of community health, prevention of diseases, provision and maintenance of the health of the whole people of families and society (4).

In the nursing profession, there are several stressful occupational factors among which are working in the shifting system, workload, conflict with colleagues, frequent contact with sufferings and deaths of patients, lack of support resources, lack of time to deal with problems, emotional needs of patients and professional responsibilities. In addition, stress levels and stressors vary among nurses in different wards, which is due to the differences in working conditions and assignments given to nurses. Nurses' occupational stress results in a decrease in job satisfaction, an increase in the amount of leave and poor quality of nursing care (5).

The results of the study showed that the health of employees was influenced by their perception of the level of fairness in the workplace and there was a significant relationship between mental health and individual's definite expectations of the trade between him/her and the organization. (6) Other study results show that justice factor is considered as a predictor of the employees' health in terms of quality of work life (7).

In the early 1980s, an American sociologist and physician, Siegrist J, founded the Effort-Reward Imbalance Model, in which an imbalance between the level of perception and the job such as: the amount of pressure on finishing the job, the level of responsibility and the level of overwork and the amount of reward such as: the amount of payment, the opportunities for recognition and appreciation, and the status of the job lead to negative consequences for the employees (8).

The effort-reward balance model has its roots in medical sociology, which emphasizes both the effort structure and the work reward. It has been considered in health research in the environment due to its predictive power for undesirable health outcomes (8). Many articles confirm the usefulness of this model as a tool for evaluating stressful working conditions (9-12). This model claims that work that has the characteristics of high effort and low reward has a mutual defect between input and output. This imbalance may result in sustained and long-lasting effects (13, 14). Therefore, working hard but without a proper reward is an example of imbalance that can cause stress, and if these conditions continue for a long time, it will cause autonomic nervous system disorder as well as physical and mental illness. There is some evidence that there is a relationship between the imbalance between effort-reward and a variety of mental illnesses, occupational absenteeism due to illness and complaints caused by declining health and physical health (13-15).

This model states that unequal relations between invested efforts and received reward lead to stressful responses that has harmful health outcomes in the long-run (14). The occurrence of successive periods of high harmful imbalance states is accompanied by pressure responses that can lead to physical and psychological illnesses (2, 13). Due to this complexity and variety of stressful experiences at work, the necessity and importance of identifying these components with the help of theoretical models is felt more than ever. Individuals always value their work position in terms of the effort they are putting into their work and the amount of reward they receive. In short, when people feel they put a lot of work in their jobs or work for a large amount for their organization, and despite that, they do not receive a reward for this effort and they are faced with emotional stress, which can lead to physical and mental illness and other stressful reactions (16).

Considering the fact that the health of nurses as care providers affects the quality of care provided by them to the patients, in order to achieve maximum efficiency in nurses, nurses are required to have adequate health. Job pressure, low staff participation in decision making, low social support, high psychosocial demands, lack of consistency between effort and reward and lack of high job security can be a predictor of mental disorders in nurses. Work pressure and the effort-reward imbalance can be among the factors that can reduce mental health.

Due to this complexity and a variety of stressful experiences at work, the necessity and importance of identifying these components is felt more than ever. Currently, the status of the work of nurses in different situations is determined by a lack of proper understanding of the effort-reward, which is associated with the risk of burnout. Considering the

importance of mental health of nurses, who are a ring of health care delivery system, and also lack of background studies in terms of assessing the mental health of nurses and the effort – reward, the researchers, in the present study, tried to study the relationship between effort-reward imbalance and psychosocial health in nurses, so that by planning and training in the causes available, they could provide some strategies to reduce this important issue.

METHODS AND MATERIALS

This research was conducted in hospitals affiliated to Tabriz University of Medical Sciences in a descriptive cross-sectional manner. The method of collecting information was through a questionnaire, and all of the employees willing to participate in a study had a bachelor's and a higher degree with at least 6 months of work experience. Using similar studies (20), and considering the error rate of 0.05 and sample loss of 270 nurses, the sample size was calculated 230. In this study, three questionnaires were used: the demographic questionnaire, Siegrist effort-reward imbalance questionnaire and the Copenhagen psychosocial questionnaire. In the section of demographic information of nurses, questions were asked about age, sex, marital status, average number of shifts per week, type of shift, education level, and the hospital nurses are working. In the psychosocial questionnaire of Copenhagen, 41 questions were used to examine the psychosocial factors affecting the work environment (speed of work, emotional demands, demand for hidden emotions, role conflict, job insecurity, work-family conflict, family, work, job burnout , stress, sleep problems, signs of depression, physical activity), and the scoring of this questionnaire was done using five point Likert scale. The score in each case reflects the severity of that factor in the person responsible, and Siegrist's questionnaire for the imbalance between the effort-reward, which consisted of 23 questions in three areas of effort, reward and commitment, was to measure the imbalance between effort-reward. Questions 1-6, 7-17 and 18-23 were used to investigate effort, reward and commitment, respectively. The scoring of this questionnaire is a four point Likert scale. The high score in each dimension indicates its high value, but since the goal is to examine the inconsistency of effort and reward, the proportion of effort to reward reflects the degree of matching of the individual's effort to the reward received. This indicator is obtained by dividing the effort score by the reward score and multiplying by 0.554 (due to the inequality of the number of questions). The validity of the questionnaires was evaluated using content validity method. The questionnaires were given to 10 faculty members of the faculty of nursing and midwifery to comment and after applying their opinions, a questionnaire was used. To test the reliability of the questionnaires, a test-retest method was used. The researcher gathered the information during the days and different shifts in person through the questionnaires. The collected data were analyzed using descriptive and inferential statistics such as T-student and Pearson correlation and One Way ANOVA using SPSS (version 18) software.

RESULTS

A survey of personnel demographic and occupational characteristics revealed that out of 270 participants in this study, 177 (65.5%) were women. The mean and standard deviation of nurses clinical work experience and weekly working hours were 4.30 ± 2.13 and 37.07 ± 5.13, respectively. The majority of nurses (59.6%) were married and 72.6% had undergraduate degrees, 85.9% were nursing staff, 14.1% were chief nurses and 35.9% were informal employees. Other demographic characteristics of the nurses in the study are listed in Table 1.

Table 1. demographic information of the nurses participating in the study

variable	Number (percent)	Variable	Number (percent)
Gender		**Marital status**	
Male	93 (34.4)	Single	109 (40.4)
Female	177 (65.6)	Married	161 (59.6)
Job		**Education**	
Nurse	232 (85.9)	Associate degree	40 (148.8)
Head nurse	38 (14.1)	Bachelor's	196 (72.6)
Type of employment		Master's	34 (12.6)
Formal		Mean±standard deviation	
Informal	97 (35.9)	Overwork hours€	45.97±25.23
Contractual	74 (27.4)	Work experience€	4.30±2.13
	Weekly working hour€	66.96±48.23	
Age	37.07±5.13		

€*Mean, Std. Deviati*

In this study, overall, 54.8% of the patients were suffering from an imbalance in the effort-reward model (occupational stress) according to the final score of nurses. The relatively high prevalence of this can be due to the work environment of the hospital. The results of the tests showed a significant gender difference in the level of occupational stress score in nurses (P <0.05). Pearson correlation test was performed to assess the degree of psychosocial health with effort-reward balance in nurses. This test showed that there is a correlation between work commitment and psychosocial health (r = 0.97, P <0.001), but there is a reverse correlation between effort-reward and psychosocial health. (Table 2).

Table 2. relationship between psychosocial health and effort-reward balance in nurses

Variable	Psychosocial health	
	r	P
Effort	-0.62	0.00
Reward	-1.0	0.00
Work commitment	0.97	0.00
Total score of effort-reward balance	0.95	0.00

Table 3 shows the relationship between demographic characteristics with balance of effoer-rewards in nurses, which had the highest mean and standard deviation between the nature of work in terms of mental balance and effort-reward.

Table 3. the relationship between demographic characteristics and balance of effort-reward in nurses

Variable		mean±standard deviation	Statistical tests
Gender	male	67.11±5.04	0.79
	Female	67.28±4.93	
Job	Nurse	67.27±5.03	0.73
	Head nurse	66.97±4.55	
Marital status	Single	67.76±4.68	0.26
	Married	66.86±5.12	
Type of employment	Formal	66.88±4.95	0.55
	Informal	67.20±4.90	
	Contractual	67.20±5.07	
Education	Associate degree	61.15±5.23	0.10
	Bachelor's	67.53±4.98	
	Master's	65.55±4.25	
Nature of the job	Physical	67.12±4.94	0.42
	Mental	67.83±5.11	

The relationship between other demographic characteristics of nurses and balance of effort-reward is shown in Table 4. The relationship between age, work experience and weekly working hours is significant, but there is a reverse correlation based on the Pearson correlation test.

Table 4. The relationship between demographic characteristics and balance of effort-reward of nurses

Variable	r	*p
Age	-0.02	0.63
Work experience	-0.12	0.03
Weekly working hours	-0.06	0.32
Overwork hours	-0.03	0.52

**p value < 0.05*

The relationship between nurses' graphic characteristics and psychosocial health of nurses in terms of the nature of work is mentally the most (95 + 1.50). (Table 5)

Table 5. Relationship between demographic characteristics and nursing psychosocial health of nurses

Variable		mean±standard deviation	Statistical tests
Gender	Male	94.57±1.53	0.86
	Female	94.50±1.52	
Job	Nurse	94.49±1.51	0.76
	Head nurse	94.66±1.58	
Marital status	Single	94.43±1.53	0.71
	Married	94.58±1.51	
Type of employment	Formal	94.43±1.53	0.86
	Informal	94.50±1.53	
	Contractual	94.71±1.54	
Education	Associate degree	94.50±1.60	0.34
	Bachelor's	94.68±1.50	
	Master's	93.90±1.44	
Nature of the job	Physical	94.40±1.51	0.28
	Mental	95±1.50	

CONCLUSION

Nursing is a job that is associated with high levels of mental and emotional pressure and stress. On the other hand, mutual interaction is the foundation of all transactions in social life. If these interactions are out of balance, stressful situations will arise. Mutual interaction at work involves a perception of the balance between the effort invested in performing mental and physical demands and the reward received in the form of salaries, dignity and job security.

When people, especially with a commitment to work in an organization, experience a situation in which they make a lot of effort, but receive little reward, they feel that they are in an emotional strain that can lead to burnout and other physical and mental disorders.

In the present study, the results showed that there is a correlation between work commitment and psychosocial health (r = 0.97, P <0.001), but there is a reverse correlation between effort-reward and mental health. Therefore, nurses who have a commitment to work, will increase their efforts due to their desire for dignity, and what they find is the lack of respect and dignity they deserve for their effort, which leads to a feeling of restlessness and incompatibility towards their occupational behavior, and over time, they feel helpless and inefficient in their jobs. This has a negative impact on their performance. (Benzer, 2007) and Venkal (2005) also showed that work commitment is independently related to emotional exhaustion. (18 and 17)

In the present study, in the effort dimension 67.8% of the participants reported high rates of service delivery and 87.4% acknowledged that there were worrying conditions at work, indicating that a large number of nurses under study are suffering from some degrees of mental stress. This can affect the quality of their personal life and work.

In the present study, despite having great mastery of the work, according to 55.2% of nurses, the level of their encouragement and advice to others concerning working in their workplace was very low, 66.3%. And this reflects their low satisfaction with working conditions, which is consistent with the study of Jacson et al. (19).

In this study, nurses reported a burnout rate of 63%, and 54.8% of the participants were suffering from effort-reward model (occupational stress). In a research conducted in Urmia on petrochemical workers, an imbalance between effort and reward was reported at 54%, which is almost consistent with the results of our study. (20)

In the present study, the results showed that lack of problem solving skill and lack of control of emotions led to an inconsistent adaptation for dealing with stress, which is consistent with the results of other studies conducted on nurses, indicating that nurses do not have an effective adaptation to deal with occupational stress (18 and 21). Similarly, the rate of depression in Iran has been reported to be higher than the global standard (19). In this study, 50.7% of the people were threatened with physical violence, and 31.9% of these threats resulted in physical violence and high levels of stress. Therefore, it is necessary that managers of organizations pay more attention to the imbalance symptoms in the model of effort-reward (occupational stress) in nurses, such as mental health, refraining from patient, absenteeism and reduced work quality, and provide social and managerial support in the workplace in order to reduce the amount and destructive effect of occupational stress (23, 22).

In the present study, there is a significant relationship between age, work experience, weekly working hours and effort-reward balance, but based on the Pearson correlation test, there is a reverse correlation, which is consistent with the results of Bucker et al. (24)

Considering the fact that mental health of nurses is more at risk due to numerous reasons such as the stressful nature of the profession, and the attention to and inevitability of some factors of imbalance in the model of work and reward (stress) in nursing profession are evident, it is necessary in the profession of nursing for managers to review their employees' position and characteristics to find out their staff's attitudes and behaviors and direct them in the right path. Therefore, with regard to the results, it is suggested that nursing managers establish the rules and ethics and financial support for their employees, through which they can provide policies, norms and culture that will strengthen the sense of organizational support in the individuals and lower the occupational stress arising from the effort-reward imbalance, which has significant consequences for the organization and for employees, and increases the effectiveness and efficiency of their employees.

Rotating shifts and the nurses' turns in hospitals were among the limitations of the present study, that could affect their mental health and stress scores. Data analysis was also performed on the basis of the status of work-shift in each stage. Also, access to the study samples was difficult due to different work routines, which was minimized by frequent referrals.

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