



The effect of occupational health and safety on organizational commitment in the clinical wards of public hospitals affiliated to Guilan University of Medical Sciences in Rasht

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Abstract

Introduction: The success of an organization depends on the commitment and participation of its employees. Improving occupational health and safety of employees has led to greater productivity and is a matter of interest to developed countries. Some of the factors that reduce productivity in this regard increase costs, including the unfavorable work structure, improper design of the human-machine relationship, and improper management programs. By determining the relationship between occupational safety and health status and organizational commitment, this study proposes solutions to eliminate or modify the risk factors due to poor occupational safety and health and reduce financial and human costs due to employee commitment. The main question of this study is whether there is a significant relationship between organizational commitment and compliance with the components of occupational health and safety of clinical staff of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

Materials and Methods: This research is an applied research-descriptive and correlational study. The statistical and sample population in this study is 60 wards of public hospitals of Guilan University of Medical Sciences. Sampling was done by census method and in each section, the respondents answered the questions as evaluators.

Results: One of the indicators of superiority of one organization over another is having capable and committed human resources and focusing on organizational commitment of employees is known as a strategy to increase the performance of organizations. Increasing organizational commitment increases the incidence of organizational citizenship behaviors.

Conclusion: The analysis of the data of this study shows that there is a relationship between the components "Existence of safety instructions and risk management", "Existence of occupational health and safety laws" and "Organization safety supports" with organizational commitment (emotional commitment and normative commitment). And there is no relationship between the components of "first aid and training" and "prevention of occupational hazards" with organizational commitment (emotional commitment and normative commitment).

Keywords: Occupational Health, Safety, Organizational Commitment, Government Hospital

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Introduction

Today, human resource management plays a wide and sensitive role in advancing the activities of the organization. This strategic role in practice is related to the functioning of human resource management subsystems, ie recruitment and selection, training and development, effective use and retention of human resources (1).

The success of an organization depends on the commitment and participation of its employees. McGregor believed that the biggest challenge for management is to integrate the needs of the organization with the individual needs of its members. In the United States, the need for nurses is increasing but the number of nurses is decreasing, one reason for this may be attention to organizational commitment and the need for nurses (2).

However, the shortage of medical staff is a real concern for hospitals, and given the globalization of the economy and the beginning of the migration of educated medical staff to earn better salaries, benefits and opportunities, not paying attention to this issue can also cause concern. It imposes a lot on today's hospitals. The most important cost is the loss of skills and experience in providing patient care, which is gained by spending scarce resources (3). Inspired by recent studies by Kaynak et al. in 2016 (4) on the impact of occupational health and safety as an independent variable on organizational commitment as a dependent variable in the clinical wards of public hospitals affiliated to Guilan University of Medical Sciences in Rasht to review and analyze It deals with relationships and provides effective solutions to improve the performance of the organization. This article examines the impact of occupational health and safety on organizational commitment in the clinical wards of hospitals under Guilan University of Medical Sciences and Rasht, including Razi, Poursina, Amir Al-Momenin, Dr. Heshmat, Shafa, Al-Zahra, Velayat, and among medical staff. Nurses, physicians and midwives) was conducted in a period of 5 months from September to December 2017. The statistical population of this study includes physicians-nurses and midwives and 60 medical wards in public hospitals of Guilan University of Medical Sciences. In each section, the respondents answered the questions as an evaluator

(total: 243 people) and their answers were averaged to obtain the average score of each representative for that section. For the organizational commitment variable, use the Allen and Meyer Organizational Commitment Questionnaire. (1991) with the dimensions of "normative commitment" and "emotional commitment" and for the occupational health and safety variable, Kaynak et al. (2016) with the dimensions of "prevention of occupational hazards", "first aid and training", "existence of organizational safety support" "Existence of safety and risk management guidelines" and "Existence of occupational health and safety regulations" have been used. PLS 2 and SPSS 24 software were used for data analysis. After analyzing the collected data, acceptance and rejection of the following five hypotheses are examined:

Hypothesis 1: The existence of safety and risk management guidelines has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

Hypothesis 2: The existence of occupational health and safety laws has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated to Guilan University of Medical Sciences in Rasht.

Hypothesis 3: The existence of first aid and training has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

Hypothesis 4: Prevention of occupational hazards has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

Hypothesis 5: Organizational safety support has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

Results

1. Conceptual framework of research

Considering the review of previous studies and considering that the study of the impact of occupational health on organizational commitment has not been done in the country so far, the conceptual model of this research has been taken from the studies of Kaynak, Toklu, Elci, et al. 2016 after some changes (Figure 1).

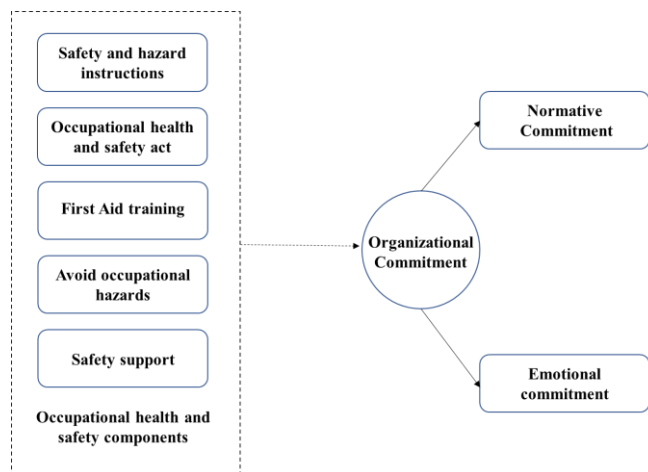


Figure 1. Conceptual model of research based on conceptual model (Kaynak, Toklu, Elci, et al. 2016).

2. Research data

In this research, a questionnaire which is one of the most common tools for collecting field data has been used. In the first part, the questionnaire of demographic characteristics of employees includes gender, education, age, occupation, type of employment and title of ward and hospital. In the second part, questions related to the dimensions of occupational health and safety and in the third part, dimensions of organizational commitment. It was composed of a range of strongly disagree, disagree, have no opinion, agree and strongly agree. The specifications of this research questionnaire are as follows in table 1.

Table 1. Specifications of the research questionnaire.

Variable	Number of items	Ref
Occupational health and safety	28	(4)
Organizational commitment (emotional commitment and normative commitment)	16	(5)

30 questionnaires were distributed among the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht and using the data obtained from it, the confidence coefficient was calculated by Cronbach's alpha method (Table 2).

Table 2. Reliability coefficients of the initial questionnaire.

Variable	Alpha coefficient
safety and risk management instructions	0.942
occupational health and safety act	0.917
first aid and training	0.873
Avoid occupational hazards	0.951
Organizational safety support	0.854
Emotional commitment	0.955
Normative commitment	0.958

Out of 60 medical wards of Guilan University of Medical Sciences, 21 wards belong to Razi Hospital, 3 wards to Poursina Hospital, 6 wards to Amir Al-Momenin Hospital, 6 wards to Dr. Heshmat Hospital, 10 wards to Shafa Hospital, 10 wards to Al-Zahra Hospital and 4 wards belonging to the hospital Are provinces.

Women make up 84.8% and men 15.2% of the respondents. Undergraduate, postgraduate and doctoral study groups are 82.3, 2.9 and 14.8% of the respondents, respectively. Age groups 20 to 30 Years, 21 to 40 years, 41 to 50 years and 51 to 60 years have made up 20.2, 40.3, 32.5 and 7% of the respondents, respectively. Occupational groups: nurse, midwife, medical doctor and faculty members 82.3, 6.2, 1.2 and 10.3% of the respondents, respectively. Definitive, formal-probationary, contract and contract formal employment groups, respectively, 53.9, 6.2, 9.9 and They make up 30% of the respondents.

In this study, the information obtained from the questionnaire after the study, was classified, to analyze the data and information, according to the objectives presented, first the amount or value of each variable was determined based on the data and scores obtained from the questionnaire. Then, describing the information obtained in the form of descriptive tables and graphs gives an overview of how they are distributed, which can help in how to use different statistical models. In the next step, the research hypotheses were tested using the structural equation method. All these analyzes were performed by Smart PLS 2 and SPSS 24 software.

3. Description of research variables

Among the dimensions of occupational health and safety, the presence of first aid and education with 3.62 and among the dimensions of commitment, emotional commitment with 3.12 has the highest average.

4. Inferential statistics

In this section, to answer the research questions and test the hypotheses, the partial least squares method was used using Smart PLS 2 software.

5. Structural model test

In this section, the research model is reviewed. In the proposed model, the sign of the variables is as follows:

6. Examining the research model (Figure 2)

- Existence of safety and risk management instructions: SPRM
- Existence of occupational health and safety laws: SAHR
- Existence of first aid and training: FAST
- Occupational hazard prevention: OHP
- Organization Security Support: OSS
- Emotional Commitment: Aff-Com
- Normative Commitment: No-Com

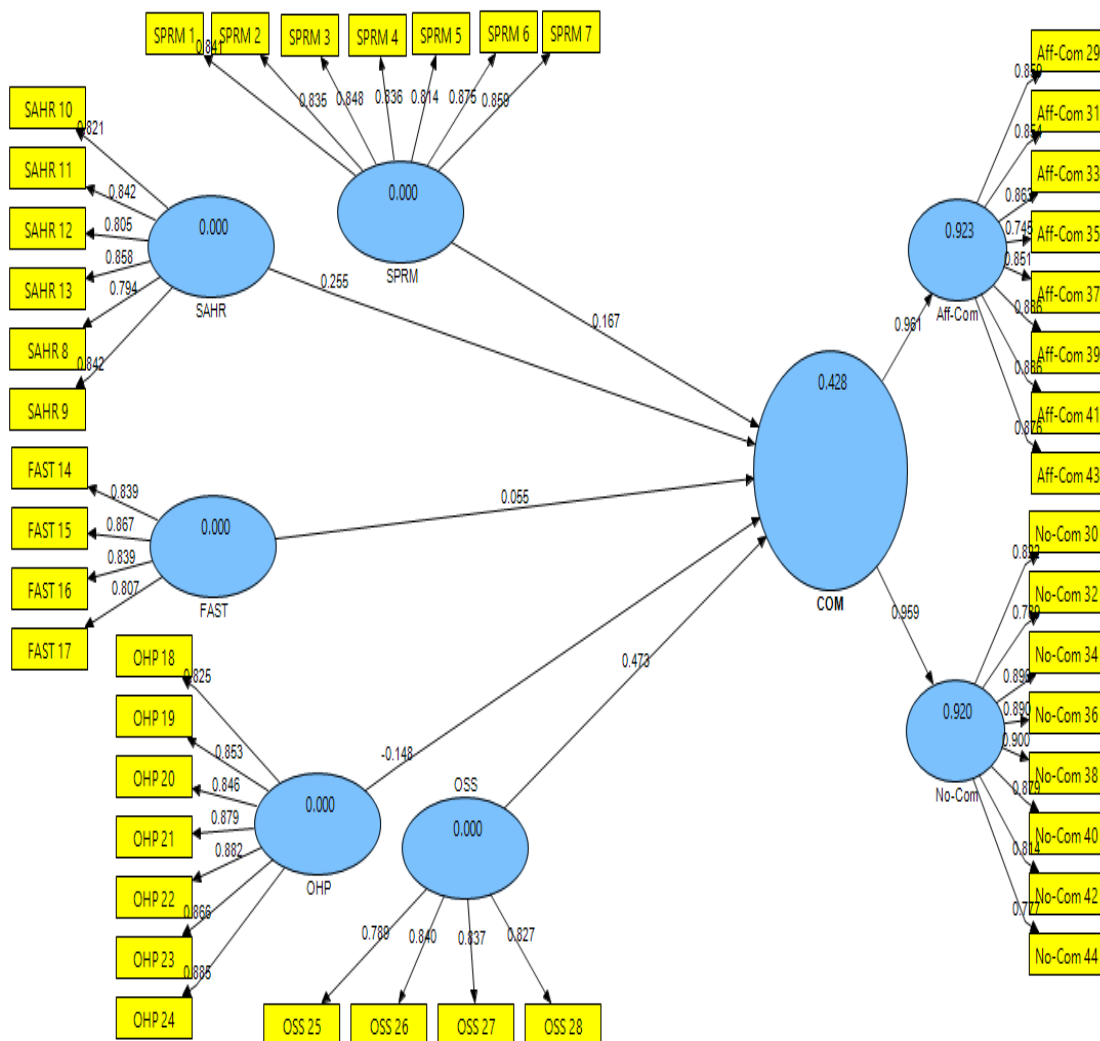


Figure 2. Research model test.

7. Criteria for evaluating the fit of the structural part

7.1. Significant numbers t (t-values)

The most basic criterion for the relationship between structures in the model (structural part) is the significant number t. If the value of these numbers exceeds 1.96, it indicates the correctness of the relationship between the structures and thus confirms the research hypotheses at a 95% confidence level.

7.2. Standard squares or R2

R2 is a criterion used to connect the measurement part and the structural part of structural equation modeling and shows the effect that an exogenous variable has on an endogenous variable as shown in Table 3, given that the value of R2 for organizational commitment is 0.42, this result means that about 0.42 of the variance of organizational commitment is explained by independent variables.

Table 3. Coefficient of determination.

	Determination coefficient
Organizational commitment	0.428

7.3. General Seed Fit Evaluation Criteria

GOF criterion: With this criterion, the researcher can control the overall section fit after examining the fit of the measurement part and the structural part of his general research model. Wetzels et al. (2009) introduced three values of 0.1, 0.25 and 0.36 as weak, medium and strong values. GOF is calculated as follows:

$$GOF = \sqrt{\text{communalities} * R^2}$$

Communalities : The average of the common values of each structure

R² : The average values of the endogenous structures of the model

The amount of this statistic for the present research model is:

$$GOF = \sqrt{0.710 * 0.428} = 0.551$$

Considering that three values of 0.1, 0.25 and 0.36 have been introduced as weak, medium and strong values (Wetzels et al., 2009), obtaining the value of 0.555 indicates a good fit for the model.

Discussion

Organizational commitment is an important concept in management that refers to the nature of the relationship between the individual and the organization. Researchers have studied this structure extensively, especially in the field of organizational psychology and organizational behavior (6).

Organizational commitment and attention to the health and well-being of employees in the workplace is one of the important effects of strategies on employees' work tendencies. Organizational commitment requires the establishment of an active relationship between the employee and the organization, so that the employee with an esoteric desire, beyond predetermined behaviors, wants to help achieve the goals of the organization by playing a more active role (7). Studies on organizational commitment show the importance of the fact that this variable affects other variables such as performance, citizenship behavior, leaving work (8, 9), job satisfaction and organizational behavior (10). It is expected that increasing organizational commitment will increase the incidence of organizational citizenship behaviors. Experimental findings also confirm this Health care workers are at risk for nosocomial infections and musculoskeletal injuries from lifting and transporting patients or putting stress on them. According to the National Institute for Occupational Safety and Health (NIOSH), the most common injuries in the healthcare sector are injuries from needle injuries, musculoskeletal disorders and back injuries. There are five groups of biological, chemical, physical, ergonomic and psychological factors as well as problems caused by poor occupational safety (11).

Occupational health and safety focus on health, safety and well-being, and protects emotional and physical health to guide employees (12).

Improving occupational health and safety of employees has led to greater productivity and is a matter of interest to developed countries. Some of the factors that reduce productivity in this area that increase costs are Improper workplace design, inappropriate work structure, job-employee mismatch, unfavorable environments, inappropriate human-machine relationship design, and inappropriate management plans. The five components of occupational health and safety are "Occupational Hazard Prevention (OHP)", " Safety procedures and risk management (SPRM)", "Organizational Safety Supports (OSS)", "First-aid supports and training (FAST)" and "Safety and health rules (SAHR)" (4). Organizations of all kinds are increasingly interested in achieving and proving the proper functioning of occupational safety and health by controlling occupational safety and health risks consistent with their overall goals and policies. These organizations implement their strategies in the form of laws, development of economic policies and other measures for good safety activities, occupational health and increasing attention to stakeholders to increase organizational commitment (13). Considering that in recent years less attention has been paid to the role of occupational health and safety on organizational commitment among the clinical staff of public hospitals of Guilan University of Medical Sciences in Rasht and due to the increasing importance of occupational health and safety in ranking and accreditation of hospitals and attention Failure to pay attention to the job and safety needs of staff can lead to problems and reduce the motivation and commitment of clinical staff in hospitals. Therefore, this study seeks to investigate the components affecting occupational health and safety and its relationship with organizational commitment (normative commitment and emotional commitment). Therefore, this study investigates whether the observance of occupational health and safety principles has an effect on the organizational commitment of clinical staff of public hospitals of Guilan University of Medical Sciences in Rasht?

Despite the fact that several studies have been conducted in the country to assess the satisfaction of various occupations, especially the nursing profession, but despite the importance of the impact of

occupational health and safety factors on organizational commitment, no study has been conducted in this field. Also, so far, no applied research on the impact of occupational health and safety on the organizational commitment of clinical staff of Guilan University of Medical Sciences in Rasht and the country's medical universities has not been conducted.

Conclusion

1. Descriptive findings of demographic variables

Based on the description and analysis of the collected data:

Out of 60 medical wards of Guilan University of Medical Sciences, 21 wards belong to Razi Hospital, 3 wards to Poursina Hospital, 6 wards to Amir Al-Momenin Hospital, 6 wards to Dr. Heshmat Hospital, 10 wards to Shafa Hospital, 10 wards to Al-Zahra Hospital and 4 wards belonging to the hospital Are provinces. Gender: 84.8% of the respondents were female and 15.2% of the respondents were male. The education rate is 82.3% for bachelor's respondents, 14.8% of doctoral students and 2.9% of masters. Most respondents (40.3%) are in the age group of 31 to 40 years. Most of the participants (82.3%) were nurses. Most respondents (53.9%) had formal-definite employment status.

2. Descriptive findings of the main variables

2.1. Organizational commitment variable:

It can be seen that from the dimensions of organizational commitment, normative commitment has the lowest average and emotional commitment has the highest average.

2.2. Components of occupational health:

It can be seen that among the components of occupational health and safety, the lowest average is related to the dimension of safety support of the organization and the highest average is related to the dimension of first aid and training.

3. Results of inferential statistics (results obtained from research hypotheses)

Hypothesis 1: Existence of safety and risk management guidelines has a significant effect on the organizational

commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

The general results obtained from the value of the accepted standard coefficient belong to the variables of the existence of safety instructions and risk management and organizational commitment and the study of the research model indicates that this hypothesis is accepted.

According to the research model in a significant way, it was observed that the value of the t-statistic between these two variables is equal to 2.45 and since this value is more than the limit value of 1.96, the result can be at least 95% Trust acknowledged that the existence of safety and risk management guidelines has a significant impact on employees' organizational commitment. As it was observed, the existence of safety and risk management guidelines with a standardized coefficient of 0.167 has a significant positive effect on the organizational commitment variable.

Hypothesis 2: The existence of occupational health and safety laws has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

The general results obtained from the value of the accepted standard coefficient belonging to the variables of the existence of occupational health and safety laws and organizational commitment and the study of the research model indicate the acceptance of this hypothesis.

According to the research model in a significant way, it was observed that the value of t-statistic between the two variables of occupational health and safety laws and organizational commitment is equal to 3.71 and since this value is more than the limit value of 1.96 As a result, it can be accepted with at least 95% confidence that the existence of occupational health and safety laws has a significant effect on organizational commitment. As it was observed, the existence of occupational health and safety laws with a standardized coefficient of 0.255 has a significant positive effect on the organizational commitment variable.

Hypothesis 3: The existence of first aid and training has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated to Guilan University of Medical Sciences in Rasht.

The general results obtained from the value of the accepted standard coefficient belonging to the variables of the presence of first aid and training and organizational commitment and review of the research model indicate the non-acceptance of this hypothesis.

According to the research model in a significant way, it was observed that the standardized coefficient between the two variables of the presence of first aid and training and organizational commitment is equal to 0.05. Also, the value of the t-statistic between these two variables is equal to 0.9. This value is less than the limit value of 1.96. Therefore, this effect is meaningless and the existence of first aid and education has no significant effect on the organizational commitment of the staff of the clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

Hypothesis 4: Prevention of occupational hazards has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

The general results obtained from the value of the accepted standard coefficient belonging to the variables of professional risk prevention and organizational commitment and the study of the research model indicate that this hypothesis is not accepted.

According to the research model in a significant way, it was observed that the standardized coefficient between the two variables of professional risk prevention and organizational commitment is -0.148. Also, the value of t-statistic between these two variables is equal to 1.83. This value is less than the limit value of 1.96. Therefore, this effect is meaningless and the prevention of occupational hazards has no significant effect on the organizational commitment of the staff of the clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

Hypothesis 5: Organizational safety support has a significant effect on the organizational commitment of the staff of clinical wards of public hospitals affiliated with Guilan University of Medical Sciences in Rasht.

The general results obtained from the value of the accepted standard coefficient belonging to the variables of organizational safety support and organizational commitment and a review of the research model indicate that this hypothesis is accepted.

According to the research model in a significant way, it was observed that the value of t-statistic between the two variables of organizational safety support and organizational commitment is equal to 7.68 and since this value is more than the limit value of 1.96, a result It can be accepted with at least 95% confidence that organizational safety support has a significant effect on organizational commitment. And as it was observed, the safety support of the organization with a standardized coefficient of 0.473 has a significant positive effect on the variable of organizational commitment.

The results showed that among the components of occupational health; the Existence of safety and risk management instructions, existence of occupational health and safety laws, and safety support of the organization will increase the organizational commitment of the staff of the clinical wards of public hospitals affiliated to Guilan University of Medical Sciences in Rasht. According to the results of this study, in order to increase the organizational commitment of employees, especially employees of clinical wards of public hospitals affiliated to Guilan University of Medical Sciences in Rasht, the following practical suggestions are presented:

1. In order to increase the organizational commitment of employees and also to reduce absenteeism and leaving work, efforts should be made to define potential risks and their consequences in the relevant organization, and the method of doing work following the criteria should be provided to employees related to that job.
2. The organization pays attention to maintaining the health of its employees and medical examinations should be performed both at the beginning of

employment and during employment to maintain their health.

3. Try to eliminate dangerous and threatening conditions for employees' health. And safety laws are enforced under all circumstances.
4. Efforts should be made to provide appropriate medical support to staff, compensation should be paid in the event of injury, and staff should be given sufficient time to recover.
5. Design a questionnaire based on indigenous needs.
6. Use other models and organizational commitment questionnaires such as Balfour and Kessler (1996), Porter's Organizational Commitment Questionnaire (POCQ) et al. (1974), which have fewer items.
7. The subject of the research should be done with a comparative approach in paraclinical and non-clinical wards of hospitals.
8. In future research, accounting commitment should be considered as one of the dimensions of organizational commitment.

Author contributions

AA and **MHNG** Contributed to the design and implementation of the research, analysis of the results and to the writing of the manuscript

Conflict of interest

The authors declare that they have no conflicts of interest.

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