



RESEARCH ARTICLE

COMPARISON OF THE KNOWLEDGE, ATTITUDE AND PERFORMANCE OF HOSPITAL MANAGERS IN BUSHEHR PROVINCE ABOUT NOSOCOMIAL INFECTIONS

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Abstract

Objective: Nosocomial infections are one of the social and economic medical problems in developing countries, which contribute to the spread of infectious diseases and long hospitalization and mortality among patients. The aim of this study was evaluating the knowledge, attitude and practice of hospital managers in Bushehr Province in the field of nosocomial infections.

Methods: The study was a descriptive – analytic carried out on 52 managers of hospitals governmental and non – governmental in Bushehr Province in 2018. The world health organization questionnaires were used to collect knowledge, attitude and practice data. Data was analyzed by SPSS software version 20. This is a descriptive-analytic study conducted on 52 managers of governmental and semi-private hospitals in Bushehr province in 2018. The needed data on knowledge, attitude and performance was collected by 3 questionnaires published by the World Health Organization. The collected data was analyzed by SPSS statistical software version 20.

Results: The results of this study showed that 11.54% of managers had good knowledge of nosocomial infection, 67.31% had good attitude and 42.31% of managers had advanced level of performance. There was not any significant association between knowledge and Practice and also knowledge and attitude; but there was a significant association between, attitude and practice ($p < 0.05$).

Conclusion: According to the results of this study, although managers' attitude towards nosocomial infections is quite good, most of them had not desirable knowledge and practice to prevent them. Considering the important role of managers in prevention of nosocomial infections, it is very important to pay more attention to the training of this group in order to improve the management of infection control in hospitals.

Keywords: Authorities, Hospital managers, nosocomial infection.

INTRODUCTION

Nosocomial infections along with growth in hospitals have been always as major health and medical problems and by increasing the time of inhabitancy related to patient in hospital lead to growth in affection and mortality because of these infections, so they heavily increase the costs of the hospital¹⁻³. In a study done under supervision of world health organization 55 hospitals in 12 countries, it was observed that 8.7% of patients hospitalized in hospital, have been affected to nosocomial infection. In east Mediterranean countries and southeast Asia, statistics has been reached to 11.8%⁵. World health organization represents hospitals as places that health is more emphasized than sickness in them and in this idea, two aspects of health of

patients and health of employees are noticed, so it seems that investigating the amount of awareness and performance of nursing personnel about preventing nosocomial infections are necessary. Nowadays, controlling nosocomial infections is a global priority. Many factors help in growth of these infections⁴. Nosocomial infection is an important infection in affecting and death of people hospitalized in hospital. Prevention of nosocomial infections is an issue that needs three concepts of awareness, attitude and performance and awareness and amount of cognition, ideas and behaviors of nurses and managers have especial importance than controlling infection. Nosocomial infection is an infection that is created as limited or diffused and because of pathogenic reactions related to infectious element or its poisons in hospital,

provided that it is created at least 48 to 72 hours after admission of patient in hospital⁸. Observing the health of hand is a very easy way in decreasing nosocomial infections, preventing growth in antimicrobial resistance and increasing immunity of patients. Nurses because of doing direct care of patients, have crucial roles in preventing nosocomial infections. Despite the importance of sanitizing hand in prevention of nosocomial infections, yet this issue has not been changed to policy of responsible people and managers of WHO and observing it, is placed in low and undesirable level⁹. One of the important issues in controlling nosocomial infections is managers of hospitals who regard controlling infection as a crucial priority. While if we want to set a culture, at first we should increase awareness in managers, society and people. Then, the device can be controlled and the expectations can be achieved. Generally, because nosocomial infection is an inappreciable issue and cannot be seen, is placed on next priority. Unless, there is an especial management maturity that proceeds to this issue seriously³.

Managers and responsible people of various sections related to hospitals as effective and determiner people in health care with actions such as using great plans in principles of standard precaution, budget's assignment, plans of nosocomial infections and observing health of hand, securing sufficient human power and using prevention standards have unique roles in controlling and preventing nosocomial infections. So, Managers and responsible people of hospital should have proper and sufficient scientific information about all kinds of nosocomial infections and ways of preventing their creations to adopt the best decisions and procedure. Their belief, attitude and performance about observing these items should be amplified to protect patients against affecting these infections and return them to their families and society as soon as possible⁴. Preventing nosocomial infections is an issue that needs attention to three concepts of awareness, attitude and performance, so in the present study we compare awareness, attitude and performance of superior and middle managers of hospitals in Bushehr province than the importance of controlling nosocomial infections and also the ways of preventing them in 1396. The usage of this study is toward investigating probable weak points of managers and responsible people according to their knowledge, attitude and performance about controlling nosocomial infections and performing current instructions to design and execute continuous educational plans for this group on the basis of these real issues, minimize transferring nosocomial infections and decrease consumed costs for curing these items.

METHODS

This study is descriptive-analytic for determining knowledge, attitude and performance of managers in hospitals dependent and independent to medical sciences university of Bushehr in controlling nosocomial infections and ways of preventing it. Population of the study was all working superior and

middle managers in hospitals of Bushehr province. According to the way of sampling, all 72 superior and middle managers (the boss of the hospital, interior manager, matron and supervisor of controlling infection) were chosen. As the amount of observing health of hands in medical personnel is the first pace in controlling nosocomial infections, so for collecting data in this study, standard questionnaires of world health organization (WHO) which have been in the field of health, have been used¹². These questionnaires included (questionnaire of awareness, attitude and performance) that have been used in some of the regions in the world. Reliability and validity of questionnaires have been previously confirmed. In distributed questionnaires, 52 of the managers answered mentioned questionnaires. The first questionnaire has been adjusted into two sections. The first section has been adjusted in 7 questions which includes demographic information which is regarded as parts of the basic questionnaire and later the basic questionnaire is begun from it that has 13 separated questions and this questionnaire is for estimating the amount of awareness related to managers for observing health of hand and is a part of the knowledge of controlling nosocomial infection. The second questionnaire includes 18 questions. This questionnaire has been adjusted for estimating the amount of attitude of the managers toward observing health of hand in nosocomial infection that has been ranked in 5 point Likert scale. The third questionnaire has been comprised in 5 sections that include change of system, education and practice, evaluation of feedback, warner of workplace and conditions of safety, respectively. The way of collecting data was in such a way that the investigator by referring to different hospitals has performed distribution of the questionnaire and for preventing ambiguity, during delivering the questionnaire to people, necessary explanations were presented. After completing the questionnaires, the investigator collects the distributed questionnaires. After collecting questionnaires, SPSS20 software and analytic statistics of data including frequency, mean and standard deviation have been used for analyzing data and also for analyzing data, variance test (ANOVA), independent t test, k square and their nonparametric equivalent such as Mann Whitney, Kruskal-Wallis and Pearson correlation coefficient were used and also in order to determining normality, nonparametric tests of Kolmogorov-Smirnov were used.

RESULTS AND DISCUSSION

In this study, 52 of superior and middle managers of hospitals in Bushehr have been investigated in importance of observing health that 26 were women (50%) and 26 were men (50%). The mean of awareness point related to health of hand was 13.9 ± 3.4 in men and 14.6 ± 3.9 in women. The mean of attitude point was 73.8 ± 9.9 in men and 76 ± 7.8 in women. The mean of function point was 352 ± 77.2 in men and 358.7 ± 73.5 in women, but this difference was not statistically

meaningful among awareness, attitude and performance of managers than gender. According to Table 1, the point of awareness categorized with independent variables, shows responsibility that the most percent of total score of awareness related to responsible people (the boss of the hospital, interior manager, matron and supervisor of controlling infection) is in average level. Unfortunately, the amount of awareness related to 41.1% of responsible people was weak and will not be ineffective in strategies of controlling infection. In the present study, limited amount of managers have responded properly to the questions of knowledge and

totally it can be said that the amount of knowledge of managers in participative hospital about the amount of effect related to nosocomial infections and observing health of hand is low according to the first questionnaire. This finding is an alarm for managers and responsible people, because managers and responsible people are main decision makers and politicians in this field and by low knowledge, they cannot noticeably help hospitals in controlling and preventing nosocomial infections that should be more noticed. On one hand, half of them have stated that medical personnel pay lots of attention to their requests about observing health of hand⁴.

Table 1: The percent of grade related to the points of managers awareness on the basis of responsibility according to controlling nosocomial infection and health of hand.

Statistical analysis	Sum		Control supervisor		Matron		Internal manager		Hospital head		Variables Rank
	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	
df=0.85 P=0.05	41.2	21	35.3	6	33.3	6	58.3	7	50	2	Weak
	47.1	24	58.9	9	50	9	33.3	4	50	2	Medium
	11.8	6	11.8	2	16.7	3	8.3	1	0	0	Good
	100	51	100	17	100	18	100	12	100	4	Sum
df=0.352 P=0.05	2	1	0	0	0	0	8.3	1	0	0	Weak
	29.4	15	35.3	6	38.9	7	16.7	2	0	0	Medium
	68.6	35	64.7	11	61.1	11	75	9	100	4	Good
	100	51	100	17	100	18	100	12	100	4	Sum
df=0.352 P=0.05	5.9	3	17.6	3	0	0	0	0	0	0	Weak
	52.9	27	52.9	9	55.6	10	58.3	7	25	1	Medium
	41.2	21	29.4	5	44.4	8	41.7	5	75	3	Good
	100	51	100	18	100	18	100	12	100	4	Sum

The mean of awareness score in governmental hospital was 14.2±3.6 and in semi-private hospital it was 14.3±3.7. But this difference was not statistically meaningful (P>0.05) and the amount of awareness related to managers in governmental and semi-private hospitals is equivalent and is not different, but according to performed ranking (good, average, weak) on the basis of the type of hospital, the mean of awareness point 42.4% of managers in governmental hospitals is in weak level and according to semi-private hospitals, is placed in lower level of awareness. The mean of attitude's point in governmental hospital was 72.9±9.4 and in semi-private hospital it was 78.8±6.8. But according to performed ranking(good, average, weak) on the basis of the type of hospital, the mean of attitude's score of 84.2% of managers in semi-private hospitals is in good level and according to governmental hospitals, is placed in higher level of awareness. Among quantitative dependent variables, performance and type of hospitals (governmental and semi-private) were not statistically meaningful (p>0.05) and there is not any difference in governmental and semi-private hospitals according to the amount of performance related to managers and it is equivalent. The mean of performance's point in governmental hospital was 335±11.1 and in semi-private hospital it was 390.7±18.3. But according to performed ranking(good, average, weak) on the basis of the type of hospital, the mean of performance's score of 68.4% of managers in semi-private hospitals is in

good level and according to governmental hospitals, is placed in higher level of performance. By using meaningful test of Pearson correlation coefficient (p>0.05, r=0.015) in level of 95%, there is not reliance between awareness and attitudes of managers and also between awareness and performance, but there is meaningful relation between attitude and performance. Findings of this showed that awareness about nosocomial infections is weak and low numbers of managers have replied properly to the questions in the field of knowledge and totally it can be said that the amount of weak knowledge related to responsible people and managers of participated hospitals in the field of controlling nosocomial infection is effective in their decision making, because managers and responsible people are main decision makers and politicians in this field and they by low knowledge they cannot noticeably help hospitals about controlling and preventing nosocomial infections that should be more paid attention. It is approximately corresponds to the results of a study done by Meinian and colleagues in 2013 in Imam Hossein hospital of Tehran and among 40 managers and responsible people, a few of studied managers and responsible people could properly answer the questions in the field of knowledge⁴. Also, in other study that has been done on nurses in 2004 in medical centers of medical sciences university in Golestan, the results arisen from the investigation represent that 26.5% of studied nurses had weak awareness, 69.3% had average awareness and 9.5%

had good awareness⁶. Another study aimed at noticing nursing supervisors about nosocomial infections in hospitals of army in 2012 that was performed, reported awareness of supervisors as proper¹¹. It should be said that the amount of awareness related to managers about nosocomial infections depends on many factors including personal, educational features, holding educational courses and management and motivation factors.

About attitude of managers, results showed that there is not any difference in attitude of managers in governmental and semi-private hospitals and it is equivalent, but according to performed ranking (good, average and weak) on the basis of the type of hospital, the mean of attitude's point of 84.2% of managers in semi-private hospitals is in good level, than governmental hospitals it is placed in higher level of attitude. This study has been approximately corresponded to the results of the investigation of Allah Bakhshian "Awareness, attitude and performance of nurses about controlling nosocomial infections" done in 2011 in intensive care units of educational medical centers of Tabriz and about the attitude of studied units regarding controlling nosocomial infection that maximally have been nurses, have had positive attitudes toward controlling infection⁵. It has been also corresponded to the results of investigation related to Meinian and colleagues which has reported that managers and responsible people of Imam Hossein hospital have positive attitude about observing health of hand and controlling nosocomial infections⁴. According to this issue that in this investigation a meaningful relation was shown between attitude and performance of managers and as responsible people are as effective people on observing health of hand and preventing nosocomial infection for other staff, so change in attitude of managers and responsible people can be effective in growth of executing health instruction of hand.

About performance of managers, the amount of performance related to managers in governmental and semi-private hospitals (non-governmental) is equivalent, but according to performed ranking (good, average and weak) on the basis of the type of hospital, the mean of performance's point of 68.4% of managers in semi-governmental hospitals is in good level, than governmental hospitals it is placed in higher level of performance. Also, totally the amount of performance of managers in hospitals of the province has been analyzed as average that compared to results of the investigation of Goodarzi as "investigating the performance of nursing managers in executing plans of controlling infection in hospitals of medical sciences in Tehran" that was done in 2006, has shown 51% of nursing managers have had weak performance².

Also, results of the study of Esfahani and colleagues as "investigating knowledge, attitude and performance of nurses related to principles of multilateral precautions" that has been done in 1391 in hospitals of medical sciences university of Babol, has shown that about performance of nurses, 13.9% had weak performance and about 68.7% had average performance⁷. Also in results of Allah Bakhshian and colleagues in

investigating the performance of studied units related to controlling nosocomial infection, it showed that approximately most of nurses had average performance⁵. As awareness, attitude and performance of managers and responsible people of hospitals in the field of controlling nosocomial infections are so important, it is necessary to create more plans in the field of periodical and methodical educations for managers and responsible people. Activities related to controlling infection by inter-section cooperation and accordance also are done and by adjusting coherent operational plan it is necessary to define adjustment and explanation of roles in all related units and manage by direct supervision of responsible people in hospitals. Committees of controlling nosocomial infections should become active and by attendance of the boss of hospital and supervisors of controlling infection, have sufficient authorities and executive power in order to managing important plan and decisions in hospital. Attendance of responsible people and boss of the hospital in committees can increase its importance¹. According to this issue that attitude and performance of staff in the field of controlling infection necessarily by increasing awareness will not singly grow, it is suggested to create motivation and working obligation in staff, the device of punishment and encouragement in workplace is uses into different ways¹².

CONCLUSIONS

In order to make familiar the managers of hospitals toward issues of controlling nosocomial infection and using experiences of other successful managers, hospitals that were pioneer in protecting and controlling nosocomial infections, are visited periodic. Totally, results of this investigation can warn responsible people that yet there are lots of problems in execution of protecting and controlling infection and the most important of all is weak information of managers that can really effect on performance and attitude of managers. But, according to this issue that any coherent plan in the field of controlling nosocomial infections, especially observing health of hand by managers will be efficient in preventing nosocomial infections, in this regard it is suggested to study the reasons of amount related to admission of health of hand in hospitals. Challenges in controlling nosocomial infection and presenting beneficial solutions in better execution of controlling nosocomial infection are also suggested.

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AUTHOR'S CONTRIBUTION

Yazdanpanah A: writing original draft, methodology, investigation. **Boushehri LB:** formal analysis, data curation, conceptualization. **Vahdat S:** writing, review and editing. All authors revised the article and approved the final version.

DATA AVAILABILITY

The data and material are available from the corresponding author on reasonable request.

CONFLICT OF INTEREST

No conflict of interest associated with this work.

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