**FACTORS EFFECTIVE ON READINESS OF HOSPITALS AFFILIATED TO MEDICAL UNIVERSITY OF BOUSHEHR PROVINCE AGAINST ACCIDENTAL EVENTS IN 2017**

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**ABSTRACT**

**INTRODUCTION**

Today, physical and financial complications and damages due to natural and unnatural events have an undeniable and tremendous impact on human health and style of living to the extent that its destructive and wreckful impact interrupt the ability of a society in supplying main needs supply and causes death or injury and dysfunction of many people of the world. According to World Health Organization, accidents create problem everywhere and every day but there is not yet enough motivation in people, national and local authorities for planning in order to prevent events. World Health Organization declared 2009 as health year in events and disasters. Severity and occurrence of events is increasing in the world whose consequence is death, illness and also increasing of economic costs. Earthquake is one of the most prevalent and deathful events in the world. Earthquake is considered one of the most frightful natural phenomena. We often imagine the land on which we have stranded as a strict and rigid rock which has a high strength. When an earthquake occurs, for a moment this image is destroyed, but during the same short moments, sever damages are imposed. Iran is in the fourth rank of Asia and 6th world rank in respect of occurrence of natural disasters. Though Iran has just 1% of the world population, but has designated more than 6% of deaths due to occurrence of world natural disasters. Centers providing healthcare services are the first line of opposing the consequences of such events and sudden rush of injured causes disorder and interruption in providing services to the injured. Non-readiness in such cases causes imposing many damages to those in need of treatment services and personnel providing healthcare services. For this reason assessing the rate of readiness of healthcare centers especially hospitals against these events seems a vital and indispensable issue in the country’s hospitals. It is clear that the higher the rate of readiness and predictions for facing and opposing accidental events in healthcare centers, the higher is the possibility of providing services during occurrence of accidents. Most hospitals face shortage of human power, duties intercurrence and operation interference in critical conditions of accidents occurrence and also main challenges in management and organization of hospital personnel is observed. Suitable organization or structural codifying for hospital readiness should be performed in order to perform the process ending in opposition in dimensions of predicting, reducing danger, responding, relief and livery, support services and improvement and reconstruction. Any country healthcare system among organizations providing services has a key and effective role in crisis management that of course hospitals among several components will have the most important role in providing readiness plans and strategies of opposing crisis and reducing physical damages. All hospitals should have a guideline, universal and standard plan for facing accidental events to rapidly respond in crises. Regarding the significance and sensitivity of hospitals and healthcare centers in supplying people health requirements in ordinary status and in events and disasters and since the policy of Ministry of Health, Treatment and Medical Training has been generally promoting readiness of health section against disasters, in this regard, providing a single protocol and instruction is very helpful. This study has tried regarding internal and abroad studies and experts views, introduce an approach for explaining main and basic measurements, so that hospitals act based on it when responding events and disasters and also it is utilized for promoting level of hospital readiness. So, the aim of this study is to investigate factors effective on readiness of hospitals affiliated to Boushehr Province University of Medical Sciences against accidental events in 2016.

**METHODOLOGY**

This study is descriptive- cross sectional and was conducted in 2017 on 152 members of crisis team in Boushehr Province hospitals. The sample content was calculated using formula

\[
n = \frac{N \times z^2 \times p \times q}{z^2 \ast (N-1) + (z^2 / 2) \times (p+q)}
\]

\[
250 \times 1.96^2 \times 0.5 / 0.5
\]

\[
(1.96^2 \times 250) - 0.5 = 151.684 \pm 152
\]

Questionnaire of accidental events was provided for Boushehr Province crisis team. The inclusion criteria was members of crisis team and the exclusion criteria was non-cooperation in implementing the plan. The used questionnaire included...
demographic information and the accidental events questionnaire included 157 questions of 7 domains (evaluating planning of safety of equipment and materials, evaluating communications planning, evaluating planning of discharge and transfer section, evaluating planning of patients’ reception, evaluating planning of continuous preparation and training of personnel, support planning evaluation and evaluating emergency department planning). The response of each question was in the format of yes or no. The questionnaire was standard and its reliability and validity has been confirmed by Bazargan et.al. Data analysis was done by SPSS software version 21 and descriptive (average, percent and frequency) and inferential (qui-square) tests.

RESULTS

The rate of readiness of hospitals for each domain of the questionnaire is provided here. Qui-square test showed that the observed frequency for the yes category is more than no category, so there is a significant relation between reception planning in hospitals affiliated to Bushehr University of Medical Sciences and readiness against accidental events.

Table 1: descriptive specifications relating to the variable of patients reception planning

<table>
<thead>
<tr>
<th>Evaluating planning patients reception</th>
<th>Frequency</th>
<th>Sam</th>
<th>Aggregate</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>sam Yes 1495</td>
<td>57.7</td>
<td>57.7</td>
<td>57.7</td>
<td></td>
</tr>
<tr>
<td>ple No 1098</td>
<td>42.3</td>
<td>42.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Sum 2593</td>
<td>100.0</td>
<td>100.0</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

Qui-square test results showed that the frequency observed for yes category is much more than no category, so there is a significant relation between emergency planning in hospitals affiliated to Bushehr University of Medical Sciences and readiness for opposing accidental events.

Table 2: descriptive specifications relating to emergency planning

<table>
<thead>
<tr>
<th>Evaluating patients reception planning</th>
<th>Frequency</th>
<th>Sam</th>
<th>Aggregate</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>sam Yes 1495</td>
<td>57.7</td>
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<td>100.0</td>
<td>100.0</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

The results of qui-square test showed that the frequency observed in yes category is much less than no category, so there is a significant relation between planning of discharge and transfer section in hospitals affiliated to Bushehr University of Medical Sciences and readiness against accidental events. The results of qui-square test showed that the frequency observed for yes category is much more than no category, so there is a significant relation between communication planning in hospitals affiliated to Bushehr University of Medical Sciences and readiness against accidental events. The results of qui-square test showed that the frequency observed for category yes is more than category no, so there is a significant relation between support planning in hospitals affiliated to Bushehr University of Medical sciences and readiness for opposing accidental events. Also, there is a significant relation between planning for continuous readiness and training of personnel, support planning evaluation and evaluating emergency department planning. The response of each question was in the format of yes or no. The questionnaire was standard and its reliability and validity has been confirmed by Bazargan et.al. Data analysis was done by SPSS software version 21 and descriptive (average, percent and frequency) and inferential (qui-square) tests.

Using Friedman test, the rate of optimality and impact of each domain was ranked.

Table 3: Friedman test for prioritizing the variables

<table>
<thead>
<tr>
<th>Evaluating hospital departments</th>
<th>Research variables</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium</td>
<td>Evaluating planning of materials &amp; equipment safety</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>Evaluating planning of communications</td>
<td>2</td>
</tr>
<tr>
<td>Medium</td>
<td>Evaluating planning of discharge &amp; transfer section</td>
<td>3</td>
</tr>
<tr>
<td>Weak</td>
<td>Evaluating planning of continuous preparation &amp; training personnel</td>
<td>5</td>
</tr>
<tr>
<td>Weak</td>
<td>Evaluating planning of support</td>
<td>6</td>
</tr>
<tr>
<td>Very weak</td>
<td>Evaluating planning of emergency department</td>
<td>7</td>
</tr>
</tbody>
</table>

DISCUSSION:

All hospitals should have a guideline, standard and universal plan for encountering accidental events, but unfortunately these plans are not suitable considering daily requirements of hospitals for providing their services. Since hospitals conditions completely change during crisis occurrence, adaption of hospital status with new conditions should be done based on predicted plans and anyone should acquire the required readiness according to his responsibility. Readiness against accidental events should be in the top of plans of centers of accidents management in national and international level especially in accident prone countries. It should be noted that the general score obtained in this study, despite all performed predictions and the hospitals general policy is not suitable. The rate of readiness of hospitals affiliated to Boushehr University of Medical Sciences is 475 that this rate indicates that the rate of readiness of these hospitals is not in an optimal level. Regarding the Friedman test performed, the variable of safety of materials and equipment with the rate of 0.501 has been located in the highest rank of the table and is the most important factor about which the hospitals have performed the required measurements. This variable has been obtained 0.62 on study of Amiri et.al, 0.45 in the study of Daneshmandi et.al and 0.56 in Hojat study which indicates the significance of this variable. The considered hospitals by performing tasks like improving the hospital safety level, preparing and supplying required equipment for carrying patients and also preparing instruments required for surgery in critical conditions were able to get this variable quality to an optimal level. Another variable which has been higher than other factors is communications. Communications in the study of Amerion et.al, is 0.58 and in Daneshmandi et.al study is 0.54. Hospitals affiliated to Boushehr University of Medical Sciences have done required actions for providing suitable safety level and establishing internal relations and relation with outside of hospitals. Among other variables studied in this research, we may point to variables of discharge, transfer and reception of patients which are respectively 0.47 and 0.41 and play a considerable role in low readiness of hospitals. Two variables of discharge and transfer and reception of patients in the study of Moulyaseri et.al are 0.50 and 0.643 and in the study of Rabian et.al is 0.61 and 0.403. Since discharge and transfer of patients during accident is a troublesome process, a regular plan should be codified for traffic control and crisis conditions and regarding that the reception department is one of units involving crisis and has a direct relation with emergencies unit, attention to this unit especially preparing them for critical conditions is very significant. The variable of continuous preparing and training of personnel in all studies has been considered as one of the most important factors. While, in this study this variable with rate of 0.377 has less significance and is in lower ranks. This variable in study of Brus&Gwardan is 0.789, in study of Amerion et.al is 51.46 and in the study of Daneshmandi et.al, it is 64.5, the study of Amiri et.al obtained rate of 42.2 which indicates influence and significance of this variable. The most important action that managers and policy makers of these hospitals may do for raising their personnel training rate is holding training maneuvers in health time which could have a very great impact on the personnel training. Among other factors which have a considerable impact on low readiness of studied hospitals is support unit. The rate of this variable in the present study is 0.33
while, in Rabian et.al research, it is 0.72 and in Amiri et.al study is 0.80. Regarding weakness of this level in studied hospitals and also lack of crisis committee in hospitals, managers should mainly focus on forming this committee. By forming this committee and selecting a manager for performing plans, it is expected that more effective planning is done for crisis occurrence and better control of it. Among studied factor, the lowest rate and also their most effective is emergency whose rate has been estimated 0.217 (very weak). This rate in the study of Amerion et.al is 53.29 and in Daneshmandi study is 4.5. According to performed studies, the factor which has lowered the efficiency of emergency department in these hospitals is little number of active personnel in this department. As a result, hospital managers should measure for employing medical, nursing and also office forces considering the number of predicted injured people.

CONCLUSION
In this study, despite all performed predictions, the general policy of hospitals is not appropriate. The rate of readiness of hospitals affiliated to Boushehr University of Medical Sciences is 47% that this indicates that the readiness level of these hospitals in not in an optimal level.

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