Management Style of Military Hospitals and its Relationship with Hospital Performance Indicators

Amerioun A.\textsuperscript{1} PhD, Hosseini Shokouh S.J.\textsuperscript{2} MD&MPH, Nejati Zarnaqi B.\textsuperscript{3} MSc, Zaboli R.\textsuperscript{3} MSc, Karimi Zarchi A.A\textsuperscript{3} PhD

\textsuperscript{1}Health Management Research Center (HMRC), Baqiyatallah University of Medical Sciences, Tehran, Iran  
\textsuperscript{2}Faculty of Medicine, Army University of Medical Sciences, Tehran, Iran  
\textsuperscript{3}Faculty of Health, Baqiyatallah University of Medical Sciences, Tehran, Iran

Abstract

Aims: Leadership is the very factor playing a significant role in improving the efficiency of any organization. It is in fact the variable distinguishing a creative and innovative organization from other ones. The present study was an attempt to examine the management style in some selected military hospitals and its relationship with hospital performance indicators in 2011.

Methods: This was a cross-sectional descriptive–analytical study. Seven hospitals were selected using stratified sampling from among the military hospitals in Tehran, Iran. The leadership style questionnaire with Likert scale was used for data collection. Data analysis was done using Mann-Whitney test, Chi square, and Spearman correlation coefficients using SPSS 19.

Results: Results showed that 56.1, 22.7, and 21.2 percent of senior managers’ leadership styles were consultative, participative, and benevolent-authoritative respectively. There was no statistically significant relationship between leadership style and hospital performance indicators.

Conclusion: The results showed that approximately 10 to 15 percent of hospital beds are not being used, and in order to increase the efficiency of a hospital, managers need to move towards participative leadership styles.

Keywords: Hospital, Leadership Style, Performance Indicators, Military, Management
Introduction
Management, which is in interaction with organizational objectives, is one of the most crucial elements in any organization. Most theorists believe that management is the very factor determining the failure or success of an organization. It is believed that management is the factor which guarantees an organization’s survival [1].
Hospitals are among the most important organizations offering health care services which facilitate the recovery of patients and help them regain their mental and physical health, train skilled staff and experts in the health care system, and improve the health condition of the members of the society, as a result [2].
Managing hospitals as the biggest health care providers has always been the concern of most policy makers. Hospital managers need to be resistant against the internal and external environmental pressures with which they face by being aware of the latest management theories and strategies [3].
An organization’s success in reaching its goals entails the enforcement of the management and efficient directorial styles [4]. A manager as the leader of the organization may choose different styles for leading her human resources. A manager’s appropriate behavioral patterns can result in her personnel’s positive attitude, and motivation. An appropriate management style can increase job satisfaction, organizational commitment, and the efficiency of the organization [5].
Previous research indicates that management style is related with an organization’s efficiency and productivity [6]. In a study carried out on the effect of participative management on the efficiency of a hospital in Tehran in 2001, it was observed that such management only in the first half of the year could increase bed turnover by 8.48%, decrease patient stay at hospital by 8.25%, and decrease bed turnover intervals by 11.11% [7].
In another study done by Dolan on the relationship between management style and staff nurses’ satisfaction, it was observed that most nurses believed that the management style in their organization was consultative, and as the managers’ styles approached a more participative style, the level of satisfaction increased [8].
The best criteria for assessing an organization’s performance and determining the extent to which organizational objectives are reached are that organization’s indices and statistics. Due to their function, these indices can show the solutions to an organization’s problems and help evaluate its efficacy. As such, they are of high significance [9, 10].
Through the enforcement of appropriate management strategies, while benefiting from the useful indices in the efficiency of the use of hospital beds, one can find solution to most problems related to the insufficiency of hospital beds. The hospital management can play an important role by using the available information in order to eliminate problems and weaknesses by identifying the factors affecting hospital statistics and indices [10].
The present study was an attempt to study the management style of some selected military hospitals in Tehran and identify its relationship with hospital performance indicators including the percentage of hospital bed occupancies, average length of stay, bed turnover rate, and the rate of bed turnover interval.
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Methods
The present study was a cross-sectional descriptive-analytical one carried out in 2010. The population included all the military hospitals and their managers in Tehran. Based on the number of active beds in each hospital, the management style, and type of hospital services (general or specialty), seven hospitals were selected using stratified sampling. From among the senior hospital managers, the hospital Head, manager and matrons (21 individuals), and from among the mid level managers, the head of accounting unit, medical files unit, administrative affairs, clinics, and the supervisors of general wards (50 individuals) were selected for the study.

For data collection, the Likert leadership style questionnaire was used. There were two sections in this questionnaire: a demographic section and a section assessing leadership style. Though the reliability and validity of this questionnaire were demonstrated in the previous studies, due to differences in the sample, they were reexamined in this study. The Cronbach alpha was found to be 0.75 and the content validity of the questionnaire was checked using experts’ opinion. The leadership style of senior managers was checked from their own and their midlevel managers’ point of view.

This questionnaire had 35 items with a five point Likert scale ranging from 1 (never) to 5 (always). As such, the total score could range from 35 to 175 according to which an individual could be assigned to one of the four categories: those scoring 35-70 were exploitative-authoritative; those scoring 71-105 were benevolent-authoritative; those scoring 106-135 were consultative; and those scoring 136-175 were participative.

Before data collection, both written and oral assurance was given for the confidentiality of the collected data. After the questionnaires were filled and the related information on the hospital indices and statistics were obtained, the data were analyzed using SPSS 19. The data were analyzed using both descriptive and inferential statistics where necessary.

Results
The ratio of senior managers to the midlevel managers was 3 to 7 with most participants having a BA/BSc degree (63.6%). Only 2 participants (3.1%) had an AA degree. Regarding their job experience, 32 participants (48.8%) had 11-20 years of experience as the group with highest frequency. The lowest frequency belonged to the job experience of less than 10 years with 15 participants (22.7%). In the case of managers’ field of study, management had the lowest frequency with 10%.

From senior managers’ point of view, the frequency of exploitative-authoritative, benevolent-authoritative, consultative, and participative managers were 0, 10, 55, and 35 respectively. The benevolent-authoritative managers were reported only in two hospitals. From the perspective of midlevel managers, the frequency of exploitative-authoritative managers was zero in all hospitals. In two hospitals, five midlevel managers believed that their senior managers’ leadership style was benevolent-authoritative. Thus, it was observed that senior managers’ leadership style was 56.1% consultative, 22.7% participative, 21.2% benevolent-authoritative, and 0% exploitative-authoritative.

In addition, the following indices were obtained: the average bed occupancy rate was 70.4%, the average length of stay was 4.03 days, the bed turnover rate was 45.3,
and bed turnover interval was 2.7 days. The highest bed occupancy rate was 76 percent, the lowest average length of stay was 3.1 days, the highest bed turnover rate was 58 times, and the lowest bed turnover interval was 1.5 days. Using \( \chi^2 \) test, a significant relationship was observed between leadership style and participants’ gender, management rank, field of study, and degree. However, job experience did not show any significant relationship with leadership style. Table 1 shows the lack of relationship between leadership styles and performance indicators assessed using Spearman correlation coefficient.

**Discussion**

Regarding the gender of the senior managers, the majority of them (85%) were male, which is in line with the observations of Mosadeghrad [2] and Arab [11]. The percentage of male managers in their studies was 90.9% and 87% respectively.

Regarding the gender of the respondents, 60.6% of them were male. This is in line with Arab’s [11] and Amerion’s [12] studies in which this amount was reported to be 54.3% and 65.6% respectively. However, it did not match Torabipour [13] and Seyed Javadi [14] in which the majority of the respondents were female. Since only the senior and midelevel managers took part in this study, this pattern of results sounds logical.

The highest frequency in educational degree belonged to BA/BSc group with 63.6% which is in line with previous studies [2, 11-14]. The lowest frequency in the field of study in senior managers belonged to Management with only 10 percent. Nasiripour [15] and Arab [11] also reported similar findings with 0 and 6.3 percent respectively. However, Amerion [12] reported the lowest frequency for ‘Art’ majors with 0.8%, which can be attributed to differences in the sample of respondents.

In the case of job experience, the highest frequency belonged to the group with ‘11-20 years of experience’ with 48.4%. This did not match the results of other studies in which the highest frequency belonged to the ‘below 10 years of experience’ group.

The chi square test showed no significant relationship between gender and leadership style. In fact, 60% of male participants and 50% of female participants believed that the senior managers’ leadership style was consultative. This is in line with previous studies [2,16,17]; however, it did not match some others [11-12].

The other chi square test showed a significant difference between leadership style

**Table 1. The Relationship between Senior Managers’ Leadership Style and Hospital Performance Indices**

<table>
<thead>
<tr>
<th>Hospital Performance Indices</th>
<th>Spearman correlation coefficient</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed occupancy rate</td>
<td>-0.203</td>
<td>0.35</td>
</tr>
<tr>
<td>Average length of stay</td>
<td>0.577</td>
<td>0.11</td>
</tr>
<tr>
<td>Bed turnover rate</td>
<td>0.232</td>
<td>0.33</td>
</tr>
<tr>
<td>Bed turnover interval</td>
<td>0.294</td>
<td>0.28</td>
</tr>
</tbody>
</table>

**Table 2. Results of Mann-Whitney Test for Leadership Style and Hospital Performance Indices**

<table>
<thead>
<tr>
<th>Hospital Performance Indices</th>
<th>N</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Min.</th>
<th>Max.</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>U</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed occupancy rate</td>
<td>7</td>
<td>70.38</td>
<td>4.83</td>
<td>63.00</td>
<td>76.00</td>
<td>67.00</td>
<td>70.00</td>
<td>76.00</td>
<td>3</td>
<td>0.80</td>
</tr>
<tr>
<td>Average length of stay</td>
<td>7</td>
<td>4.02</td>
<td>1.11</td>
<td>3.10</td>
<td>6.40</td>
<td>3.20</td>
<td>4.00</td>
<td>4.00</td>
<td>2</td>
<td>0.53</td>
</tr>
<tr>
<td>Bed turnover rate</td>
<td>7</td>
<td>45.25</td>
<td>6.43</td>
<td>37.80</td>
<td>58.00</td>
<td>41.60</td>
<td>44.00</td>
<td>48.00</td>
<td>1.5</td>
<td>0.27</td>
</tr>
<tr>
<td>Bed turnover interval</td>
<td>7</td>
<td>2.68</td>
<td>0.66</td>
<td>1.50</td>
<td>3.20</td>
<td>2.00</td>
<td>3.00</td>
<td>3.20</td>
<td>2</td>
<td>0.53</td>
</tr>
</tbody>
</table>
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and the level of management. Half the senior managers considered their management style as consultative while 58.7% of mid-level managers believed that the leadership style of the senior managers was consultative.

The difference between educational degree and leadership style was found significant as in some other studies [11,18], but it did not match some other studies [2,12]. In addition, no relationship was found between job experience and leadership style. This does not match Arab’s [11] results, but it is in line with other studies [12,13,19].

Most other studies have shown that gender cannot be a determining factor in managers’ performance and leadership style. Instead, variables such as job experience and a manager’s age can greatly affect a manager’s thoughts, philosophy, and leadership style [20].

The results of the present study showed that the leadership style of the majority of the senior managers under investigation (56.1%) was consultative. This means that these managers do trust their employees but it is not a total trust. They use their subordinates’ opinion and thought, but regarding the major guidelines, they prefer to decide by themselves and assign decision making on the more specialties to their subordinates. There seems to be a balanced trust among the senior managers and their subordinates, and both incentives and punishments are sporadically used for motivating the employees.

From among the 7 studied hospitals, 5 had a consultative and 2 had a benevolent-authoritative leadership style. It is reasonable to assume that in those two hospitals, senior managers gave less freedom to their subordinate for leading the organization and employees’ participation in the process of decision making was low. Senior managers prefer to decide by themselves on most issues. In such a system, rewards and punishments are sometimes used for motivating the personnel. These managers pay more attention to the working environment; interpersonal relations are often neglected.

One study, examining the effect of leadership styles and organizational structure on hospital performance indices, found that the majority of managers followed a benevolent-authoritative style (47.46%) with only 5.86% practicing a participative style [1]. Another study, examining managers’ and employees’ characteristics and the leadership styles in hospitals, observed that while managers considered their style mostly as consultative (75%), their employees believed that their managers’ leadership style was mostly benevolent-authoritative (77.4%) with only 0.8% having a participative leadership style [11]. Mosadeghrad [2], studying the relationship between the hospital efficacy and leadership styles, found that the dominant style in the educational hospitals in Isfahan, Iran was the participative style.

Although 35% of senior managers reported their style to be participative, the participative style was not observed in any hospital, which can be due to the fact that all the studied hospitals were military hospitals. As Irannezahd-Parizi [9] states, a participative leadership style needs the following conditions which do not usually match the organizational structure and culture of a military organization: (a) the employees are not limited at all for negotiation with their managers, (b) instead of punishment and intimidation, rewards and participation are used for motivating the personnel, and (c) organizational objectives are determined collectively.
Amerion [12] reported a high level of benevolent-authoritative leadership style (56.1%) in the hospitals he examined with only 2% participative leadership style. This is natural because the majority of his participants were simple employees and it is very natural for employees to report their managers’ leadership style as benevolent-authoritative [11,20,21]. Nasiripour [15] found that 61.1% of managers had a consultative style in the health network in Azarbayjan, Iran. Hamidi [22], examining the leadership style of managers in Iran Medical Sciences hospitals based on Fiddler's contingency model, observed that 75 percent of the managers had a task-oriented style. Also, Seyyed Javadi [14], working on the leadership style and organizational maturity in the educational hospitals in Ardabil, found that 59.4% of the managers had an authoritative style. The results of the present study were in line with none of these two studies. However, Zarneveshte-Farahani [19], studying military hospitals, reported that 63.5% of the managers had a consultative style. Dolan [8] studying nursing supervisors and managers reported similar findings. Also, Azadian [23], studying the leadership style of managers in both educational and non-educational hospital, found that 60% of the managers in educational hospitals and 86.7% of them in non-educational hospitals had a consultative style. Another study whose findings match the results of the present study was that of Sadeghi [24]. He found that the frequency of exploitative-authoritative leadership style in Iran Medical Sciences hospital managers was zero. Although there is no ‘best’ leadership style, it is suggested that managers make some adjustments in their management and communication tendencies so that they are more in line with the contextual requirements [25]. The relationship between leadership styles and efficacy of managers has been shown in many studies [26]. Management style and behavior is affected by the subordinates’ maturity (motivation, qualification, experience, and responsibility). In addition, the organizational environment and culture can heavily affect one’s leadership style [27]. Based on contingency models, the type of leadership style chosen should be in line with the personnel’s individual characteristics. As the employees’ cognitive ability, age, and experience increase, the managers should shift their leadership style from a more task-oriented one to a more relationship-oriented leadership because this type of management will ensure employees’ satisfaction, participation, commitment, and motivation [28]. Based on the results of the studies carried out in developed countries, employees are given a better chance of participating in the management of the hospitals, which can be due to the differences in context and conditions [29]. In order to determine the efficiency of using a hospital’s physical, financial, and human resources, one can check such indices as the rate of bed occupancy, average length of stay, bed turnover rate, and the rate of bed turnover interval [31]. The higher the bed occupancy rate and bed turnover rate and the lower the other two, the better [32]. Since all the studied hospitals were located in Tehran and based on the evaluation of the Ministry of Health and Medical Education in Iran, they were No.1 hospitals, these indices were at an acceptable level though there is still room for improvement. For example, the standard average length of stay is up to 4 days [33]. The findings of the present study indicate that there is no relationship between lead-
ership styles and the hospital performance indicators. Mosadeghrad [2], checking the same four indices, found no relationship between leadership style and performance indicators. However, Amerion [12] did find a relationship between the two variables, and Hamidi [22] found that task-oriented managers had a greater effect on these indices in comparison with relationship-oriented managers. Ebrahimi Daneshmand [34] found a relationship between leadership style and average length of stay only but not the other three measures. Chitchin [35], examining the effect of participative management on the efficacy of a hospital in Tehran, found that all the four indices had improved in comparison with the indices for the previous year. Mosadeghrad [2], doing the same study on another hospital in Tehran, found similar results. Mousazadeh [30], examining factors playing a role in the efficacy of educational and general hospitals in Sari, Iran, came up with similar results. This does not confirm the results of the present study.

Karon and Droll [16] checking the relationship between leadership style and job satisfaction in teachers found a significant relationship between leadership style and job satisfaction in working conditions, supervision, incentives, and connections. Salehi Ghadyani [29] reported a direct relationship between personnel’s efficiency and their participation in the decision making process.

Babran [36] found out that 76 percent of journalists in Iran believed that their senior managers’ lack of the necessary expertise was the main reason for failure. Nekuii-Moghadam [37] concluded that in case managers were selected based on their expertise and if they were familiar with leadership theories, they would have a much better performance regarding their assigned responsibilities. Since none of the senior managers in the present study had a relevant degree in Health Care System, employing managers with an expertise in health care services seems necessary. This way, the efficacy of the military hospitals can improve.

There could be two main variables resulting in the lack of relationship between leadership style and hospital performance indices in the present study:

- Since these hospitals were no.1 hospitals in quality, their performance indices were very similar to each other;
- Military organizations have a very formal and bureaucratic structure and have to have a central command in order to achieve their objectives [38]. As such, the studied hospitals could have a very similar working environment.

It is suggested that the military hospitals in other cities with different quality ranks as well as the other hospitals supervised by the Ministry of Health and Medical Education be examined for these indices.

**Conclusion**

Although no relationship was found between the leadership style of the senior managers and performance indices, the results indicate that about 10 to 15 percents of the active beds in those hospitals were not being used. Hospital managers can increase the efficacy of their hospitals by moving toward a more participative style. As Robins and Hizar [39] state, the employee-oriented leadership styles such as the consultative style have a positive effect on efficiency. Using senior managers with relevant expertise can also help increase efficiency.
References
6. Seyyedin SH. Comparative evaluation of bed circulation, mean hospitalization and its effecting factors in Iran University of Medical Sciences training hospitals: Iran University of Medical Sciences; 1998. p.12. [Persian]
13. Torabipour A. The association between leadership style and conflict management strategies among board of directors, managers and authorities of wards and sections in Lorestan University of Medical Sciences hospitals: Tehran University of Medical Sciences; 2004. p.39. [Persian]
19. Zarnaveshteh-Farahani MT. The association between leadership style and conflict management strategies in military hospitals: Baqiyatallah University of Medical Sciences; 2001. p.120-139. [Persian]
23. Azadian R. Comparison of the association between Likert leadership style and managers' performance in Mazandaran University of Medical Sciences hospitals: Iran University of Medical Sciences; 2004. p.66-80. [Persian]
24. Sadeghi SAA. Investigating Iran University of Medical Sciences hospital managers' performance based on Likert leadership style: Iran University of Medical Sciences; 2006. p.156-159. [Persian]
30. Mousazadeh M. Investigating the associated factors of efficiency in Mazandaran University of Medical Sciences hospitals located in Sari, Qaemshahr and Behshahr cities: Iran University of Medical Sciences; 2006. p.189-193. [Persian]
35. Chitchin MR. The effectiveness of participatory management (quality improvement groups) on the efficiency of Ayatollah Kashani hospital: Iran University of Medical Sciences; 2002. p.45-47.