

## ORIGINAL RESEARCH

## An Audit of Emergency Department Accreditation Based on Joint Commission International Standards (JCI)

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### Abstract

**Introduction:** Despite thousands of years from creation of medical knowledge, it not much passes from founding the health care systems. Accreditation is an effective mechanism for performance evaluation, quality enhancement, and the safety of health care systems. This study was conducted to assess the results of emergency department (ED) accreditation in Shohadaye Tajrish Hospital, Tehran, Iran, 2013 in terms of domesticated standards of joint commission international (JCI) standards. **Methods:** This is a cohort study with a four months follow up which was conducted in the ED of Shohadaye Tajrish hospital in December 2013. The standard evaluation check list of Iran hospitals (based on JCI standards) included 24 heading and 337 subheading was used for this purpose. The effective possible causes of weak spots were found and their solutions considered. After correction, assessment of accreditation were repeated again. Finally, the achieved results of two periods were analyzed using SPSS version 20. **Results:** Quality improvement, admission in department and patient assessment, competency and capability test for staffs, collection and analysis of data, training of patients, and facilities had the score of below 50%. The mean of total score for accreditation in ED in the first period was  $60.4 \pm 30.15$  percent and in the second period  $68.9 \pm 22.9$  ( $p=0.005$ ). Strategic plans, head of department, head nurse, resident physician, responsible nurse for the shift, and personnel file achieved the score of 100%. Of total headings below 50% in the first period just in two cases, collection and analysis of data with growth of 40% as well as competency and capability test for staffs with growth of 17%, were reached to more than 50%. **Conclusion:** Based on findings of the present study, the ED of Shohadaye Tajrish hospital reached the score of below 50% in six heading of quality improvement, admission in department and patient assessment, competency and capability test for staffs, collection and analysis of data, training of patients, and facilities. While, the given score in strategic plans, head of department, head nurse, resident physician, responsible nurse for the shifts, and personnel file was 100%.

**Key words:** Emergency service, hospital; accreditation; quality Improvement; quality assurance, health care

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### Introduction:

Despite thousands of years from creation of medical knowledge, it not much passes from founding the health care systems (1, 2). It could be said that the history of health care system in our country referred to the Cyrus the Great. In Achaemenid court, two persons suffered from the same disease and the court physician had cured both of them. Some months after their treatment, one of them died and another one was alive. Cyrus the Great prosecuted the physician for such a different out comes from the same disease. The physician proved that identical treatment was not applied for both of these patients and then, Cyrus the

Great ordered to provide an established place under a standard control condition (3). In before centuries the superior service and health care was as attending the physician on patient bedside at home, while today the organizations are responsible to provide such health services. Therefore, the quality of provided services depends on the quality process and organization systems in addition to specialist staffs and physicians (1). In such condition, accreditation is an effective mechanism for performance evaluation, quality enhancement, and the safety of health care systems. The self-evaluation process and outer evaluation of health care organizations, based on the defined standards, is called accreditation. Accreditation is not only asses the standard conditions, but also has analytical, consulting, and recovery facets. Some medical subjects based on evidences, medical ethics, reduce medical errors, and safe-

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ty of the patient are included in a part of accreditation process (2). Today, in developing countries governments use the accreditation as a tool for guarantee of care quality. The international standards, joint commission international (JCI), is the base of accreditation in all over the world. Lebanon has provided and applied the accreditation standards as a first country in East Mediterranean. For the first time in Iran at 1997, standards and evaluation criteria of general hospitals were published (1, 4). The accreditation standards in Iran are taken from the last resources used in developed and developing countries and aligned with religious, cultural, and economical criteria as well as native conditions which their goal is quality enhancement, safety, and improving the responses in health system (2). This study was conducted to assess the results of emergency department (ED) accreditation in Shohadaye Tajrish hospital, Tehran, Iran, 2013 in terms of JCI standards.

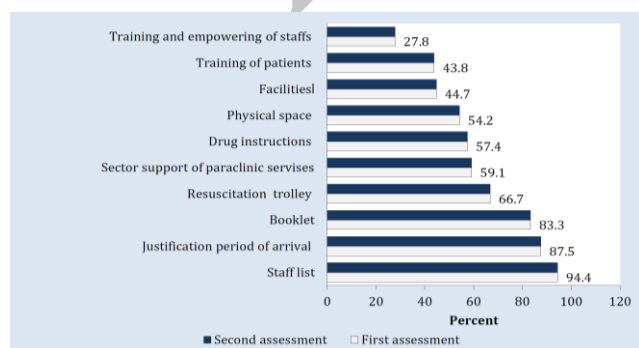
#### Methods:

This is a cohort study with a four months follow up which was conducted in the ED of Shohadaye Tajrish hospital in December 2013. For assessing the ED accreditation, a standard evaluation check list of Iran hospitals (designed based on JCI standards) was used. This check list included 24 heading and 337 subheading as follow: strategic plans (six subheadings), head of department (two subheadings), ED head nurse (two subheadings), resident physician (five subheadings), responsible nurse for the shifts (two subheadings), personnel file (three subheadings), staff list (nine subheadings), justification of arrival period (four subheadings), staffs competency and capability test (nine subheadings), staffs training and empowering (25 subheadings), occupational health and safety, and environmental health booklet (six subheadings), policies and procedures (42 subheadings), admission and evaluation of the patient (25 subheadings), patient file (15 subheadings), assessment and ongoing care of patients (38 subheadings), drug instructions (62 subheadings), training of patients and their entourage (eight subheadings), sector support of para-clinic services (11 subheadings),

resuscitation trolley (9 subheadings), facilities (19 subheadings), physical space (12 subheadings), physical safety (8 subheadings), quality improvement (5 subheadings), and collection and analysis of data (10 subheadings) (5). At first, the required training was provided for authorities and health sectors. For data gathering and internal audit the standard accreditation forms was used, delivered to hospitals by the health ministry. The accreditation team, included individuals who were trained by the same organ and from different positions, referred as a group to the department. Accreditation was performed by the manager of accreditation and hospital quality improvement. The assessment was executed in two periods and by scoring to different categories, the results registered and analyzed. The score of each heading was defined between 0 and 100 based on the percentage. Those headings had the score of below 50% were detected. In following, the effective possible causes of formation of weak spots were found and their solutions considered in future programs of the ED as an action plan to improve quality services. Four months were taken to correct weaknesses and also responsible individuals for each point determined. The accreditation of ED were repeated again by the same team after correction of problems. Finally, the achieved results of two assessments were analyzed using descriptive statistics and SPSS version 20.

#### Results:

The results of accreditation for two assessment are presented in figures 1 and 2. The six headings included strategic plans, head of department, head nurse, resident physician, responsible nurse for the shift, and personnel file had the score of 100% and not showed in the figures. In the first assessment, the lowest score belonged to the quality improvement heading (10%). Quality improvement, admission in department and patient assessment, training and empowering of staffs, collection and analysis of data, training of patients, and facilities had scores of below 50%. The mean of total ED accreditation score in the first period was  $60.4 \pm 30.15$  percent and in the second period  $68.9 \pm 22.9$

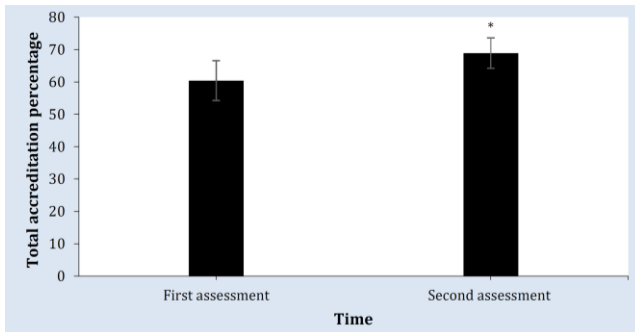


**Figure 1:** The percentage of progress in performing the accreditation standards of emergency department [↑](#)



**Figure 2:** The percentages of progress in performing the accreditation standards of emergency department [↑](#)



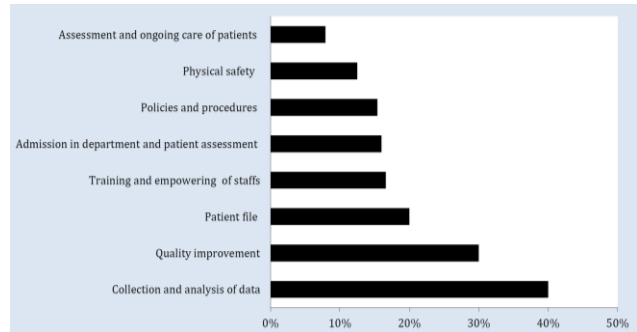


**Figure 3:** Total accreditation score percentage before and after intervention. \*significant value:  $p < 0.01$  [↑](#)

( $p = 0.005$ ), (Figure 3). Just in two cases of whole headings below 50% in the first period, collection and analysis of data with growth of 40% as well as competency and capability tests for staffs with growth of 17%, reached to more than 50%. While despite of reaching a considerable score in the rest four cases, they could not success to achieve the least score of 50% (Figure 4).

#### Discussion:

Based on findings of the present study, ED of Shohadaye Tajrish hospital was achieved scores of less than 50% in the first assessment for quality improvement, admission in department and patient assessment, competency and capability tests for staffs, collection and analysis of data, training of patients, and facilities. On the other hand, head of department, head nurse, resident physician, responsible nurse for the shift, and personnel file had the score of 100%. Comparison of achieved scores in two periods was representative their increased trend in problematic cases and the most progression and reformation was performed in collection and analysis of data, quality improvement, and patient file. These mentioned headings were selected to develop due to their inexpensiveness and accessibility in the least time. For example, to eliminate the defects of patients' files a session was held with the responsible of training doctors and nurses as well as the head of hospital. In this session, the defects were introduced and then, the educational classes held for physicians and nurses to correct many defects of patients' files. Noticing to the intended goal, improving scores to more than 50%, such a success just in two cases was achieved. A significant change was not seen (align with study objectives) in some headings like admission in department and patient assessment, quality improvement, and competency and capability tests for staffs; because these cases compared to financial issues needed more time to improve. For instance, holding the entrance exam requires extensive periodic tests. Also, training of staffs from different occupational groups with various education levels is hard and time consuming. In the facilities heading, UPS purchasing requires spending a high cost which is not possible for the hospital to provide it in a short time.



**Figure 4:** The percentage of progress in each branch after the second assessment [↑](#)

Calendar schedule of six months for completing the competency and capability tests for staffs was designed by office of nursing for health sectors and office of quality improvement for support sectors; it is clear that their outcomes would be presented in the next assessments. After the first period of assessment in collection and analysis of data heading, the results of internal audit was analyzed and declared to management. Noticing to the audit program declared to departments from center office of quality improvement, this procedure would be continued in future. Admission in department and patient assessment headings were held in terms of calendar schedule and educational classes as well as performed extensively by office of nursing so that their improvement in the second assessment was remarkable. In a study, Yarifard et al. showed that the most important administrative barriers of accreditation are the lack of awareness and training of hospital staffs in all accreditation levels as well as non-alignment and participation of administrators and faculty members. Thus, the solution is training extension in all staff levels and involvement of senior managers in performing the programs (6). Also, in another study establishment of an independent structure, as a national organization of accreditation to health services of Iran, was introduced as a best and most effective way to improving the accreditation evaluation system of health services in country (2). Karimi et al. study revealed that the department of biomedical engineering in the initial audit has the highest scale for observance of standards (41%) and imaging unit has the lowest (29%). Three months after educational interventions in all departments of para clinic, the observance of standards has been increased by an average 18% and the most percentage of improvement was seen in imaging unit (12.2%) (7). Bahadori and his colleges showed that hospital ownership type is not related to performance indicators (8). In addition, Tayebi et al. didn't find any correlation between the evaluation score of emergency performance with hospital ownership type (3). Moreover, Churlis et al. showed that accreditation level leads to change in six regions: Administration and management, medical staff

organization, review systems, organization of nursing services, physical facility and hospital role definition and planning (4, 9). Lastly, it should be mentioned that despite of performing accreditation project tentatively since 2012 in hospitals, the results was not accounted in hospitals' evaluations. However, this issue has been seriously pursued since 2013 so that after data collection from all hospitals and retention of national average, the final results were announced and hospital tariffs determined based on them. Therefore, it is clear that because this topic is new, there are not many studies available in emergency medicine levels in Iran. It hopes that the present study would be a step to perform this procedure in other emergencies and provide a possibility of comparison and analysis of differences among them.

#### **Conclusion:**

Based on findings of the present study, the ED of Shohadaye Tajrish hospital reached the score of below 50% in six headings of quality improvement, admission in department and patient assessment, competency and capability tests for staffs, collection and analysis of data, training of patients, and facilities. While, the given score in strategic plans, head of department, head nurse, resident physician, responsible nurse for the shifts, and personnel file was 100%.

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#### **Conflict of interest:**

None

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#### **Authors' contributions:**

All authors passed four criteria for authorship contribution based on recommendations of the International Committee of Medical Journal Editors.

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