Original Research Article

Comparison of performance of governmental and private hospitals of Bandarabbas city in 2016

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Abstract

Background: One of the methods for assessing the performance of hospitals and comparing them with each other is statistical control and one of the techniques used is performance evaluation based on the Papon Lasso pattern. According to the World Bank's report in developing countries, about 80-50% of Government resources used in healthcare are reserved for hospitals. The more important thing is that over 80% of these resources are spent in hospitals with an efficiency of less than 50% of their occupancy. In this study, the performance of two hospitals in the city of Bandarabbas with two private hospitals was performed using this model. This descriptive study was performed on the performance of hospitals in 2016. **Methodology:** For collecting information based on the hospital's activity with the quantitative data, three functional indicators such as bed occupancy rate, bed and mid-stay duration of hospitals and their aggregation, and data analysis using SPSS software version 23 and plotting the Pabon Lasso chart are done. The population consists of two public hospitals and two private hospitals. The sample is equal in respect of population. Findings: From the evaluated hospitals, Shahid Mohammadi in district 3 and Ome Leila and Imam Reza Hospitals in district 2 chart Paben Lasso were obtained. **Conclusion:** Government hospitals are well-functioning, despite the fact that they have been using the minimum number of beds, and in private hospitals there is an unnecessary hospitalization and additional bed occupancy. The Pabon Lasso chart can be a good tool for determining the hospital's position in terms of performance.
Key Word: performance, bed occupancy factor, bed circulation, Pabon Lasso

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INTRODUCTION

In all countries, people's health and health care delivery are considered to be important issues, and health care providers are working to provide the highest quality of services based on available resources.[1] Due to the wide range of services in this section, the smallest mistake can be irreparable. Therefore, performance evaluation and service delivery are imperfect and in accordance with functional standards in this section. Performance evaluation in hospitals has been helpful in pointing out how the activities and resources are used in each hospital.[2] Performance appraisal provides managers with the information they need to assess and monitor the status and current activities of the hospital. The hospital's performance can be summarized briefly in the areas of efficiency, productivity, quality and accessibility [3]. In this regard, paying attention to efficient and effective utilization of resources will help to establish economically justified hospitals that will play a very important role in realizing health objectives.[4] There are different indicators for measuring the performance of hospitals, which are the most important. The most suitable are three indicators of

bed occupancy rate, bed rotation, and mean hospitalization time. The more important thing is that over 80% of these resources are spent in hospitals with an efficiency of less than 50% of their capacity. So, given the high percentage of public health budgets allocated to hospitals, the need to evaluate their performance is clear.[5] Because they are the largest and most cost-effective unit of health systems and use most of the capital, financial, and human resources.[6] Hospitals as the most important element of the health system have a key role to play in providing health services and have a major impact on the health system's performance. [7] Lasso Pabon has provided a realistic assessment of the current situation and a strategy for making more effective use of health services for researchers and managers of health centers to determine whether they are moving in line with their goals.[8] The Pabon Lasso chart has a wide application in comparing the performance of hospitals in which, according to the position of each center in the chart, we can measure the level of improvement or failure in the performance, and based on the results, strategies to strengthen the strengths and reduce the impact of functional weaknesses the hospital provided. [9] This technique was first introduced in 1986 by a person of the same name and then used to evaluate hospital efficacy[10]. Using this model, hospitals are located in four areas. The Pabon Lasso Model is a technique used to evaluate the performance of hospitals using three performance indicators including bed occupancy rate, average patient stay and bed rotation. The Las Gabon Diagram is divided into four regions, each region and its hospitals, with specific features and interpretations. The presence of hospitals in the first area of the chart is a serious alarm for inefficiency and will require an urgent action to improve the performance indicators of the hospital.

Table 2: performance indicators of hospitals based on declaration of Ministry of Health:

undesirable	moderate	Optimal	type of indicator
less than 60	60-70	more than 70	**bed occupancy percent**
more than 4	3.5-4	less than 3.5	**average of hospitalization term (day)**
less than 17	17-24	more than 24	**bed circulation rate (load)**

The present study is performed on the performance of two university hospitals and two private hospitals in Bandarabbas using this model with the aim of informing policy makers in developing the program to increase productivity by defining a strategy for effective utilization of available resources.

MATERIALS AND METHODS

This descriptive-analytic study was performed and the performance of two public hospitals in Bandar Abbas with two private hospitals was compared with the Pabon Lasso method. In this model, three rates of bed turnover, bed occupancy and hospitalization average are used simultaneously. The statistical population of this study consists of two university hospitals and two private hospitals in Bandar Abbas and the sample is equal to the community. Data collection by referring to the hospital statistics department and extracting information from the Hospital Information System (HIS) The data collection tool was the use of the monthly activity form of the hospital, which is approved by the Ministry of Health and Medical Education and used in all hospitals in the country. At first, by referring to the statistical section of the hospitals, the study form of the activities of the centers was collected and then, in order to obtain more accurate, consistent information and confidence of the results of the research, firstly the computational formulas determined the three efficiency indexes. In this study, the percentage The occupancy of the bed is proportional to the bed occupied by the day, the active bed in a given period of time multiplied by 100, the rate of bed occupancy rotation, the ratio of the number of discharged persons and the deceased in a given period to the average of the beds ready for work, and The average length of hospitalization or residence of the patient is from the total number of occupied beds at a given time Patients discharged and feet in the same period were calculated using Excel software. Finally, by plotting the Pabon Lasso chart, the performance of hospitals simultaneously was analyzed by three indicators of bed occupancy rate, bed turnover and residence time. Data analysis was performed using SPSS software and plotting the Pabon Lasso chart and analyzing the obtained data. Ethical considerations: Due to the importance of hospital statistics and information in all stages of this study, the emphasis was on the confidentiality of hospital information, and it provided the hospitals with confidence in compliance with the principle of confidentiality and the information of the hospital.

FINDINGS AND RESULTS

Shahid Mohammadi Hospital is a university hospital affiliated to Bandarabbas University of Medical Sciences and is an educational research complex that is the largest hospital in Hormozgan province. It is a specialist and specialized specialist center that is a referral center and has been admitted to the province and has trauma center based on research. Performance indicators of Shahid Mohammadi Hospital are as follows: The hospital bed occupancy rate was 85%, the average length of stay in the hospital was 3.87 days, the average hospital bed turnover

was 80 times, and the hospital was in the third district of the Pabon Lasso chart. Children's Hospital: This university hospital is affiliated to Bandar Abbas University of Medical Sciences and is a single specialized pediatric hospital. It is a specialized and specialized medical education center. It is the only specialized children's center in the province, which is the center of the referent patients from all over the province, and has a full-time specialist doctorate in all fields. There are children in the room; there are one hundred beds approved and only one hundredths of active beds. According to the research, the functional indicators of the children's hospital are as follows: The hospital bed occupancy rate was 83%, the average length of stay in the hospital was 3.54 days, the hospital bed 86 times, and the hospital in the third district of the Pabon Lasso chart. Ome Leila Hospital: Ome Leila Hospital is a private public hospital with a flat bed and has seventy beds active and has internal organs, surgery, maternity, maternity, and neonatal and adult care services, and is run on a profit-oriented basis. According to the research, the performance indicators of the U. Leila Hospital are as follows: the hospital bed occupancy rate was 54%, the average length of stay in the hospital was 2 days, the average bed hospital turnover was 62 times, and the hospital was in the second district of the Pabon Lasso chart. Imam Reza Hospital: This hospital, like the Ome Leila Hospital, has a private general hospital with fifty beds and an estimated sixty-five beds. Both hospitals are almost identical and only the hospital has more active non-surgical and infertile sections. Imam Reza has more active sections of surgery and angiography, which does not exist in Ome Leila hospital. Based on the research, the performance indicators of Imam Reza Hospital are as follows: The hospital bed occupancy rate was 52%, the average length of stay in the hospital was 1 day, the average hospital bed turnover was 154 times, and the hospital was in the second district of the Pabon Lasso chart.

In this part of the data analysis, the most important descriptive indicators of the research data are mentioned. In other words, the frequency, mean, and standard deviation of the subjects in the studied variables are presented. The results show that the highest percentage of occupancy of the bed belonged to Shahid Mohammadi Hospital 85% and the least amount of this index belonged to Imam Reza Hospital 52% due to high coefficient Occupation of the bed in the martyr Mohammadi Hospital The fact that the center of the trauma is the Referral center and that it is a specialty and specialty, the willingness of patients to be admitted with low fees is justified. The low bed occupancy rate in Imam Reza and Ome Leila hospitals seems to be due to the high tariffs for provision of services and the low level of income for the people of this region and the lack of affordability of patients hospitalized in these hospitals. The most common flat beds related to Imam Reza Hospital 154, the load in the year and the minimum bed turnover related to the OmeLeila hospital was 62 times a year. The high bed turnover in Imam Reza hospital was due to more minor operations that are usually scheduled for the day care practitioner and eventually the next day, and the hospital's lower focus on activating non-surgical sections, And the children are more The mean length of stay in hospital Mohammadi 3.87 martyr day and the lowest value of this indicator was related to Imam Reza Hospital one day. The high length of stay in Shahid Mohammadi Hospital due to the various reasons mentioned above, as well as because only this hospital is among the four hospitals with a psychiatric center with seventy beds active and for the duration of stay of patients with psychiatric disorders due to long illness. The low length of stay in Imam Reza Hospital is due to the fact that the focus of this hospital's management on surgical wards, especially minor surgery, is due to more income generation and less attention to domestic units.

Inferential and illative findings

Table 3: data of hospitals performance indicators

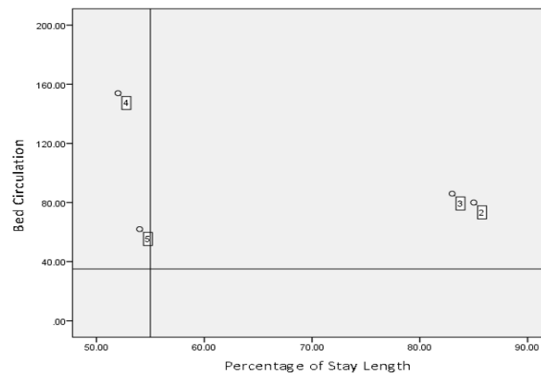| average bed circulation	average stay length	bed occupancy percent	hospital name	item
80	3.87	85	Shahid Mohammadi	1
86	3.54	83	children	2
154	1	52	Imam Reza	3
62	2	54	Ome Leila	4

Figure 2: Paben Lasso chart of studied hospitals

DISCUSSION AND CONCLUSION

In this study, we tried to compare the efficiency of hospitals affiliated to the University of Medical Sciences with Bandarabbas private hospitals using the Pabon Lasso charts based on three levels of bed occupancy rate, bedside rate and average patient admission days. Therefore, considering the relationship between these three indicators, simultaneous evaluation of the indicators can be a guide for determining the status of hospitals. In a study conducted on 101 hospitals throughout the country over a ten-year period, TalibShahrastani announced that most of these hospitals were located in Zone 1 and Zone 2, with only one hospital in Zone 3.[12] Mohammadi *et al*. A five-year period from 2008 to 2012 was carried out at Kermanshah University of Medical Sciences hospitals using the Pabon Lasso model. The results of this study showed that at the end of this period, the highest number of hospitals in the first region was, in other words, available resources could not be used properly,[14] which is not consistent with the results of this study. Sajjadi *et al*. by studying the performance indicators of 31 hospitals in Isfahan in 2007 using the Pabon Lasso model over the years 80 and 1384 showed that in a two-year trend, less than 05% of hospitals were in the third district[13] Which is considered in terms of the study compared to the results of this study. Hospitals of Tehran University of Medical Sciences during the course of the study were more and more active. In a study over a five-year period from 2007 to 2012, Mirki *et al*. evaluated the performance indicators of 12 Kurdistan University of Medical Sciences hospitals using the Pabon Lasso model. The results of this study at the end of this period showed that 42% of hospitals in the 3rd and 32th areas in the two and 8 percent in area 1 and 11 percent in the four diagrams of Pabon Lasso[14], which does not conform to the results of this study, Ajlouni *et al*. Evaluated the relative efficiency of government hospitals in Jordan over the years 2006-2008. The results of this study showed that the number of efficient hospitals increased from 7 to 9 in 2006-2007, but again in 2008, there were 8 effective hospitals[18], which contradicted the results of the study.In the Sri Lanka study, third-level and specialized hospitals such as ophthalmic hospitals were located in the third district. In the hospitals, the bed occupancy rate has been higher than the standard, so the researchers stated that such hospitals, although in the efficient area, should be monitored for quality beds due to bed occupancy rates above the standard[22]. Comparison of the status of the hospitals located in the four areas of the Pabon Lasso chart showed that two private hospitals were located in the second region. Hospitals in the second district of the chart are assigned to a range of activities that, due to their specific type of activity, have high bed turnover, such as short-term care centers or gynecological hospitals, and the high number of hospital beds, Bandar Abbas state hospitals in District 3 And show that the hospital was able to use its resources and facilities well and enjoyed the best possible use of the minimum number of beds.A suitable strategy for hospitals located in Zone 3 should ensure continuity of service provision with minimum bed availabilities. This, of course, does not mean that the effort is more efficient, because improving efficiency in the management of trends is not possible for that ultimate end, hence the continuity of movement to improve the efficiency of hospitals toward desirability, management effort at the end The permanent establishment of centers in the third district, as well as the change of hospitals to the north-east, should be placed on the priorities of the managers of the centers. Of course, due to the difference between the type of ownership and the administration of the hospitals in question, there are other factors involved in obtaining the results of the research, some of which are: 1-The lack of willingness of patients to visit and receive services in private clinics due to lack of financially enough due to the increase in tariffs in private hospitals and the reduction of patient's reimbursement for health plan, which ranges from 30% to 5% of hospitalized services and 15% of outpatient services Academic hospitals changed 2. The Health System Development

Plan, which: 1. improves the quality of hospitality hotel accommodation and resources to improve physical space optimize medical and non-medical equipment, and amenities to hospitals affiliated to medical universities. B- Reduces tariffs for hospital services. To 15% and outpatient services to 5% and for health insurance less than this; c - with increased supervision, reduced outpatient payments (under the table) by patients. D. Due to restrictions on the establishment of a private clinic, specialized physicians and specialist K coefficients and academic institutions of medical universities based on the directives of the Health System Development Plan, more experienced physicians worked at university hospitals. 3. Due to small and elective surgery in private hospitals and reducing the length of stay in these hospitals, especially in Imam Reza Hospital, the average bed turnover is high. Despite the above-mentioned reasons, it seems that according to the results, private hospitals do not have a favorable situation in terms of performance "according to the desired level of performance indicators announced by the Ministry of Health" and should attempt to climb to the third region. Shahid Mohammadi and Shahid Mohammadi university hospitals have almost the same conditions in terms of performance indicators, although they are located in the third region of the chart. However, considering that the bottom of this chart is located, we must do our best to climb the Northeast region with a maximum increase in the percentage of occupancy of the bed and the middle of the bed mindful.

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