TANGIBILITY AND SATISFACTION AT GOVERNMENT HOSPITALS IN KERALA: ANALYZING THE PATIENTS’ PERSPECTIVE

REHIN. K. R¹, Research Scholar,
Professor P. T. RAVEENDRAN¹, MD
¹Department of Management Studies, Kannur University, Kerala, India

INTRODUCTION

The most important resource of a country is its people. It is the quality of the human capital of a country that determines a nation’s competitiveness in the global economy. As such, it is the responsibility of a nation to make sure that the people of a country contribute at their best for the growth and advancement of a nation by ensuring their health and well-being. India is a country with a vast majority of middle class and lower middle class population who cannot afford quality health care whenever required. As such, a major segment of our population is dependent on the nation for meeting their health care needs. Realizing this, the central and the state governments have been spending huge sum of money for establishing public health care infrastructure.

The People of Kerala, being highly literate, are extremely health conscious. On the other hand, Kerala is believed to be a state with a fairly well developed public health infrastructure. But to what extent the people are making use of the available health infrastructure is a real question. It is said that nearly fifty percent of the capacity at most of the government hospitals in Kerala remain unutilized. [1] Why is it so? This is an issue which has to be looked at very seriously. There may be multiple reasons for that. Among others, one of the prominent factors that encourage people to resort to government hospitals to meet their health care needs is the extent of their satisfaction with the quality of services rendered at these hospitals which in turn is dependent on their perception about the service quality. There are numerous aspects that influence the perception of patients regarding the quality of services rendered like the behaviour of doctors, behaviour of nurses and support staff etc. One of the most important factors that impact the satisfaction of patients is the physical evidence or tangible elements at government hospitals. As such, it is very important to assess the satisfaction of patients with the physical or tangible elements at government hospitals to ensure their overall satisfaction. Hence, this paper attempts to identify the key factors influencing the satisfaction of patients with the tangible elements at government hospitals in Kerala.

REVIEW OF LITERATURE

Leather et al.[2] compared two different kinds of waiting rooms and their influences on environmental appraisals, self reported stress and arousal, satisfaction ratings, and pulse readings of 145 outpatients. The study was based on a two sample comparative design with data being collected from patients at a pre-relocated as well as post-relocated neurology outpatient clinic. The pre-relocated waiting room was termed as ‘traditional’ in design, and the post-relocated waiting room was termed as ‘nouveau,’ meaning a purposeful attempt to create an alternative image. It was found that the ‘nouveau’ waiting area was associated with more positive environmental appraisals, improved mood, altered physiological state, and greater reported satisfaction among patients. Becker & Douglass [3] studied the relationship between attractiveness of the physical environment and waiting times, staff interactions, and patient perceived quality of care. It was found that the more attractive environment leads to higher perceived quality of medical care and greater reduction of anxiety.

In a study by Arneill & Delvin [4] It was found that perceived quality of care was more for waiting area that were nicely furnished, well-lit, contained artwork, and were warm in appearance versus waiting rooms that had old furnishings, were dark, contained no artwork, and were cold in looks.

The above literature clearly indicates the significance of physical environment or tangible elements in determining the satisfaction of patients. Hence the present paper tries to identify the key factors impacting the satisfaction level of patients with tangible elements at government hospitals across Kerala.

BACKGROUND. The most important resource of any county is its human capital. Realizing this, both the central as well as state governments have been spending huge sum of money for establishing a fairly good public health infrastructure. The people of Kerala, specifically, is highly health conscious. But nearly half of the capacity at government hospitals remains unused. One of the important reasons for this is the dissatisfaction of patients with various aspects of service like the behaviour of doctors and nurses, tangible elements, responsiveness of staff etc. The present paper attempts to understand the key determinants of patients’ satisfaction with tangible elements at government hospitals in Kerala.

METHODS. Data was collected from 330 patients across various government hospitals in Kerala by administering a structured questionnaire. The collected data was analyzed using factor analysis and regression analysis with the help of SPSS software (version16).

RESULTS. Factor analysis indicated that pleasantness of rooms as well as nurses, drinking water and sanitation facilities and timely availability of patient mobility facility are the key factors influencing the satisfaction of patients with tangible elements. Regression results indicated that there existed significant difference in the perception of patients regarding drinking water and sanitation facilities depending on the period of their stay at the hospitals.

CONCLUSION. Based on the results of the analysis we can conclude that pleasantness of rooms and nurses, timely availability of mobility facilities and drinking water and sanitation facility are the main factors determining patients’ satisfaction and therefore the authorities concerned should focus on these issues in order to enhance patient satisfaction.

Key words: patient mobility, satisfaction, tangible elements.
SIGNIFICANCE OF THE STUDY

In case of hospitals, physical environment has very serious influence on the satisfaction level of patients. A number of elements like the way the waiting areas were furnished, the spaciousness as well as the lighting and ventilation of the consultation and procedure rooms, spaciousness, lighting, ventilation and cleanliness of wards and inpatient rooms etc. may seriously impact the satisfaction level of patients. There may be instances where in spite of providing the requisite care to the patients their negative perception about the tangible elements may lead to the patients developing a negative perception about the treatment quality. As such, it is very important to make sure that the patients have a positive perception regarding the tangible elements present at the point of service delivery.

METHODOLOGY

The researcher followed a descriptive approach in conducting the study. Data were collected from inpatients at various districts and general hospitals across Kerala. A structured questionnaire was administered among a sample of 330 patients identified at the convenience of the researcher from various government district hospitals across Kerala. The questionnaire was designed in such a way that the opinion of respondents on various aspects relating to tangible elements were sought. The collected data was then analyzed using factor analysis. Factor analysis tries to bring inter-correlated variables together under more general, underlying variables. More specifically, the goal of factor analysis is to reduce “the dimensionality of the original space and to give an interpretation to the new space, spanned by a lower number of new dimensions which are supposed to underlie the old ones”. [5]. In the present paper, factor analysis was done to identify the key variables impacting the satisfaction of patients with physical environment or tangible elements at government hospitals and to group them into certain factors based on common properties. The factor scores thus obtained were then subjected to multiple regression analysis. Multiple regression is a statistical technique that allows us to predict the value of one variable on the basis of values of several other variables. There will be two set of variables – predictor variables which are helpful in predicting the values of other variables and the criterion variables for which the values are predicted based on the values of predictor variables. This statistical technique can be used while exploring linear relationships between the predictor and criterion variables. Multiple regression analysis helps us to understand the significance level of different dependent variables in relation to one or more independent variables and also to identify the most significant factor(s) [6].

In this paper regression analysis was performed to find out whether there existed significant difference in the perception of male and female patients regarding tangible elements of services at government hospitals in Kerala. SPSS version 16 was used to analyze the data.

RESULTS AND DISCUSSION

The KMO test is conducted to assess the adequacy of a given sample. KMO value varies between 0 and 1. A value of 0 indicates that factor analysis is inappropriate for the data and a value of 1 indicates that factor analysis will yield distinct and reliable results. A value of 0.5 or above means that the sample is adequate and we can proceed with factor analysis whereas if it is below 0.5 we have to collect more data [7]. As seen in Table 1 the KMO value for this set of data is 0.649 which is acceptable.

For factor analysis to work there has to be some kind of relationship between the variables and this is tested using the Bartlett’s Test of Sphericity. This test indicates whether factor analysis is appropriate for a given set of data. Factor analysis can be considered appropriate for a data only if the significance value is less than 0.05 [7]. As the significance value for the present data as shown in Table 1 is 0.000, factor analysis is appropriate for this data.

As the present data set satisfies both KMO test and Bartlett’s test, factor analysis is appropriate.

Table 2 showed the rotated component matrix which is the matrix of factor loadings for each factor into each variable. 0.4 was used as the cut-off for factor loading. The factors converged at 5 iterations. The variables are listed in the descending order of size of their factor. As evident from Table 2, factor rotation resulted in the extraction of 3 factors as significant determinants patients’ perception regarding tangible elements at government hospital. Factor 1 loaded across three variables, i.e., ‘Nurses were always neat and pleasant in their appearance’, ‘The rooms were cleaned daily and were pleasant to use’ and ‘The required medicines were readily available in the hospital dispensary’ which will jointly be termed as ‘Pleasantness of Rooms as well as Nurses and Availability of Medicines’. Second factor loaded across two variables namely ‘The bathrooms were cleaned daily and were pleasant to use’ and ‘purified drinking water was always available in this hospital’ which will hereafter be referred to as ‘Drinking Water and Sanitation Facilities’.

The last factor loaded across a single variable namely ‘Wheelchairs/ stretchers were readily available whenever required’ which will be called as ‘Timely Availability of Patient Mobility Facility’.

Hence the six variables included in the analysis converged to three factors namely ‘Pleasantness of Rooms as well as Nurses and Availability of Medicines’, ‘Drinking Water and Sanitation Facilities’ and ‘Timely Availability of Patient Mobility Facility’.

To further refine the results, regression analysis was performed by taking the factor scores of factor analysis as independent variables and period of stay at the hospital as the dependent factor at 5 percent significance level.
Table 2 - Rotated Component Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses were always neat and pleasant in their appearance</td>
<td>.724</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The rooms were cleaned daily and were pleasant to use</td>
<td>.679</td>
<td>.405</td>
<td></td>
</tr>
<tr>
<td>The required medicines were readily available in the hospital dispensary</td>
<td>.563</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The bathrooms were cleaned daily and were pleasant to use</td>
<td>.814</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purified drinking water was always available in this hospital</td>
<td>.659</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheelchairs/ stretchers were readily available whenever required</td>
<td>.752</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
Factors converged in 5 iterations
Source: Survey Data

Table 23 - Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>1.715</td>
<td>.052</td>
<td>32.754</td>
<td>.000</td>
</tr>
<tr>
<td>Pleasantness of Rooms as well as Nurses and Availability of Medicines</td>
<td>.007</td>
<td>.052</td>
<td>.007</td>
<td>.135</td>
</tr>
<tr>
<td>Drinking Water and Sanitation Facilities</td>
<td>-.113</td>
<td>.052</td>
<td>-.119</td>
<td>-.215</td>
</tr>
<tr>
<td>Timely Availability of Patient Mobility Facility</td>
<td>-.004</td>
<td>.052</td>
<td>-.004</td>
<td>-.078</td>
</tr>
</tbody>
</table>

Dependent Variable: Period of stay at the Hospital
Source: Survey Data

- H1: There is no significant difference in the opinion of patients regarding the pleasantness of rooms as well as nurses and availability of medicines at the hospitals depending on the period of stay at the hospital.
- H2: There is no significant difference in the opinion of patients regarding drinking water and sanitation facilities at hospitals depending on their period of stay at the hospital.
- H3: There is no significant difference in the opinion of respondents regarding timely availability of patient mobility facilities depending on their period of stay at the hospital.

From regression results it was concluded that the first and third factors emerged after principal component analysis was found to be insignificant as far as respondents’ period of stay at the hospital was considered. All the patients more or less agreed that nurses were pleasant in their appearance, rooms were cleaned daily and were pleasant to use and that the required medicines were available at the hospital. All the patients also agreed that wheelchairs/stretchers were readily available at the hospitals. Hence, it was concluded that there was no significant difference in the opinion of patients regarding these two factors depending on their period of stay at hospital and thus H1 and H3 were accepted.

However from Table 3 it was concluded that the second factor emerged after principal component analysis, namely ‘Drinking Water and Sanitation Facilities’ was found to be significant (p=.032; <.05) at 5 percent significant level as far as period of stay at hospital was concerned. Hence H2 was rejected and it was concluded that there was significant difference in the opinion of patients regarding the drinking water and sanitation facilities at government hospitals depending on their period of stay at the hospitals.

Conclusions and Limitations of the Study

From the above discussion we can concluded that there were three set of factors that were perceived as important aspects determining the satisfaction of patients with the tangible elements of service delivery at government hospitals namely, ‘Pleasantness of Rooms as well as Nurses and Availability of Medicines’, ‘Drinking Water and Sanitation Facilities’ and ‘Timely Availability of Patient Mobility Facility’. Further regression analysis indicated that except in case of drinking water and sanitation facilities, there existed no major difference in the satisfaction level of patients regarding the tangible elements based on their period of stay at government hospitals. As such, the authorities should take proper care about these aspects in order to ensure satisfaction of patients with tangible elements at these hospitals. However, as the findings of the study are purely based on the inputs provided by the surveyed patients, there is always a possibility of biased inputs being received which may get reflected in the findings of the study as well. Hence the findings of the study should be generalized with caution.

Reference
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