Global Journal of Arts, Humanities and Social Sciences
Vol.7, No. 5, pp.39-55, May 2019
Published by European Centre for Research Training and Development UK (www.eajournals.org)

HEALTHCARE SERVICE QUALITY AND IN-PATIENTS' SATISFACTION: AN EMPIRICAL INVESTIGATION ON HEALTHSCAPE'S TANGIBLE QUALITY

Mahmud Zubayer*
Saiful Hoque**

Ph.D. Students in the Department of Management
Limkokwing University of Creative Technology
Cyberjaya, Selangor, Malaysia

ABSTRACT: *The rationale of this descriptive research is to spot the foremost determinant factors that frame healthscapes' tangible quality and in-patients' satisfaction in elite private hospitals in Dhaka. The study utilized simple random sampling technique to select 366 samples. The inner consistency and reliability were examined utilizing Cronbach's Alpha reliability estimate. To test the sample adequacy, the author conducted the KMO test and Bartlett's test of sphericity. Multiple regression analysis was carried out to predict relative contributions of predictors to predicted variable. The findings of the regression analysis supported the hypotheses concerning the rapport between the independent and the dependent variables. Moreover, the study was limited to four elite private hospitals with premium facilities and these hospitals are situated in the urban Dhaka. Additionally, the survey focused exclusively on in-patients. These patients resided no less than one night in cabins and persuaded either major or minor surgeries. Therefore, the research outcomes may not be directly applied to patients reside in other cities or the cities in other countries. Hence, further research may reassess tangible quality-satisfaction rapport in the context of healthcare receivers' prior experience, demographic profile and the cost of service. The author moreover encouraged inspecting the impact of mediating variables like patients' trust and their emotional attachment in this rapport.*

KEYWORDS: Private Healthcare, Tangible Quality, In-Patient Satisfaction.

INTRODUCTION

Improving service quality today has become foremost challenging for organizations to meet customer desires and to sustain in ever challenging markets (Sahney et al., 2006) healthcare service is no exception to that. Perhaps it has a unique magnitude amid non-medical services due to its indecisive character. Managers of medical care need to understand and carry out quality enhancement tactics to be successful (Hekmatpou, et al., 2010). Over the last few decades, researchers, practitioners and policy makers around the world observed a series of vivid revaluations in the opportunity of healthcare service delivery (Lee, 2011). Technological development, greater access to health information and patients' superior desires are few of the instances that contribute to overall revaluations (Francis, 2010). Moreover, additional focus on tangibility of medical services has emerged in a patient-focused healthcare organization. This is mainly due to the technical features like diagnosis or treatment of healthcare is more complicated to manage in contrast to its tangible aspects (Hutton, et al., 1995). These tangible cues, for instance, visually appealing equipment, employee dress, ambience, facilities, physical settings, infrastructure, layout, meal quality, drugs etc have a close relationship with the notion of

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

healthscape as described by Bitner (1992) and are measured as significant aspects of overall care experience. Scholars around the world depicted that tangibility of healthcare service providers might encourage or discourage certain behaviors and emotions of care receivers (Carpman, et al., 1993) and play a significant role in their curing process (Fottler et al., 2000). Care delivery is certainly different from other services that are frequently found in airlines, banking, security etc due to its technical nature and it is difficult for patients to assess the technical quality of a distinctive service like healthcare. Therefore, the tangible aspects play a significant role to evaluate the overall care quality (Bowers, et al., 1992). In addition, it impacts the rapport between care receivers and doctors, nurses and other technical staffs (Crosby et al., 1990). Hence, tangible aspects assist a patient to determine the technical aptitude of a doctor (Bowers, et al., 1992). Above authors demonstrated the significance of scrutinizing the impact of tangible aspects of a healthscape on care receivers' satisfaction. Possibly because of this understanding, Hutton, et al. (1995) presented the notion of healthscape to discover the tangible dimensions of healthcare service. This offers researchers, practitioners and policy-makers ample opportunities to investigate how tangible aspects of a healthscape affect patients' satisfaction. In spite of this study potential, so far hardly any studies have been conducted to scrutinize the influence of tangible aspects on patient satisfaction. Moreover, patients' satisfaction study is significant as it acts as an indicator of the quality of care delivered to them (Cleary, et al., 1988). This study aims to inspect the effect of tangible aspects on in-patients' satisfaction in the elite private hospitals of Dhaka.

REVIEW OF THE RELATED LITERATURE AND HYPOTHESIS

Literature Review

The notion of 'healthscape' was initially introduced by Bitner (1992) where service transactions take place. The term was drawn from the 'atmospherics' concept of Kotler (1973) who presented it as an attempt to offer an atmosphere to develop buyers' positive emotions that increase the probability of purchase. Later Sahoo, et al. (2016) described healthscape's tangibility as a tool that plays a significant role in developing buyer's overall satisfaction. The tangibility in a healthscape is a multi-dimensional variable which includes individual elements like equipment, amenities, meal, drugs, employees' dress, color, music, smell, layout, design etc. Such tangible aspects are considered around a healthscape so that they exert an effect on a service receiver's behavior (Bitner, 1992). The following past studies confirmed a wide-range but broad idea on the issues concerning healthscapes' tangible quality and patients' satisfaction.

Fatima, et al., 2018 revealed that in private sector hospitals the care quality aspect like atmosphere is significant in developing patients' satisfaction. Moreover, maintaining physical facilities, developing appealing infrastructure, having state of the art medical equipment, ensuring staffs' professional appearance (dress-up) and ensuring hygiene care are essential for patients' satisfaction. *Ali, S.S., et al., 2018* utilized the SERVQUAL gap model to spot the dimensions and factors that are significant for patients' satisfaction in private sector hospitals. Authors recognized the requirement to monitor the tangible aspects particularly employees' dress and ample parking space to elevate the level of patients' satisfaction. *Selim, et al. (2017)* applied SERVQUAL model and revealed that there are significant disparities between married and unmarried patients concerning their views of tangibles like modern equipment, visual appealing facilities, staffs' professional appearance (dress-up) and visually appealing materials in hospitals.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Unmarried patients perceived tangibles more favorably in contrast to married patients. Patients below 20 years of age had more favorable perceptions than other age groups. Moreover, private hospitals' patients perceived tangible quality more positively compared to its counterpart (Andaleeb, 2000).

Azar, et al. (2017) revealed that tangibility dimensions that include visually appealing atmosphere, modern equipment, and cleanliness is the most significant factor to patient's satisfaction. Prior related studies supported the outcomes of current research and demonstrated that care receivers' views are primarily influenced by atmosphere and tangible cues (Parasuraman, et al.,1985; Grönroos, 1990). Moreover, Vandamme, et al. (1993) depicted that tangibility is a dimension that explains hospitals' service quality. Whereas Sohail, (2003) declared that patients' expectations are largely relied on state of the art medical equipment, cleanliness and visual appealing facility.*Jandavath, et al. (2016)* revealed that along with other dimensions of Parasuraman, et al.'s (1988) SERVQUAL model, tangibility had strong impact on patient satisfaction and appeared to be a strong predictor to re-buy the service. This outcome is supported by the study of Aliman, et al., (2013). Jandavath et al. further suggested that the care providers ought to demonstrate genuine interests to solve patients' medical problems, provide care by the promised time and utilize modern medical equipment while delivering medical care.

Debajani, et al. (2016) disclosed that factors like hospital's atmosphere**,** physical facilities, location, hygienic care and visually appealing decoration significantly affect patients' satisfaction. The atmosphere aspect considered clean, comfortable temperature, no foul smell, soothing, soothing music etc; space considered layout and fixtures; signs, symbols and artifacts considered signage, decoration; physical facilities considered cafeteria, cabin and laundry service, drug store etc and other tangible aspects consisted building exterior, parking area, direction signs, waiting areas, medical equipment, staffs' uniform or dress-up etc.*Siti, et al. (2016)* discovered that hospital's amenities, medical equipment and natural surroundings elevate patient satisfaction. In terms of healthscape design, hospitals require to comprehend patients' unfulfilled consumption needs and how to fulfill them needs by employing a vast array of servicescape stimuli. Authors further identified the significance of assessing the natural dimension especially on green area by installing indoor plants or by creating an appealing landscape for the well-being of the patients. *Jinghua et al., (2016)* discovered that patient satisfaction regarding healthscape and confidence in urban hospitals are relatively lower. Findings further indicated that the development of primary care in urban area is unbalanced and the development of infrastructure (buildings, landscape etc), medical equipment**,** competency of the doctors and nurses and listening, explaining and communicating well to patients are inevitable.

Ingy, et al., (2015) depicted that the evaluation technique of healthcare quality is relatively different than other industries. The researchers also portrayed that along with other factors, nursing tangibles, hospital atmosphere, employees' dress-up, cabin tangibles and meal services are significantly linked to overall service quality and patients' satisfaction. *Bikash, et al. (2015)* discovered that patients were highly concerned about the treatment outcome and the technical quality of care that consist of items such as diagnosis equipment and the healthscape. Authors also confirmed that, doctors', nurses' and other staffs' dress-up was considered as significant

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

dimension of measuring patients' satisfaction. Bikash et al. (2015) further affirmed that the amenities such as the internet, cafeteria and phone services are significant to maintain higher patient satisfaction level. *Ritu, et al. (2015)* developed a scale which emphasized on drugs, atmosphere and modern equipment. The results of Ritu et al.'s study demonstrated that both the design of the healthscape and care quality have a considerable association with patient perceived healthcare outcomes. Later, Ingy, et al. (2015) also introduced a framework where healthscape**,** employees' dress-up**,** meal and room tangibles were found to have significant affect on healthcare service quality.

Rama, et al. (2015) investigated the physical environment of private healthcare services in India which included the physical facilities, infrastructure, equipment, medical staff dress-up etc. Authors revealed that, neatness, cleanliness, quietness**,** meals**,** drugs**,** payment receipt and friendly environment significantly influence patients' perceived service quality. But modern equipment was found to be the most important factor. *Bahadori et al. (2015)* revealed that along with other SERVQUAL dimensions, tangibility was correlated with healthcare quality. Compared to other SERVQUAL dimensions, tangibility had smaller correlation with patients' satisfaction that included atmosphere, equipment and employee's dress-up, which is supported by the study of Wisniewski, et al. (2005). Nevertheless, since tangibility had a little influence on recipients' satisfaction, it is indeed significant to offer suitable physical surroundings. Additionally, cleanliness and diagnostic equipment were important items as they affect patients' satisfaction. *Panchapakesan, et al. (2014)* discovered that the tangible aspects do not require specialized knowledge and patients are more concerned about safety and hygiene dimensions. Patients prefer staffs wearing gloves and aprons, using disposable syringes and providing infection free atmosphere while providing treatment. They perceived that safety indicators provided by staff to be low. The study further investigated the socio-demographic variables and found that, male patients concentrated more on infrastructure and safety indicators. On the other hand, females focused more on clinical care process, safety indicators and social responsibility. Patients greater than 50 years of age perceived hospital to be good in clinical care process and infrastructure, while not considering administrative procedures and social responsibility initiatives important.

In spite of the importance of current research, the influence of tangibility on patients' satisfaction has not been systematically investigated (De Calan, et al., 1988). Since constant transformation in environmental factors and government policies are influencing healthcare quality, it has turned out to be indispensable to investigate how care receivers perceive care quality, what they anticipate, and the magnitude of their satisfaction with the services supplied to them (Palmer, 1991) so that essential adjustments could be made in the setting (Andaleeb, 2000).

Hypothesis Development

The hypothesis in this study is assumed based on the above arguments and the SERVQUAL instrument of Parasuraman, et al.s' (1985), which measures customers' expectations and perceptions of service quality. The SERVQUAL instrument is developed based on expectancy

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

confirmation theory of Oliver (1980), which measures customers' expectations and perceptions that result in building customer satisfaction (Shabbir, et al., 2016).

Null Hypothesis

H_0: Healthscapes' tangible quality has no relationship with in-patient satisfaction toward the private healthcare provider.

Alternative Hypothesis

H_1: Healthscapes' tangible quality has significant positive relationship with in-patient satisfaction toward the private healthcare provider.

METHODOLOGY OF THE STUDY

Study Settings and Instrument Development

The tangible quality of healthscapes is measured employing all the following dimensions proposed by Ali, S.S., et al., 2018 Fatima, et al., 2018 Selim, et al. (2017) Azar, et al. (2017) Debajani, et al. (2016) Ingy, et al., (2015) Bikash, et al. (2015) Ritu, et al. (2015) and Rama, et al. (2015): professional dress-up, hygiene, physical facilities, equipment, cabin, atmosphere, amenities, waiting area, meal quality, meal menu, drug quality and location. In order to appraise the perception of tangible quality, the study employed a 5-point Likert scale with anchors ranging from 'strongly agree' to 'strongly disagree' (Likert, R., 1932) and with the assistance of 20 assessment items. Besides, the instrument incorporated a section where respondents' demographic profiles were noted.

Study Design, Participants and Pilot-Testing

This descriptive study utilized simple random sampling technique to select the samples. A total of 430 respondents have been contacted and 366 completed instruments were received back, signifying a positive reply rate of 85%. Four elite private hospitals (Apollo, Labaid, Square and United) and four social clubs (Dhaka club, Gulshan club, Banani club and Uttara club) in Dhaka were selected where the instruments were executed to patients who articulated their interests to reply the questions. These patients admitted to hospitals between June and November 2018 for either minor or major surgeries and resided in the cabins. Prior to its execution, the instrument was sent to two industry experts and two management personnel of elite private hospitals for the purpose of content validity. Moreover, a pilot-testing was executed to 25 individuals who met the sampling criteria (α = .856). Finally, necessary changes have been made and executed for the final study.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Statistical Analysis

The collected survey data were analyzed employing SPSS V23. The inner consistency and reliability were examined utilizing Cronbach's Alpha (Cronbach, L. J., 1951) reliability estimate. As Cronbach, L.J. (1951) described, if Cronbach's alpha value demonstrates over 0.70 then it is considered to be suitable. After testing the reliability of the scale, author removed a number of items from the scale to obtain a higher value for the Cronbach alpha coefficient. In order to ensure sample adequacy and whether the data are suitable for factor analysis, the author conducted the KMO test ((Kaiser, et al., 1974) and Bartlett's test of sphericity. The KMO test measured the strength of the association between examined factors. The test can range between 0 and 1, and the value of minimum 0.7 explains that the correlations can be explored utilizing factor analysis. The study confirmed the KMO value is >0.7 and Bartlett's significance level is <0.05. Here the author conducted exploratory factor analysis to recognize latent factors. Through the exploratory factor analysis, the author proved each set of variables is the component of a single construct. The criterion for extracting factors was the KMO principle (Eigenvalue > 1). The author employed the VARIMAX rotation as rotation technique since it permits extracted factors to be correlated. Items with factor loadings >0.5 were utilized for additional statistical analysis. Moreover, multiple regression analysis was carried out to predict relative contributions of predictors to predicted variable (Malhotra, 1999). It is a method to inspect both the individual significance of the independent variables and the collective ability of the independent variables to predict the criterion variables (Tabachnick, et al., 1996). The technique was utilized through regressing the items comprising the scale against patients' overall satisfaction.

RESEARCH RESULTS

Respondents' Profile

Table 01 displays that, 64.2 percent respondents were male and 35.8 percent female. It demonstrates that male respondents comprised close to double the proportion of female respondents. This is because the female respondents were less willing to give answers to questions then their counterpart. The table also exhibits that 42.6 percent respondents belonged to 46 to 64 age cluster and only 5.7 percent of the respondents belonged to 18 to 25 years age category. The researcher deliberately avoided the respondents from 18 to 25 age group, since there was a possibility of receiving vague answers to questions, due to their excellent health conditions. In addition, 48.6 percent earned Bachelor/equivalent degree and only 2.2 percent completed SSC/O-Level. Moreover, 27.3 percent comprised an income level between Tk. 100001 to 150000 and only 10.7 percent belongs to below Tk. 50000 income category.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Hence, private service holders secured 51.4 percent and only 1.4 percent secured by retired/unemployed categories. The researcher consciously recruited very few respondents belonged to retired/unemployed cluster, due to high expense in the out-of-pocket private healthcare service.

Table 01: Frequencies

Items	Freq.	%	Items	Freq.	%
Gender of the Respondents					
Male	235	**64.2**			
Female	131	**35.8**			
Total	366	100.0			
Age			***Educational Qualification***		
18 – 25	21	**5.7**	Bellow SSC/O-	10	2.7
26 – 33	39	10.7	SSC/O-Level	8	**2.2**
34 – 45	85	23.2	HSC/A-Level	38	10.4
46 – 64	156	**42.6**	Bachelor/Equivalent	178	**48.6**
65 & Above	65	17.8	Masters/Equivalent	132	36.1
Total	366	100.0	Total	366	100.0
Ava. Monthly Income			***Profession***		
Below 50000	39	**10.7**	Private Service	188	**51.4**
50001-75000	73	19.9	Public Service	11	3.0
75001-100000	63	17.2	Businessman	162	44.3
100001-150000	100	**27.3**	Retired/Unemployed	5	**1.4**
Above 150000	91	24.9	Total	366	100.0
Total	366	100.0			

Reliability Statistics

Table 02: Reliability Statistics

Cronbach's Alpha	N of Items
.925	21

'Reliability Statistics' table (Table 02) displays that the study considered 21 variables and these variables have considerably higher degree of associations, where Cronbach's Alpha value is 0.925. As Cronbach, L.J. (1951) described, alpha value greater than 0.7 could be considered as quiet reliable.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Table 03: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Staffs' are professional dressed	83.52	116.847	.563	**.922**
Staffs are wearing gloves, masks and aprons	83.63	115.264	.643	**.921**
Has appealing facilities like buildings.	83.77	115.627	.573	**.922**
Availability of modern and visually appealing	83.65	116.940	.557	**.922**
Availability of visually appealing cabin	83.70	118.304	.478	**.924**
Cabins are clean, comfortable and soothing	83.77	117.200	.494	**.924**
Has comfortable atmosphere: lighting,	83.82	117.467	.492	**.924**
Availability of amenities: internet, cafeteria etc	83.69	114.329	.607	**.921**
Availability of visitor waiting area	83.71	117.757	.436	**.925**
Availability of sufficient number of seats in the	83.69	117.210	.538	**.923**
Clean and comfortable waiting area	83.83	116.094	.500	**.924**
Choices in meals' menu	83.80	113.882	.610	**.921**
Meals serve in hygienic manner	83.79	114.552	.616	**.921**
Meals are carefully prepared	83.69	113.607	.650	**.921**
Meals are served with right temperature	83.82	114.503	.618	**.921**
Meals are well presented	83.77	112.243	.681	**.920**
Meals are of good quality	83.81	113.205	.639	**.921**
Available of drugs are within the premises	83.84	113.301	.572	**.922**
Quality drugs are available for my specific case	83.91	113.978	.593	**.922**
Hospital's location was convenient and easily	83.85	111.891	.665	**.920**
I was overall satisfied with the tangibles of	83.78	113.233	.798	**.918**

As depicted by Nunnally, et al. (1994), item-total statistics table (Table 03) displays positive internal consistency in all 21 variable questions. The table moreover displays that the Cronbach's alpha values of all 21 items have exceeded the suggestions of Bagozzi et al.'s (1988) 0.6 and Nunnally et al.'s 0.7. Thus, the scales are amply reliable for data analysis.

Factor Analysis

Table 04: KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling		**.823**
Bartlett's Test of Sphericity	Approx. Chi-Square	4343.606
	df	190
	Sig.	**.000**

The researcher observed from the KMO assessment of sampling adequacy that the calculated value is 0.823. As Table 04 described, since KMO value surpassed the sampling adequacy criterion 0.5 (Kaiser, M.O., 1974), the statistically significant Bartlett sphericity criterion and the significance level is 0.000, the obtained data are adequate and is quite acceptable for the research in social sciences.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Table 05: Communalities

	Initial	Extraction
Staffs' are professional dressed	1.000	.698
Staffs wearing gloves, masks and aprons	1.000	.701
Appealing facilities like buildings, landscape, layout	1.000	.664
Modern and visually appealing equipment	1.000	.664
Visually appealing cabin	1.000	.753
Clean, comfortable and soothing cabin	1.000	.593
Comfortable atmosphere: lighting, temperature etc	1.000	.651
Availability of amenities: internet, cafeteria etc	1.000	.755
Availability of visitor waiting area	1.000	.704
Adequate number of seats in the waiting area	1.000	.673
Clean and comfortable waiting area	1.000	.636
Choices in meals' menu	1.000	.663
Meals serve in hygienic manner	1.000	.708
Meals are carefully prepared	1.000	.707
Meals are served with right temperature	1.000	.740
Meals are well presented	1.000	.693
Meals are of good quality	1.000	.748
Available of drugs are within the premises	1.000	.701
Quality drugs are available for my specific case	1.000	.672
Location of the hospital was convenient and easily accessible	1.000	.630

Extraction Method: Principal Component Analysis.

As the 'Communalities' table (Table 05) displays, among the 20 independent variables, the most significant variable is 'availability of amenities' (.755), the second most significant variable is 'visually appealing cabin' (.753), the third is 'meal quality' (.748), the fourth is 'meals' temperature' (.740) and the fifth most significant variable is 'meals were served with hygienic manner' (.708). Hence, the table shows all 20 variables that have extraction values greater than 0.5, which indicate robust communality amid all the independent variables.

Table 06: Total Variance Explained

Components	Initial Eigenvalues		
	Tota	% of	Cumulative
Drugs Quality and Hospital's Location	**7.90**	39.547	39.547
Visually Appealing Cabin, Equipment & Physical	**2.06**	10.336	49.883
Choices in Meal Menu and Ample Visitor Waiting	**1.42**	7.139	57.021
Availability of Amenities and Comfortable	**1.21**	6.095	63.117
Staffs' Professional Dress, Wearing Gloves, Masks	**1.12**	5.643	**68.759**

Extraction Method: Principal Component Analysis

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

As the 'Total Variance Explained' table (Table 06) exhibits, total variance explained is 68.759 by 5 broad factors, which indicates that the researcher can explain the total variability up to 68.75% with the assistance of these 5 factors. Moreover, only the factors having eigenvalues or latent roots surpassed 1.0 are measured significant (Hair, et al., 1998).

Table 07: Rotated Component Matrix[a]

	Component				
	Drugs Quality and Hospital Location	Cabin, Equipment and Physical Facilities	Choices in Meal Menu and Waiting area	Availability of Amenities and Atmosphere	Staffs Prof. Dress, Gloves, Masks & Aprons
Drugs are available within the premises	.806				
Meals are of good quality	.787				
Quality drugs are available for my	.746				
Meals are well presented	.730				
Location of the hospital is convenient	.620				
Meals are served with right temperature	.613				
Cabin are visually appealing		.840			
Equipment are modern, visually		.699			
Cabin is clean, comfortable, soothing and		.663			
Appealing **physical facilities** like		.592			
Meals are served in a hygienic manner			.724		
Menu of the meals has choices			.695		
Meals are carefully prepared to suit my			.675		
Waiting area is clean, comfortable &			.551		
Waiting area is available for the visitors				.796	
Has **amenities** like internet, cafeteria etc				.708	
Waiting area has adequate number of				.616	
Has comfortable **atmosphere** with				.595	
Staffs are **professionally dressed**					.737
Staffs are wearing **gloves**, **masks** and					.673

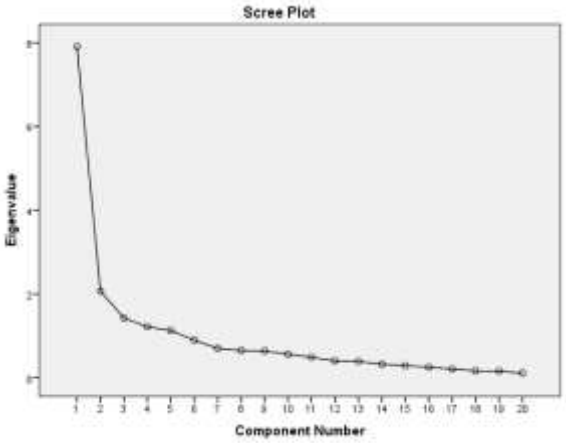
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization[a]
a. Rotation converged in 18 iterations.

'Rotated Component Matrix' table describes the outcomes of Principal Component Analysis/PCA with rotated factor loadings on the study data. PCA method is applied for grouping items containing factor loading more than 0.5 under different factors. A factor loading indicates the association among items with a particular factor, aiming to recognize the character of that specific factor (Debasish, 2004). The 'Rotated Component Matrix' table presents factor after rotation. To identify what these factors represent, it is indispensable to consider what items

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

are loaded on each of the factors. Table 07 portrays the rotated factor loadings against 20 observed items. Hence, the usage of varimax rotation determined 5 derived factors.

Figure 01: Scree Plot



The scree test is a pictorial test utilized to decide the number of variables or factors to retain. It is created by plotting eigenvalues along the ordinate (y-axis) and factor numbers along the abscissa (x-axis) (Tanguma, 2000). A mountain shape picture (Figure 01) is developed, since sequentially extracted factors contain consecutively smaller eigenvalues. The eigenvalues linked with the factors incorporated on the 'mountainous' part of the graph symbolize solid, significant factors (eigenvalues greater than 1.0) that are retained whereas less significant factors (eigenvalues less than 1.0) composed the 'scree', which are disregarded (Thompson, 2004). Therefore, only 5 factors are retained. Figure 01 presents a scree plot of the factors generated from the 'Rotated Component Matrix' table (Table 07).

Regression Analysis

Table 08: Model Summary

Mode	R	R^2	Adjusted	Std. Error of the
1	.826[a]	**.682**	.664	.432

a. Predictors: (Constant), 24

The 'Model Summery' table (Table 08) displays that the R value is 0.826. The value suggests that the independent variables (tangible quality) are 82.6% correlated with the dependent variable (in-patient satisfaction). The R^2 value is 0.682 which refers that the independent variables explain 68.2% of dependent variable. The standard error of the estimate is 0.432.

Table 09: Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	138.318	20	**6.916**	**36.997**	**.000[b]**
	Residual	64.491	345	.187		
	Total	202.809	365			

a. Dependent Variable: I was overall satisfied with the tangibles of the healthscape
b. Predictors: (Constant), 20

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Analysis of Variance table (Table 09) displays that, F-value is 36.997 which is greater than Mean Square value (6.916) and the significance level or p-value is 0.000 which is less than 0.05 that means the statistical model is significant

Table 10: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-	.206		-	.001		
Staffs are professionally dressed	.16	.047	.165	3.56	**.000**	.429	**2.33**
Staffs are wearing gloves, masks and	-	.049	-.018	-.357	.721	.360	**2.78**
Has appealing physical facilities:	.07	.042	.081	1.75	.080	.431	**2.32**
Equipment are modern, appealing	.06	.046	.067	1.47	.142	.442	**2.26**
Cabin is visually appealing	.08	.049	.084	1.73	.084	.392	**2.55**
Cabin is clean, comfortable and	.01	.041	.021	.468	.640	.468	**2.13**
has comfortable atmosphere with	-	.043	-.003	-.059	.953	.454	**2.20**
has amenities like internet, cafeteria	-	.048	-.013	-.236	.814	.294	**3.40**
Waiting area is available for the	.09	.043	.111	2.29	**.022**	.392	**2.54**
Waiting area has adequate number of	.07	.048	.079	1.64	.101	.401	**2.49**
Waiting area is clean, comfortable &	.01	.035	.019	.453	.651	.534	**1.87**
Menu of the meals has choices	.11	.037	.144	3.18	**.002**	.452	**2.21**
Meals are served in hygienic manner	.09	.046	.109	2.05	**.040**	.331	**3.01**
Meals are carefully prepared to suit	.07	.048	.086	1.51	.131	.289	**3.45**
Meals are served with right	.16	.049	.187	3.34	**.001**	.295	**3.39**
Meals are of well presented	-	.048	-.143	-	.016	.264	**3.78**
Meals are of good quality	.12	.047	.149	2.56	**.011**	.274	**3.65**
Drugs are available within the	.01	.036	.019	.393	.695	.403	**2.48**
Quality drugs are available for my	-	.040	-.066	-	.184	.374	**2.67**
Location of the hospital is convenient and accessible	.158	.037	.205	4.234	**.000****	.392	**2.552**

a. Dependent Variable: I was overall satisfied with the tangibles of the healthscape.

Conditions: *P < .05 and **P < .01

As 'Coefficients[a]' table (Table 10) demonstrates that 'P' values of 'staffs' professional dress-up is 0.000**', 'ample visitor waiting area is 0.022*', 'choices in meal menu is 0.002**', 'meals were served in hygienic manner is 0.040*', 'meals were with right temperature is 0.001**', 'quality of meals is 0.011*' and 'location of the hospital is 0.000**. These 7 predictors met the 'conditions' to be significant (*P < .05; **P < .01). Consequently, these variables are highly correlated with 'in-patients' overall satisfaction'. Therefore, for these 7 predictors null hypothesis (H_0) is rejected and accepted alternative hypothesis (H_1) that means there is a significant correlation between 'healthscape's tangible quality' and 'patients' overall satisfaction'. Moreover, the 'P' values of the remaining predictors could not meet the 'pre-conditions' to be significant. Therefore, these predictors could not make a significant unique contribution to the model. Hence, these predictors are accepting null hypothesis (H_0) and rejecting alternative hypothesis (H_1), signifying no significant correlation between 'healthscape's tangible quality' and 'patients' overall satisfaction'. Moreover, the model is considered to be

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

statistically significant (F = 36.997 and p < 0.000) because R^2 = 0.682 and adjusted R^2 = 0.664. This directed the researcher to conclude that 68.2% of total variation in in-patients' satisfaction was explained by 20 tangible quality variables of healthscape. In addition, Multicollinearity was well within threshold value (VIF < 5.00) (O'Brien, 2007).

DISCUSSION

The aim of this investigation is to reveal the influence of healthscapes' tangible quality in private healthcare quality and in-patients' satisfaction in elite private hospitals in Dhaka. The outcomes of the exploratory factor analysis displayed that a number of items successfully loaded on 5 broad dimensions of tangible quality, namely, 'availability of quality drugs and convenient location of the hospital', 'visually appealing cabin, equipment and available physical facilities', 'choices in meal menu and ample visitor waiting area', 'availability of amenities and comfortable atmosphere' and 'staffs' professional dress-up, wearing gloves, masks and aprons'. The findings of the regression analysis supported the hypotheses concerning the association between the dependent and the independent variables. The regression analysis discovered that the factors like 'staffs' professional dress', 'ample visitor waiting area', 'choices in meal menu', 'meals were served in hygienic manner', 'meals were served with right temperature', 'quality of meals' and 'the location of the hospital' of tangible quality significantly affect care receivers' satisfaction. In the current study, the researcher noticed the gradual transformation in the views of care receivers from a utilitarian viewpoint to hedonism (Sahoo, et al., 2016). As Sahoo, et al. described, patients used to visit hospitals to receive quality medical treatment, irrespective of the tangibles, were adequate to provoke their satisfaction. This tendency has changed with higher concerns in tangible aspects among patients. Before the commencement of the diagnosis and then treatment, patients constantly assess the tangible quality of hospitals, which afterwards determine their overall satisfaction. On the contrary, the outcomes of the regression analysis did not confirm significant effects of remaining tangible quality dimensions on care receivers' overall satisfaction.

Implications and Recommendations

The study outcomes clearly indicate that scrutinizing tangible quality of healthscape in Bangladesh can be beneficial for professionals, academicians and policy makers. It is the first investigation on the tangible quality in healthscape to examine the disparity in care receivers' satisfaction in the private sector hospitals. The study recommended a number of imperative strategic course of actions to hospital managers for segmenting, differentiating and positioning market of healthcare services (Sahoo, et al., 2016). The author strongly recommended to ensure that the 'staffs' in the hospital should be professional dressed', 'meals should be prepared carefully, serve with right temperature and are of good quality before serving to patients during treatment', 'there should have choices in the menu of the meals', and 'the location of the hospital should be convenient and easily accessible'. Moreover visitor waiting area should be clean, comfortable and has ample sitting arrangement.

Conclusion, Limitations and Future Research

Today, health is considered as wealth. Without a healthy nation, the dream of maintaining a balanced growth of the economy is unlikely (Gupta, et al., 2014). Therefore, the rationale of this investigation is to reveal the impact of healthscapes' tangible quality in patients' wellbeing and

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

overall satisfaction. Even after 47 years of sovereignty, limited interests have been shown to scrutinize the practical relationship between tangible quality and patients' satisfaction in Bangladesh. Therefore, it has become imperative to examine such a relationship. The present study is conducted based on current theories on tangible quality and patients' satisfaction and introduced a conceptual relationship between them. The outcomes displayed a significant positive influence of the dimensions of tangible quality on patients' satisfaction. This indicates to comprise the necessary infrastructure and pleasure-seeking facilities (Sahoo, et al., 2016) while serving the patients.

Although the research added to the extant literature on private healthcare tangible quality and patient satisfaction, it is not free from limitations (Sahoo, et al., 2016). The investigation was limited to four elite private hospitals with premium facilities and these hospitals are situated in the urban Dhaka. Additionally, the survey focused exclusively on in-patients. These patients resided no less than one night in cabins and persuaded either major or minor surgeries. Therefore, the research outcomes may not be directly applied to patients residing in other cities or the cities in other countries. Due to diverse sociocultural dynamics and varying expectations, patients from other locations may demonstrate dissimilar attitude toward tangible quality of healthscapes (Sahoo, et al., 2016). Further research may reassess tangible quality-satisfaction rapport in the context of care receivers' prior experience, demographic profile and the cost of service. The author moreover encourages to scrutinize the impact of mediating variables like patients' trust and their emotional attachment in this rapport.

References

Ali, S. S., Basu, A., & Ware, N. (2018). Quality measurement of Indian commercial hospitals–using a SERVQUAL framework. *Benchmarking: An International Journal*, 25(3), 815-837.

Aliman, N. K., & Mohamad, W. N. (2013). Perceptions of service quality and behavioral intentions: A mediation effect of patient satisfaction in the private health care in Malaysia. *International Journal of Marketing Studies*, 5(4), 15.

Andaleeb, S. S. (2000). Public and private hospitals in Bangladesh: service quality and predictors of hospital choice. *Health Policy and Planning*, 15(1), 95-102.

Azar, I., Jahani, Y., Rafiei, S., Masoud, A., & Vali, L. (2017). Evaluating health service quality: using importance performance analysis. *International Journal of Health Care Quality Assurance*, 30(7), 656-663.

Bagozzi, R.P. and Yi, Y., (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.

Bahadori, M., Raadabadi, M., Ravangard, R., & Baldacchino, D. (2015). Factors affecting dental service quality. *International Journal of Health Care Quality Assurance*, 28(7), 678-689.

Bikash, D.R., Patnaik, B., Mahapatra, S. S., & Sree, K. (2015). Interrelations of service quality and service loyalty dimensions in medical tourism: a structural equation modelling approach. *Benchmarking: An International Journal*, 22(1), 18-55.

Bitner, M.J. (1992). Servicescapes: the impact of physical surroundings on customers and employees. *Journal of Marketing*, 56(2), 57-71.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Bowers, M.R. and Swan, J.E. (1992). Generic versus service specific dimensions of service quality: does SERVQUAL cover hospital health care?. *Unpublished Manuscript, University of Alabama*, Birmingham, AL.

Carpman, J. and Grant, M. (1993). *Design that Cares: Planning Health Facilities for Patients and Visitors*. *2nde., Jossey-Bass, San Francisco, CA.*

Cleary, P.D. and McNeil, B.J. (1988). Patient satisfaction as an indicator of quality care. *Inquiry*, 66(7), 25-36.

Cronbach, L.J., (1951). Coefficient alpha & the internal structure of tests. *Psychometrika*, USA, 16(3), 297-334.

Crosby, L.A., Evans, K.R. and Cowles, D. (1990. Relationship quality in services selling: an interpersonal influence perspective. *Journal of Marketing*, 54(3), 68-81.

De Calan, L., Portier, G., Ozoux, J.P., Rivallain, B., Perrier, M. and Brizon, J. (1988). Carcinoma of the cardia and proximal third of the stomach: results of surgical treatment in 91 consecutive patients. *The American Journal of Surgery*, 155(3), 481-485.

Debajani, S. and Tathagata, G., (2016). Healthscape role towards customer satisfaction in private healthcare. *International journal of health care quality assurance*, 29(6), 600-613.

Debasish, S.S., (2004). Exploring Customer Preference for Life Insurance in India-Factor Analysis Method, Vilakshan: XIBM *Journal of Management*, 1(1), 7-15.

Fatima, T., Malik, S. A., & Shabbir, A. (2018). Hospital healthcare service quality, patient satisfaction and loyalty: An investigation in context of private healthcare systems. *International Journal of Quality & Reliability Management*, 35(6), 1195-1214.

Fottler, M., Ford, R., Roberts, V. and Ford, E. (2000). Creating a healing environment: the importance of the service setting in the new consumer-oriented healthcare system. *Journal of Healthcare Management*, 45(2), 91-106.

Francis, S. (2010). Plan for uncertainty: design for change, in Kaioglou, M. and Tzortzouplos, P. (Eds), *Improving Healthcare Through Built Environment Infrastructure*. Blackwell, Oxford, 4-52.

Gronroos, C. (1990). Service management and marketing: *Managing the moments of truth in service competition*. 1ste Lexington books, Maxwell Macmillan Ltd, New York, NY.

Gupta, A., Satpathy, I., Chandra Mohan Patnaik, B., & Patel, N. (2014). Health care infrastructure amenities–an empirical examination of Indian perspective. *Journal of Technology Management in China*, 9(3), 245-262.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L., (1998). Multivariate data analysis, 5(3), 207-219, *Prentice hall, Upper Saddle River*, *NJ.*

Hekmatpou, D., Sorani, M., Farazi, A., Fallahi, Z. and Lashgarara, B. (2010). A survey on the quality of medical services in teaching hospitals of arak university of medical sciences with SERVQUAL model in Arak. *Arak Medical University Journal*, 15(66), 1-9.

Hutton, J.D. and Richardson, L.D. (1995). Healthscapes: the role of the facility and physical environment on consumer attitudes, satisfaction, quality assessments, and behaviors. *Health Care Management Review*, 20(2), 48-61.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Ingy, S., Jan, A.W., Ahmed F.T., (2015). Healthcare service quality: what really matters to the female patient?. *International Journal of Pharmaceutical and Healthcare Marketing,* 9(4), 369-391.

Jandavath, R. K. N., & Byram, A. (2016). Healthcare service quality effect on patient satisfaction and behavioural intentions in corporate hospitals in India. *International Journal of Pharmaceutical and Healthcare Marketing*, 10(1), 48-74.

Jinghua L., Wang, P., Kong, X., Liang, H., Zhang, X., & Shi, L. (2016). Patient satisfaction between primary care providers and hospitals: a cross-sectional survey in Jilin province, China. *International Journal for Quality In Health Care*, 28(3), 346-354.

Kaiser, M.O., (1974). Kaiser-Meyer-Olkin measure for identity correlation matrix. *Journal of the Royal Statistical Society*, 52.

Kotler, P. (1973). Atmospherics as a marketing tool. *Journal of Retailing*, 49(4), 48-65.

Lee, S. (2011). Evaluating serviceability of healthcare servicescapes: service design perspective. *International Journal of Design*, 5(2), 61-71.

Likert, R., (1932). A technique for the measurement of attitudes. *Archives of psychology*.

Malhotra, N.K., (1999). *Marketing Research; An applied orientation*. 3rde, Prentice Hall, Inc. New Jersey.

Nunnally, J.C. & Bernstein, I.H., (1994). The theory of measurement error. *Psychometric Theory*, 209-247.

O'Brien, R. M. (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. Quality and Quantity, 41 (5), 673.

Oliver, R.L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460-469.

Palmer, M.W. (1991). Estimating species richness: the second-order jackknife reconsidered, *Ecology*, 72(4), 1512-1513.

Panchapakesan, P., Sai Lokachari, P., & Chandrasekharan, R. (2014). Strategic action grids: a study in Indian hospitals. *International Journal of Health Care Quality Assurance*, 27(5), 360-372.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, 41-50.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perc. *Journal of retailing*, 64(1), 12.

Rama, K.R., and Panda, R. K. (2015). Customer perceived service quality, satisfaction and loyalty in Indian private healthcare. *International Journal of Health Care Quality Assurance*, 28(5), 452-467.

Ritu, Narang, Polsa, P., Soneye, A., & Fuxiang, W. (2015). Impact of hospital atmosphere on perceived health care outcome. *International Journal of Health Care Quality Assurance*, 28(2), 129-140.

Sahney, S., Banwet, D.K. and Karunes, S. (2006). An integrated framework for quality in education: application of quality function deployment. *Total Quality Management & Business Excellence*, 17 (2), 265-285.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)

Sahoo, D., & Ghosh, T. (2016). Healthscape role towards customer satisfaction in private healthcare. *International Journal of Health Care Quality Assurance,* 29(6), 600-613.

Salim, A., Tarique, K. M., & Arif, I. (2017). Service quality, patient satisfaction and loyalty in the Bangladesh healthcare sector. *International journal of health care quality assurance*, 30(5), 477-488.

Shabbir, A., Malik, S.A. and Malik, S.A., 2016. Measuring patients' healthcare service quality perceptions, satisfaction, and loyalty in public and private sector hospitals in Pakistan. International Journal of Quality & Reliability Management, 33(5), 538-557.

Siti, A.H.M., Wahid, S. D. M., & Ismail, M. (2016). Observing the natural dimension of hospital servicescape on patient satisfaction. *Procedia Economics and Finance*, 37, 58-64.

Sohail, S.M. (2003). Service quality in hospitals: more favorable than you might think. *Managing Service Quality: An International Journal*, 13(3), 197-206.

Tabachnick, B. G., & Fidell, L.S., (1996). *Using multivariate statistics*, 3rde, New York: HarperCollins.

Tanguma J., (2000). *Determining the number of factors to retain*. Dallas, TX: ERIC clearinghouse on Information and Technology; ERIC Document Reproduction Service *ED 449170*.

Thompson, B., (2004). Exploratory and confirmatory factor analysis: Understanding concepts and applications. *American Psychological Association*, Washington, DC.

Vandamme, R., & Leunis, J. (1993). Development of a multiple-item scale for measuring hospital service quality. *International Journal of Service Industry Management*, 4(3), 30-49.

Wisniewski, M. and Wisniewski, H., 2005. Measuring service quality in a hospital colposcopy clinic. *International Journal of Health Care Quality Assurance*, 18(3), 217-228.

Print ISSN: 2052-6350(Print), Online ISSN: 2052-6369(Online)