Social Science Asia, Volume 4 Number 1, p: 53-70 DOI : 10.14456/ssa.2018.15

INFLUENCE OF HEALTHCARE SERVICE QUALITY ON PATIENTS' TRUST: AN ANALYSIS ON THE ELITE PRIVATE HOSPITALS OF DHAKA

Mahmud Zubayer*

ABSTRACT

Trust is known as the belief that patients have towards their caregivers. It is an essential part of the patient-caregiver relationship. Today, it has extended beyond the quality of the relationship between two parties, and influences the outcome of treatment. The core focus of this study is to reveal the influence of the quality of the environment, process and interactions on patients' trust in the elite private hospitals in Dhaka. The study involved 259 respondents selected through the convenience sampling technique, using a multivariate analysis technique to identify important factors. The results of the analysis indicated that modern equipment, prompt service, respect, professional dress, caring attitude, cleanliness and attractive rooms & toilets have emerged as important factors for determining trust. Among the above 7 factors, modern equipment (5.048), prompt service (3.442) and respect (2.624) were identified as the three most important factors in developing trust due to their higher eigenvalues in comparison to other factors.

Keywords: Patient Trust, Patient Satisfaction, Private Healthcare Quality.

1. INTRODUCTION

Trust is an important aspect in any interpersonal relationship, but is particularly crucial in the case of the patient-caregiver relationship (Kao et al., 1998). Although studies show that most patients trust their caregiver for their own interest, concern is rising that rapid changes in the healthcare industry have placed great pressure on that trust (Gray, 1997). Over the years many researchers have revealed that service quality has a significant impact on the trust of patients (Shabbir et al., 2010). According to Deng (2010), trust is a variable that ensures and maintains sustainable long-term relationships between a patient and their caregiver. It is the faith or belief of the patients towards the caregiver, believing that the caregiver provides a suitable and world class treatment to the patients (Platonova et al., 2008). According to Naoui (2010), a patient's trust consists of a belief in the honesty and benevolence of the caregiver (Ehsan et al., 2015), where honesty refers to a belief that the caregiver will keep commitments and has the capacity to fulfill his/her promises (Ehsan et al., 2015). Benevolence, encompasses the caregiver's deep concern for improving the health status of the patient (Moliner et al., 2009). During the past few decades, many researchers have discovered that trust is a significant element in the patient's access to healthcare and better use of it (Ozawa et al., 2013). Whereas, others have revealed that, since it is a critical element in the relationship between the caregiver and their patients (Dugan et al., 2005), it is therefore associated with the medical advice and

*Asst. Prof. Mahmud Zubayer obtains his Master's Degree (MBA) in International Business and Marketing from the Everest University, Tampa, Florida, USA. Currently he is working as an Assistant Professor in the Department of Business Administration, East West University, Dhaka, Bangladesh. He is a Ph.D. candidate in the Department of Management, Limkokwing University of Creative Technology (LUCT), Cyberjaya, Selangor, Malaysia.

treatment recommendations (Musa et al., 2009 and Saha et al., 2010). Today a patient's trust is necessary, for others to believe that the caregiver is providing consistent care, is devoted to the care instructions and willing to provide services (Dugan et al., 2005), and also results in increasing satisfaction and loyalty as well as positive word-of-mouth (Ozawa et al., 2013 and Chang et al., 2013).

This study makes observations about the quality of healthcare services which are related to patients' trust towards the private healthcare service providers of Dhaka. Because of the strong relationship between service quality and patient trust (Cronin et al., 1994), the study addresses the dimensions of patients' perceptions of the quality of healthcare, the relationship between perceived healthcare quality and trust, and the effect of demographic variables on the perceived quality of healthcare and trust.

1.1 Significance of the Study

This study is significant for discussing the existing theories regarding patients' trust and reviewing the early strands of experimental data on this issue, providing a practical update on current methods and results. The study will also trace the development of research on trust from the early theoretical conceptualizations, to recent empirical concepts and operationalized measurement tools. By reviewing the published data, the study will present more specific features of the quality of the environment, processes, and interactions, which are known to create service quality and influence patients' trust. Furthermore, this study intents to equip practitioners, researchers, and policy makers with the information regarding what is presently known about patients' trust, so that they may make use of this information in their research and practices.

1.2 Problem Statement

Today the need to achieve patients' trust has made the private hospitals of Dhaka realize the importance of providing quality healthcare services. The hospitals are therefore working hard to determine what healthcare services patients need, customizing their services to meet those needs, and then retaining them to continue the use of their services. There are many studies which have been carried out globally, on the relationship between service quality and patients' trust. However, very few studies have been done on this issue, specifically for the private healthcare sector of Dhaka. Among the few studies, it is indeed unclear, what dimensions patients of the elite private hospitals in Dhaka use to rate the quality of services to build their trust.

1.3 Objectives of the Study

a. The primary objective of this study is to evaluate the influence of various dimensions of healthcare service quality on a patient's trust, in the elite private hospitals of Dhaka.

b. The specific objectives of the study are to:

- ↳ Identify the service quality sub-dimensions valued by patients in building their trust
- ↳ Investigate the relationship between those sub-dimensions and trust.
- ↳ Examine the effects of demographic characteristics in assessing quality and building trust.
- ↳ Measure the reliability of the sub-dimensions
- ↳ Develop and validate a research instrument to measure the effect of these sub-dimensions on generating trust
- ↳ Statistically measure the acceptability of the samples employed

2. LITERATURE REVIEW

Over the years patients' trust towards their caregivers has received strong attention in the health care sector (Pearson et al.,

2000). It is one of the basic intangible elements that is known and understood by nearly everyone, yet remains hard to define precisely by anyone (Taylor, 1989). Due to the nature of the discipline and/or the views of the researchers, coupled with the complexity of the phenomenon, until today, researchers have been unable to generate a common definition of trust (Nooteboom, 2002). Different researchers have defined trust in their own way. Giffin (1967) stated that, trust is a somewhat mystical and intangible factor.

Ehsan (2017), used five SERVQUAL dimensions (Parasuraman et al., 1988) along with twelve other dimensions to reveal the links between the elements of patients' satisfaction and components of their trust. The study noted that the most effective motives for patients' trust were their satisfaction with doctors, nurses, and nontechnical staff, care services and physical facilities, or serviscape. The study findings confirmed the results of a previous study by Kessler and Mylod (2011). Later Selim et al., (2017) also applied a SERVQUAL model noting that, modern equipment, visually appealing facilities and materials, the professional appearance of staff, provision of services as promised, showing sincere interest to solve a problem, performing services right the first time, maintaining error-free records, giving individual attention, offering convenient consultation hours, dealing in a caring fashion, having the best interests of patients at heart and understanding the specific needs of their patients, all play a significant role in the patient-caregiver trust relationship. The study further revealed that a patient with strong trust in their caregiver, says positive things to relatives, recommends the caregiver to their friends and relatives, and will continue to use the same caregiver in the future, even if the hospital's treatment cost is higher than alternatives. Avichai et al., (2017) adopted a SERVQUAL scale, revealing that the technical competency of doctors and nurses and attention towards the patients, can secure a high level of satisfaction and thus support the patient-caregiver trust relationship (Tzannis et al., 2015; Kim et al., 2015). Thus, doctors, nurses and other staff in this study were considered as contributing to the provision of good service to patients, regardless of whether the patients were old or young.

Jonathan et al., (2017) revealed that, trust between the patients and staff (e.g. doctors and nurses) positively influences a variety of beneficial outcomes and should be considered a fundamental component of successful care. It helps in convincing patients that the doctor and nurses care about their physical condition and that they are fully invested in improving the health and quality of life of the patient. The authors also stated that trust in a doctor encompasses a set of expectations that the patient has of the doctor and the healthcare system. These expectations include making the appropriate diagnosis, choosing the correct treatment, acting ethically, having genuine interest in the patient's wellbeing, confidentiality, availability, and transparent disclosure of information (Gopichandran et al., 2013). Moreover, trust can be understood as the patient's willingness to embrace a vulnerable situation, with the belief that the doctor will care for the patient's interests and will do what is best for the patient (Hall et al., 2001).

Katarzyna et al., (2016) argued that, trust in a staff-patient relationship is a social, complex and multi-dimensional phenomenon. Trust towards staff is the result of the overlapping and interpenetration of two levels of trust: Macro-trust, in which all the dimensions of institutional trust are 'embedded', and meso-trust, which is described in terms of three dimensions, the kindness, competence and reliability of the staff. In support of the SERVQUAL dimensions, Rama et al., (2016) revealed that, patients look for a hospital that provides services when they have problems. The hospitals will show a sincere interest in solving a problem, provide services at the promised time and offer a wide range of treatment services. The findings here also indicate that the establishment of higher

levels of quality, leads to patients having a higher level of satisfaction and trust. In addition, prior research suggested that service quality has a significant relationship with patient satisfaction and trust (Kessler and Mylod, 2011). For instance, Padma et al., (2010) identified that service quality, measured with factors of personal quality and clinical care, significantly influences patient satisfaction and trust. Moreover Naik et al., (2013) also found a relationship between inpatient satisfaction and trust, with overall hospital service quality.

Yogesh et al., (2016) took the initiative to design a conceptual framework for measuring an inpatient's perception of service quality, using SERVQUAL, PRIVHEALTHQUAL (Ramsaran-Fowdar, 2008) dimensions. The authors, revealed that, along with serviscape, staff, hospital image, the clinical care process, communication, relationships, personalize-tion and administrative procedures, and trustworthiness were major predictors for measuring a patient's perception of service quality, satisfaction and trust. The authors also noted that, perceptions of quality, have a strong influence on a patient's desire to use particular health services (Bellou et al., 2006). If the system can't be trusted to guarantee a threshold quality then it will remain underutilized and bypassed, used only for minor ailments or as a last resort (Andaleeb, 2001). Moreover, patients in developing countries are now eager to travel abroad to developed countries, when they have an inadequate level of trust or feel unsafe regarding the quality of healthcare in the hospitals of their own country (Bellou et al., 2006).

Mosad (2015), revealed that the service performance of doctors and nurses impacts the trust, safety and satisfaction of the patients. In view of the patients, while the most important determinants of doctors' service performance were trust and safety respectively, the most important determinants of nurses' performance were satisfaction and then trust. It indicated that, care receivers require dissimilar elements from doctors and nurses, trust in a doctor and satisfaction from nurses. Ingy et al., (2015) noted that doctors' reliability, assurance, interaction and competence were significant predictors for measuring a patient's trust, while for nurses, reliability, tangibility, assurance, interaction and responsiveness were identified as significant factors. Moreover, the reliability & competence of diagnostic services; serviscape, or the look of the surroundings; non-technical staff (e.g. housekeeping); admission & discharge of personal belongings; responsiveness, knowledge & courtesy; meals services; and complementary items provided in the room(s), all had a significant effect on patients' trust.

Ehsan et al., (2015) identified that, patients who were paying from their own pocket gave lower trust scores, and that patients' health status at the time of discharge, and the size of the hospital were also significant predictors influencing their trust level. The study also revealed that patients with high anxiety, fear and stress concerning their illness and the treatment options showed less trust in their caregivers. The findings were consistent with a previous study by Alrubaiee et al., (2011). Ehsan, et al., (2015) also revealed that, the presence of a friendly and warm relationship between staff and the care receiver, and the tendency of staff to listen to the problems of patients, making attempts to solve these problems, also has an effect on their level of trust. Moreover, providing care receivers with quality, timely and accurate care, builds up their trust in the ability and honesty of the service provider. The physical environment or quality of the serviscape had little impact on patients' trust, which is consistent with the results of Alrubaiee et al., (2011). This means that a clean environment and suitable accommodation may not be sufficient to generate patients' trust. Therefore, caregivers need to increase their ability to meet a patient's needs practically, through service delivery and staff-patient interaction. The authors further stated that, the quality of the process and interactions were key factors in

creating patients' trust in the private hospital sector. Barend et al., (2015) illustrated that, trust makes a significant contribution to patient satisfaction and that there is a link between trust and doctor performance. This finding is consistent with the study results of Anderson et al., (1990). Mead et al., (2000) noted that, patients value doctors' warmth, respect and empathy, and if they give adequate time & information, treat patients individually, involve them in decision-making and try to build a mutual trust relationship.

Sixma et al., (1998) and Hall et al., (1988) reported positive, negative, low or no trust-relationships between various socio-demographic traits and patient satisfaction. However, Murphy-Cullen et al., (1984) indicated that sociodemographic traits at best were a minor predictor of satisfaction, with the exception of age. Paul et al., (2015) revealed that, private patients make active choices about their caregivers, playing the role of a consumer, where trust and preference go hand in hand. The image is of the caregiver is a primary driver of trust; there is an assumption that a better image equates with higher healthcare quality. However, making a choice to trust a caregiver, leads to personal responsibility and the additional requirement for self-trust.

Rutherford (2014), found a positive connection between patient-nurse trust and overall care receiver satisfaction in the hospital experience. Nursing traits related to patient-nurse trust include clinical skills, concern, advocacy and moral duty. The author also pointed out, that trust is one of nursing's patient-biased assets, at the top of nursing assessments and combining the value of other tangible and intangible assets. Trust influences a nurse's ability to develop meaningful relationships with the care receiver and this link positively influences care outcomes. Che-hui et al., (2014) revealed that, both interaction and positive outcomes have positive impacts on patients' trust. Trained doctors, nurses and other non-technical staff can foster human-centered values in their practices, which in turn boost patients' trust towards the caregiver. The authors also stated, that modern medical equipment helps doctors in diagnosing and controlling a patient's conditions and professionally improving the treatment outcome, which will eventually increase care receivers' trust in the hospital. The author further revealed that the impact of serviscape (surrounding environment: room, toilet, common area etc) on patients' trust is not significant, representing that serviscape is not a predictor directly influencing trust. Sumaedi et al., (2014) defined trust as a belief that one relationship partner acts in the best interests of the other partner (Wilson, 1995). More specifically, it shows consumers' positive expectations of a service provider's reliability, integrity, intentions and behavior (Sanchez-Franco, 2009; Schurr et al., 1985). According to the author, patient trust refers to a patient's conviction that the care provider would act as expected (Moliner, 2009). The authors also stated that, high patient trust indicates that the patient has a strong conviction that the provider will act in conformity with his/her expectations. Moreover, the study further noted that, relationship marketing studies have recognized trust as the key dimension in establishing a relationship with patients (Morgan et al., 1994). Mellina et al., (2013) indicated that, in decisions of high-consequence such-as healthcare, caregivers must see beyond the aspects related to the technical competence needed to make diagnoses and treat health problems; they need to give special attention to the emotional aspects of the relationship, such as making eye contact, being friendly and seeing their patients as individual human beings. The study further stated, that trust is mediated by the impact of a second opinion on a care receiver's satisfaction. When patient trust is low, this impact is positive and it occurs because the second opinion works as a key signal of the care quality, for individuals.

3. METHODOLOGY OF THE STUDY

3.1 Population, Sampling Procedure and Collection of Data

This descriptive and analytical study is done on the views of an estimated 500,000 inpatients, of the services provided during their visit to one of four specific elite private hospitals (Apollo, Labaid, Square and United) in Dhaka between November 2016 and April 2017. 259 inpatients were selected as a sample from the above four private hospitals through a convenient sampling technique. The sample size was determined according to the proportional size principle offered by Sekaran (2000). According to the author, if the population size is 1,000,000 individuals, then a sample size of 384 would be representative. Since the current study is based on an estimated population size of 500,000 it was determined that a sample size of 259 would be representative of the population and the results can be safely generalized. Respondents who were able to complete the questionnaire, were selected to become part of the study. The data were collected by four trained interviewers, who physically distributed a structured questionnaire. This questionnaire helped respondents to evaluate the services provided during their stay in the hospital. A convenience sample of 400 respondents was targeted and a total of 259 completed questionnaires were returned, signifying a favorable response rate of 65%.

3.2 Research Instrument Development and Pre-testing

A two part instrument was developed for this study. The first part contained 21 questions regarding the quality of the environment (1-7), the quality of processes (8-14) and quality of interactions (15-21). The second part contained 5 items related to the socio-demographic characteristics of the patients (age, gender, average monthly income, level of education and profession). It is thought that each of these factors can influence a patient's trust and also has a significant relationship with the quality of the service provided by the caregiver. Data was collected using a 5-point Likert scale where 1 referred to strongly disagree and 5 referred to strongly agree. The research instrument was tested for internal consistency with a particular scale and reliability using Cronbach's alpha reliability estimate. According to Hair (2010), if Cronbach's alpha value exceeds the minimum α of 0.70 then it is considered to be acceptable. Initially a draft questionnaire was developed for the purpose of pre-testing. Later necessary corrections were made before finalizing the instrument.

3.3 Data Analysis

Data was analyzed by employing descriptive statistics and a factor analysis using SPSS (Statistical Package for Social Sciences) version 23. During the analysis, sample adequacy was statistically determined by calculating the Kaiser, Meyer and Olkin test (KMO). Bartlett's tests were also calculated.

3.3.1 Factor Analysis

Factor analysis is used to reduce a set of observable variables in terms of a small number of latent factors. It is developed to analyze the relationships among a number of measurable entities (survey items or test scores). The underlying assumption of this technique is that there are a number of unobservable latent variables that account for the correlations among observed variables, such as, if the latent variables are partially out or held constant, the partial correlations among observed variables all become zero. In other words, the latent variables determine the values of the observed variables (The University of Texas, Austin, 1995). Each observed variable (y) can be expressed as a weighted composite of a set of latent variables (f's) such as:

$y_i = a_{i1}f_1 + a_{i2}f_2 + \ldots + a_{ik}f_k + e_i$, where y_i is the i^{th} observed variable on the factors & e_i is the residual of y_i on the factors.

4. RESULTS

4.1 Frequency Tables

Table 1: Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	40	15.4	15.4	15.4
	26-33	138	53.3	53.3	68.7
	34-41	55	21.2	21.2	90.0
	42-49	16	6.2	6.2	96.1
	50 and above	10	3.9	3.9	100.0
	Total	259	100.0	100.0	

Table 1: The table shows that 53 percent of respondents belong to the 26 to 33 age category, 21 percent of respondents belong to the 34 to 41 age category, 16 percent of respondents belong to the 18 to 2age category, 6 percent of respondents belong to the age category for 42 to 49 year old's and only 4 percent of respondents belong to age category, for 50 years and over.

Table 2: Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	134	51.7	51.7	51.7
	Female	125	48.3	48.3	100.0
	Total	259	100.0	100.0	

Table 2: This table shows that 52 percent of the respondents were male and only 48 percent of the respondents were female.

Table 3: Average Monthly Income of Respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 40000 Tk.	56	21.6	21.6	21.6
	40001-60000 Tk.	125	48.3	48.3	69.9
	60001-80000 Tk.	61	23.6	23.6	93.4
	80001-100000 Tk.	1	.4	.4	93.8
	Above 100000 Tk.	16	6.2	6.2	100.0
	Total	259	100.0	100.0	

Table 3: The table shows that 48 % of respondents belong to the income category of 40001 to 60000 Tk., while 24 % of respondents have an income of 60001-80000 Tk., 22 % of respondents have an income less than 40000 Tk., 6 % of respondents have an income above 100000 Tk. and only 0.4 % of respondents have an income of 80001-100000 Tk.

Table 4: Highest Educational Qualification of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SSC/O Level	16	6.2	6.2	6.2
	HSC/A Level	49	18.9	18.9	25.1
	Bachelor/ Equivalent	78	30.1	30.1	55.2
	Masters/Equivalent	116	44.8	44.8	100.0
	Total	259	100.0	100.0	

Table 4: The table shows that 45 % of respondents completed a master's degree or equivalent, 30 % hold a bachelor's degree or equivalent, 19 % hold a HSC or A Level and only 6 % of respondents studied only up to SSC/O Level.

Table 5: Profession of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Private sector	47	18.1	18.1	18.1
	Public sector	35	13.5	13.5	31.7
	Businessman	65	25.1	25.1	56.8
	Student	65	25.1	25.1	81.9
	Retired/Unemployed	47	18.1	18.1	100.0
	Total	259	100.0	100.0	

Table 5: This table shows that 25 % of respondents belong to either the businessman or student categories, 18 % work in the private sector or are retired or unemployed, while only 14 % work in the public service sector.

4.2 Reliability Test

Table 6: Reliability Statistics

Cronbach's Alpha	N of Items
.776	21

Table 6: This table portrays that overall Cronbach's Alpha value was .776 which is greater than 0.70

Table 7: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Common area clean, comfortable & adequate lighting	80.95	77.347	-.079	**.789**
Employees were professionally dressed & well-groomed	80.51	76.018	.022	**.783**
Equipped with modern & State-of-the-art equipment	80.56	70.635	.377	**.765**
Pharmacy was available within the premises	80.56	70.752	.397	**.764**
Easy to find the care facilities (lab & doctor's office)	80.69	71.476	.248	**.773**
Room was clean and without the foul smell	80.58	78.424	-.188	**.788**
Room and toilet were visually attractive	80.58	72.989	.159	**.779**
Prompt service from both medical and non-medical staffs	80.54	68.900	.473	**.759**
Staffs were available when needed	80.61	69.471	.356	**.766**
Staffs have had willingness to help	80.97	73.088	.125	**.783**
Staffs taking approval from me prior to test or treatments	80.75	70.148	.359	**.766**
Staffs spending enough time to examine me	81.15	69.389	.312	**.769**
Diagnosis was made only after carefully examination	80.76	63.917	.585	**.747**
Staffs had conducted the services right at the first time	80.74	65.805	.620	**.748**
Staffs were friendly while giving the services	80.58	70.005	.359	**.766**
Staffs treating me with respect while providing services	80.69	71.417	.260	**.772**
Staffs showing concern/emotion about my problem	80.74	70.720	.441	**.763**
Staffs were approachable to discuss about the problem	80.69	64.904	.776	**.740**
Staffs were knowledgeable answering my questions	80.90	64.171	.579	**.748**
Staffs explaining my health status at a regular interval	80.73	67.766	.540	**.755**
Staffs advised regularly for quick recovery	81.25	73.423	.125	**.782**

Table 7: The table indicates a high internal consistency of the variables and their stability (Nunnally and Bernstein 1994). Here the Cronbach's alpha has far exceeded the recommendations of Nunnally and Bernstein's (1994) 0.7 and Bagozzi and Yi's (1988) 0.6. Thus, the scales are sufficiently reliable for data analysis.

4.3 KMO and Bartlett's Test

Table 8: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**.779**
Bartlett's Test of Sphericity	Approx. Chi-Square	5439.520
	df	210
	Sig.	.000

Table 8: Here the factors underlying the original variables affecting the analysis are presented as through the Kaiser, Meyer & Olkin (KMO) sampling criterion (**0.779**) and the statistically significant Bartlett sphericity criterion.

Table 9: Communalities

	Initial	Extraction
Hospital's common area were clean, comfortable and had adequate lighting	1.000	.811
Employees were professionally dressed and well-groomed	1.000	.808
Hospital was equipped with modern and State-of-the-art equipment	1.000	.802
Pharmacy was available within the premises of the hospital	1.000	.813
Easy to find the care facilities (lab, doctor's office) in the hospital premises	1.000	.646
Room was clean and without the foul smell	1.000	**.868**
Room and toilet were visually attractive	1.000	**.882**
Prompt service from both medical and non-medical staffs	1.000	.787
Staffs were available when needed	1.000	.749
Staffs have had willingness to help	1.000	.768
Staffs taking approval from me prior to test or treatments	1.000	.801
Staffs spending enough time to examine me	1.000	.691
Diagnosis was made only after carefully examination	1.000	.804
Staffs had conducted the services right at the first time	1.000	**.905**
Staffs were friendly while giving the services	1.000	.823
Staffs were treating me with respect while providing services	1.000	**.925**
Staffs showing concern/emotion about my problem	1.000	.785
Staffs were approachable to discuss about the problem	1.000	**.866**
Staffs were knowledgeable answering my questions	1.000	.862
Staffs explaining my health status at a regular interval	1.000	.861
Staffs giving me medical advices and instructions regularly for quick recovery	1.000	.754

Extraction Method: Principal Component Analysis.

Table 9: According to communalities, the most important independent variable is the amount of respect shown by staff when providing services (.925), the ability of staff to conduct services correctly the first time, is identified as the second most important variable(.905), the third most important variable is the visual attractiveness of the room and toilet (.882), the fourth most important independent variable is the cleanliness and lack of foul smells inside the room (.868), while the fifth most important independent variable is the approachability of staff when discussing a problem (.866).

4.4 Total Variance Explained

Table 10: Total Variance Explained

Component	Initial eigenvalues		
	Total	% of Variance	Cumulative %
Modern Equipment	5.048	24.039	24.039
Prompt Service	3.442	16.391	40.430
Respect	2.624	12.494	52.924
Well Dressed	2.068	9.846	62.770
Caring	1.570	7.474	70.244
Cleanliness	1.212	5.774	76.018
Attractive	1.046	4.980	80.997

Extraction Method: Principal Component Analysis.

Table 10: This table shows all the factors extractable from the investigation along with their eigenvalues, the percentage of variance attributable to each factor and the cumulative variance of the factor. Notice that the first factor accounts for 24.039% of the variance, the second 16.391%, the third 12.494%, the fourth 9.846%, the fifth 7.474%, the sixth 5.774% and the seventh 4.980%. Results also show that there are seven factors that influence the selection of health service providers. The factors are: Modern Equipment (5.048), Prompt Service (3.442), Respect (2.624), Professional Dress (2.068), Caring attitude (1.570), Cleanliness (1.212) and Attractiveness (1.046). Only the variables having latent roots or eigenvalues greater than 1 are considered significant; all factors with latent roots less than 1 are considered insignificant and are disregarded (Hair et al., 1998). These factors together explain about 81 percent of the variance indicating a higher level of importance for these factors.

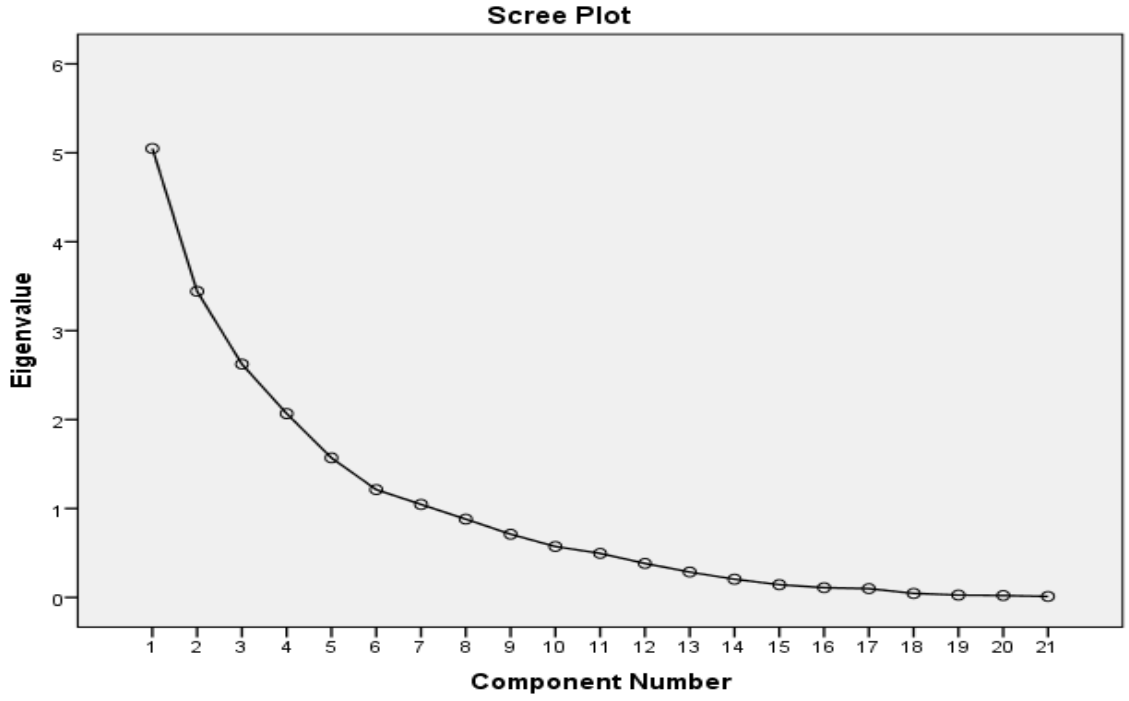

Figure 1. Scree Plot

The **Scree Plot** is a graph of the eigenvalues against all factors. It is used to decide how many factors to retain. The point of interest is where the curve starts to flatten. It is noticed

that the curve flattens between the factors 8 and 21, these 14 factors have eigenvalues of less than 1, and so only 7 factors have been retained.

4.5 Rotated Component Matrix

Table 11: Rotated Component Matrix

	Component						
	Modern Equipment	Prompt Service	Respect	Well Dressed	Caring	Cleanliness	Attractive
The hospital has modern and state-of-the-art equipment	**0.793**						
Staff gave regular explanations of my health status	**0.747**						
Staff were approachable and willing to discuss problems	**0.745**						
It is easy to find the care facilities (lab, doctor's office)	**0.737**						
The pharmacy is available within the premises	**0.660**						
Staff are knowledgeable when answering questions	**0.630**						
Staff took approval from me prior to tests or treatments		**0.875**					
Staff were available when needed		**0.671**					
There is a prompt service from both medical & non-medical staff		**0.659**					
Staff conducted services correctly the first time		**0.644**					
Staff spent enough time to examine me properly		**0.577**					
Diagnosis was made only after careful examination		**0.534**					
Staff treated me with respect while providing services			**0.894**				
Staff showed concern/emotion regarding my problem			**0.679**				
Staff were professionally dressed and well-groomed				**0.841**			
The common area is clean, comfortable & had adequate lighting				**0.798**			
Staff gave medical advice for quick recovery					**0.820**		
Staff showed willingness to help					**-0.784**		
Staff were friendly while providing services					**0.559**		
The room was clean and without any foul smell						**-0.874**	

The room and toilet were visually attractive							**0.876**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 16 iterations.

Table 11: Here the principal component factor analysis, with rotated factor loadings was performed on the survey data. Principal Component Analysis (PCA) is a commonly used method for grouping variables under a few unrelated factors. Variables with a factor loading of higher than 0.5 are grouped under one factor. A factor loading is the correlation between the original variable with the specific factor and the key to understand the nature of that particular factor (Debasish 2004). This table provides the rotated factor loadings against the 21 observed variables. Moreover, Factor analysis using Varimax rotation finds 7 derived variables.

Factor 1 identified as "Modern Equipment" consisted of 6 variables, namely; the hospital had modern and state-of-the-art equipment (.793), staff gave regular explanations of my health status (.747), staff were approachable and willing to discuss problems (.745), it was easy to find the care facilities: lab & doctor's office (.737), the pharmacy was available within the premises (.660) and staff were knowledgeable when answering my questions (.630).

Factor 2 identified as "Prompt Service" also consisted of 6 variables, namely; staff took approval from me prior to tests or treatments (.875), staff were available when needed (.671), there was prompt service from both medical & non-medical staff (.659), staff conducted services correctly the first time (.644), staffs spent enough time to examine me properly (.577) and diagnosis was made only after careful examination (.534).

Factor 3 identified as "Respect" included only 2 variables; staff treating me with respect while providing services (.894) and staff showed concern/emotion regarding my problem (.679).

Factor 4 identified as "Well Dressed" also consisted of only 2 variables; staffs were professionally dressed and well-groomed (.841) and the common area was clean, comfortable & had adequate lighting (.798).

Factor 5 identified as "Caring", consists of 3 variables. These are staff gave medical advice for quick recovery (.820), staff showed willingness to help (-.784) and staff were friendly while providing services (.559).

Factor 6 identified as "Cleanliness", consists of only 1 variable; the room was clean and without any foul smell (-.874).

Factor 7 identified as "Attractive", also consists of only 1 variable; the room and toilet were visually attractive (.876).

5. CONCLUSIONS AND RECOMMENDATIONS

The primary objective of this study was to inspect the influence of service quality on patients' trust in the elite private hospitals of Dhaka. From the above factor analysis, it is clear that Modern Equipment, Prompt Service, Respect, Professional Dress, Caring attitude, Cleanliness and Attractive rooms & toilets are the most significant factors to be considered in developing patients' trust. These seven factors can be used as a guideline for the decision makers concerned in hospital management. Among the seven factors, Modern Equipment (5.048), Prompt Service (3.442) and Respect (2.624) are the three most important factors to be considered in developing trust towards the private medical hospitals, indicated by their higher eigenvalues in comparison to other factors. Decision makers should give priority to these factors, which have higher impacts on patients' trust. Furthermore, the results of the study may be used as an index to improve healthcare services for wider acceptance and

in developing effective marketing strategies. The results can also be used for consumer research by both academics and practitioners.

During this research the patients or their representatives have evaluated both the service quality and their trust towards the hospital at the time of discharge. Therefore, their evaluations may have been affected by the degree of improvement of their health status and thus, creates a bias (Ehsan, 2015). So the author recommended conducting the interviews at least 7 days after their discharge so that more accurate results could be obtained. Since the assessment of quality and trust by the patient is subjective, the structured instrument may not reflect all the patients' evaluations. It is therefore suggested, to use a mixed method technique to obtain more precise judgments. Here the survey was limited to only four elite private hospitals with highly trained personnel and superior amenities, located in the urban area of Dhaka. The samples were randomly selected from particular segments of the society. Therefore, the results may not be generalized to the entire private healthcare sector (Asma et al., 2016), where many private hospitals are operating. It is suggested that future studies include different cities, and multiple segments, for a better understanding of patients' trust. When collecting primary data the researcher approached only those patients or their representatives, who were staying in private rooms. Since the perceptions of patients may vary from private rooms, to wards, to outdoor areas, it is suggested that future studies additionally approach and include patients from other areas. Furthermore, another avenue for future study lies in exploring the links between the costs of improving various aspects of hospital care, and the benefits in terms of increasing patients' trust. This was beyond the scope of the present study.

REFERENCES

Alrubaiee, L. and Alkaa'ida, F., (2011), The mediating effect of patient satisfaction in the patients' perceptions of healthcare quality – patient trust relationship, *International Journal of Marketing Studies*, Vol. 3 No. 1, pp. 103-127.

Andaleeb, S.S., (2001), Service quality perceptions and patient satisfaction: a study of hospitals in a developing country, *Social Science and Medicine*, Vol. 52 No. 9, pp. 1359-1370.

Anderson, L.A. and Dedrick, R.F., (1990), Development of the trust in physician scale: a measure to assess interpersonal trust in patient-physician relationships, *Psychological Reports*, Vol. 67 No. 3, pp. 1000-1091.

Asma Shabbir, Shahab Alam Malik, Shujah Alam Malik, (2016), Measuring patients' healthcare service quality perceptions, satisfaction and loyalty in public and private sector hospitals in Pakistan, *Int'l Journal of Quality & Reliability Management*, Vol. 33, Issue 5, pp. 538-557.

Avichai Shuv-Ami and Shalom, T., (2017), Demographic differences of perceived service quality in emergency rooms of hospital organizations, *International Journal of Organizational Analysis*, Vol. 25, Issue 2, pp. 282-294

Bagozzi, R. P., & Yi, Y., (1988), On the evaluation of structural equation models, *Journal of the academy of marketing science*, Vol. 16, Issue 1, pp. 74-94.

Barend Van Den Assem, Victor Dulewicz, (2015) Doctors' trustworthiness, practice orientation, performance and patient satisfaction, *International Journal of Health Care Quality Assurance*, Vol. 28, Issue 1, pp. 82-95.

Bellou, V. and Thanopoulos, J., (2006), Enhancing service quality in a hospital setting, *Review of Business*, Vol. 27 No. 1, pp. 26-32.

Chang CS, Chen SY, Lan YT., (2013), Service quality, trust and satisfaction in

interpersonal-based medical service encounters, *BMC Health Services Research*, Vol. 13, pp. 22.

Che-hui Lien, Jyh-Jeng Wu, Ying-Hueih Chen and Chang-Jhan Wang, (2014), Trust transfer and the effect of service quality on trust in the healthcare industry, *Managing Service Quality* Vol. 24, Issue 4, pp. 399-416.

Cronin Jr. J.J., Taylor S.A., (1994), SERVPERF versus SERVQUAL: reconciling performance-based and perceptions-minus-expectations measurement of service quality, *Journal of Marketing*, pp. 125–131.

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

Deng Z, Lu Y, Wei KK, Zhang J., (2010), Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China, *Int'l Journal of Information Management*, Vol. 30, Issue 4, pp. 289–300.

Dugan E, Trachtenberg F, Hall M.A., (2005), Development of abbreviated measures to assess patient trust in a physician, a health insurer, and the medical profession, *BMC Health Services Research*, Vol. 5, pp. 64.

Ehsan Zarei, Abbas Daneshkohan, Roghayeh Khabiri and Mohammad Arab, (2015), The effect of hospital service quality on patient's trust, *Iran Red Crescent Medical Journal*, Vol. 17, Issue 1

Ehsan, S., (2017), Interrelationships among quality enablers, service quality, patients' satisfaction and loyalty in hospitals, *The TQM Journal*, Vol,29, Issie. 1, pp. 101-117.

Eva Söderström, Eriksson, N., & Åhlfeldt, R.M., (2016). Managing healthcare information: analyzing trust, *Intl. journal of health care quality assurance*, Vol. 29, Issue 7, pp. 786-800.

Giffin K., (1967), The contribution of studies of source credibility to a theory of interpersonal trust in the communication process, *Psychological Bulletin*, Vol. 68, Issue 2, pp. 104-120.

Gopichandran, V., and Chetlapalli, S. K., (2013), Dimensions and determinants of trust in health care in resource poor settings–a qualitative exploration, *PLoS One*, Vol. 8, Issue 7.

Gray B.H., (1997), Trust and trustworthy care in the managed care era, *Health Aff* (Millwood). Vol. 16, pp. 34–49.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L., (2010), *Multivariate Data Analysis*, 7th ed., Pearson Education Inc., Upper Saddle River, New Jersey, NJ.

Hall Ma, Dugan e, Zheng, B., (2001), Trust in physicians and medical institutions: what is it, can it be measured, and does it matter? *Milbank Q*, Vol. 79, pp. 613–39.

Hall, J.A. and Dornan, M.C., (1988), Meta-analysis of satisfaction with medical care: description of research domain and analysis of overall satisfaction levels, *Social Science and Medicine*, Vol. 27 No. 7, pp. 637-644.

Ingy Shafei, Jan Auke Walburg, Ahmed F. Taher, (2015) Healthcare service quality: what really matters to the female patient?, *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 9, Issue: 4, pp.369-391

Jonathan Taylor and Chase Neff, (2017), Social considerations of inflammatory bowel disease in Southern Israel, *BMJ Case Rep*. doi:10.1136/bcr-2017-219941.

Kao A.C., Green D.C., Zaslavsky A.M., Koplan J.P., Cleary P.D., (1998), The relationship between method of physician payment and patient trust, *JAMA*. 280, pp. 1708-1714.

Katarzyna K. and Rudawska, I., (2016), The Role of Trust in Doctor-Patient Relationship: Qualitative Evaluation of Online Feedback from Polish Patients, *Economics & Sociology*, Vol. 9, Issue 3, pp. 76.

Kessler, D.P., and Mylod, D., (2011), Does patient satisfaction affect patient loyalty?, *International journal of health care quality assurance*, Vol. 24, Issue 4, pp. 266-273.

Kessler, D.P. and Mylod, D., (2011), Does patient satisfaction affect patient loyalty? *International journal of health care quality assurance*, Vol. 24, Issue. 4, pp. 266-273.

Kim, M.S. and Bang, H.Y., (2015), Quality of medical service and purchase intention: a conceptual framework and empirical evidence, International Journal of u-and e-Service, *Science and Technology*, Vol. 8, Issue 9, pp. 261-270.

Marcella M. Rutherford, (2014), The value of trust to nursing, *Nursing Economic$*, November-December, Vol. 32, Issue 6.

Mead, N. and Bower, P., (2000), Patient-centredness: a conceptual framework and review of the empirical literature, *Social Science and Medicine*, Vol. 51 No. 7, pp. 1087.

Mellina da Silva Terres and Cristiane Pizzutti dos Santos, (2013), Consumer trust in high-consequence decisions: a study of medical services, *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 7 No. 2, pp. 120-141.

Moliner, M.A., (2009), Loyalty, perceived value, and relationship quality in healthcare services, *Journal of Service Management*, Vol. 20, No. 1, pp. 76-97.

Morgan, R.M. and Hunt, S.D., (1994), The commitment-trust theory of relationship marketing, *Journal of Marketing*, Vol. 58, No. 3, pp. 20-38.

Mosad Zineldin, (2015), Determinants of patient safety, satisfaction and trust with focus on physicians-nurses performance, *Clinical Governance: An International Journal*, Vol. 20, Issue 2, pp. 82 – 90.

Murphy-Cullen, C.L. and Larsen, L.C., (1984), Interaction between the socio-demographic variables of physicians and their patients: its impact upon patient satisfaction, *Social Science and Medicine*, Vol. 19, No. 2, pp. 163-166.

Musa D, Schulz R, Harris R, Silverman M, Thomas S.B., (2009), Trust in the health care system and the use of preventive health services by older black and white adults, *America Journal of Public Health*, Vol. 99, pp. 1293–1299.

Naik, J.R.K., Anand, B. and Bashir, I., (2013), Healthcare Service Quality and word of mouth: Key drivers to achieve Patient Satisfaction, *Pacific Business Review International*, Vol. 5, Issue 12, pp. 39-44.

Naoui FB, Zaiem I., (2010). The impact of relationship quality on client's loyalty: An application in the paraphar-maceutical industry. *Int'l Journal Pharma Healthcare Marketing*, Vol. 4, Issue 2, pp. 137–56.

Nooteboom, B., (2002). *Trust: Forms, Foundations, Functions, Failures and Figures*. Edward Elgar, Cheltenham.

Nunnally, J. C., (1994), Bernstein. IH, *Psychometric Theory*, 3.

Ozawa S, Sripad P., (2013), How do you measure trust in the health system? A systematic review of the literature, *Social Science and Medicine*, Vol. 91, pp. 10-14.

Padma, P., Rajendran, C. and Sai Lokachari, P., (2010), Service quality and its impact on customer satisfaction in Indian hospitals: Perspectives of patients and their attendants, Benchmarking*: An International Journal*, Vol. 17, Issue 6, pp. 807-841.

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

Paul R. Ward, Paul R. Ward, Philippa Rokkas, Clinton Cenko, MariastellaPulvirenti, Nicola Dean, Simon Carney, Patrick Brown, Michael Calnan and Samantha Meyer, (2015), A qualitative study of patient (dis) trust in public and private hospitals: the importance of choice and pragmatic

acceptance for trust considerations in South Australia, *BMC health services research*, Vol. 15, Issue 1, pp. 297.

Pearson SD, raeke L.H., (2000), Patients' trust in physicians: many theories, few measures, and little data, *J Gen Intern Med*, Vol. 15, pp.509–13.

Platonova E.A., Kennedy K.N., Shewchuk R.M., (2008), Understanding patient satisfaction, trust, and loyalty to primary care physicians, *Medical Care Research and Review*. Vol. 65, Issue. 6, pp. 696–712.

Rama Krishna Naik Jandavath and Anand Byram, (2016), Healthcare service quality effect on patient satisfaction and behavioural intentions in corporate hospitals in India, *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 10, Issue 1, pp.48-74.

Ramsaran-Fowdar, R.R., (2008), The relative importance of service dimensions in a healthcare setting, *International Journal of Health Care Quality Assurance*, Vol. 21 No. 1, pp. 104-124.

Saha S, Jacobs EA, Moore RD, Beach MC., (2010), Trust in physicians and racial disparities in HIV care, *AIDS Patient Care STDs*, Vol. 24, pp. 415–20.

Sanchez-Franco, M.J., (2009), The moderating effects of involvement on the relationship between satisfaction, trust and commitment in e-banking, *Journal of Interactive Marketing*, Vol. 23 No. 3, pp. 247-258.

Schurr, P.H. and Ozanne, J.L., (1985), Influences on exchange processes: buyer's preconceptions of a seller's trustworthiness and bargaining toughness, *The Journal of Consumer Research*, Vol. 11, No. 4, pp. 939-953.

Sekaran, U., (2000), *Research methods for business: A skill building approach*, (3rde), John Wiley & Sons, NY.

Selim Ahmed, Tarique, K.M., Tarique, K.M., Arif, I. and Arif, I., (2017), Service quality, patient satisfaction and loyalty in the Bangladesh healthcare sector, *International Journal of Health Care Quality Assurance*, Vol. 30, Issue 5, pp.477-488.

Selim Ahmed, Tarique, K.M., Tarique, K.M., Arif, I. and Arif, I., (2017), Service quality, patient satisfaction and loyalty in the Bangladesh healthcare sector, *International Journal of Health Care Quality Assurance*, Vol. 30, Issue 5, pp. 477-488.

Shabbir, S., Kaufmann, H.R. and Shehzad, M., (2010), Service quality, word of mouth and trust: drivers to achieve patient satisfaction, *Scientific Research and Essays*, Vol. 5, Issue 17, pp. 2457-2462.

Sik Sumaedi, Gede Mahatma YudaBakti, I., Rakhmawati, T., J. Astrini, N., Widianti, T. and Yarmen, M., (2014), The empirical study on patient loyalty: the role of trust, perceived value, and satisfaction: a case study from Bekasi, Indonesia, *Clinical Governance: An International Journal*, Vol. 19, Issue 3, pp.269-283.

Sixma, H.J., Kerssens, J.J., van Campen, C. and Peters, L., (1998), Quality of care from the patients' perspective: from theoretical concept to a new measuring instrument, *Health Expectations*, Vol. 1 No. 2, pp. 82-95.

Taylor, R., (1989), The role of trust in labor-management relations, *Organizational Development Journal*, Vol. 7, pp. 85-89.

The University of Texas at Austin, (1995), *Factor analysis using SAS PROC factor*, Available at: www.utexas.edu/cc/docs/stat 53.html (Retrieved on 25th June, 2005).

Tzannis, A. and Nadin, G., (2015), Elderly and health care services: the elements characterizing the patient satisfaction, In *Toulon - Verona Conference, Excellence in Services, Alicante*, pp. 1201-1217.

Wilson, D., (1995), An integrated model of buyer-seller relationships, *Journal of the Academy of Marketing Science*, Vol. 23, No. 4, pp. 335-345.

Yogesh Pai, P., and Chary, S.T., (2016), Measuring patient-perceived hospital

service quality: a conceptual framework, *International journal of health care quality assurance*, Vol. 29, Issue. 3, pp. 300-323.