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MEASURING HEALTHCARE SERVICES QUALITY IN THE PRIVATE HOSPITALS OF DHAKA CITY, BANGLADESH: AN EMPIRICAL STUDY

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ABSTRACT: *The aim of this research is to determine the healthcare services quality in the private hospitals of Dhaka City, Bangladesh. The research attempted to detect the key variables that can be employed to determine the current standard of the healthcare service quality from the patient's point-of-view. The study has selected 221 respondents by the convenience sampling technique and the multivariate analysis technique like "factor analysis" was employed to identify the factors. The results from the analysis has shown that, knowledgeable & hygienic, language & cleanliness, degrees & equipment, tests & meals, needs & caring, attractive & punctual, examination & skills, admission process and professionally dressed have emerged important factors for determining the quality of the private healthcare services.*

KEYWORDS: Private Healthcare, Healthcare Quality, Factor Analysis.

INTRODUCTION

Service quality is described as clients' perception of how well it meets or exceeds their expectations (Zeithaml et. al., 1990). As it is judged by the consumers not by the company, it forces marketers to examine their quality from the consumers' point of view. Thus it is significant for the service organizations to determine what customers expect and then develop services that meet or exceed those expectations. It has been suggested by many researchers that, measurement service quality is a difficult process as it is intangible and is consumed at the time it is production. Today the most popular measurement model is known as SERVQUAL by Parasuraman et al. (1985; 1988; 1991). The SERVQUAL model assists to measure both the expectations and perceptions of the consumers' separately and then helps determining if there are any gaps available between these two.

Today it is well documented that, superior service quality can help gaining sustainable competitive advantage and enhance service efficiency. Grönroos (1984) has defined that service quality as a perceived judgment, a process where consumers compare their expectations with what they perceive. Whereas, Dabholkar (1995) found that, service quality and satisfaction are situation dependent. A *cognitive oriented* consumer may perceive the relationship as "service quality causing satisfaction", on the other hand *emotional oriented* may perceive as "satisfaction causing service quality".

Today there are plenty of evidences that, quality of services affect customer perceived value, satisfaction, loyalty, purchase intentions, word-of-mouth and willingness to pay premium price (Baker & Crompton, 2000). It has also become an important issue in linking cost saving, market share and profit (Devlin and Dong, 1994). Today economic growth and citizens' health are so interdependent that, it is very difficult to attain one without the other. While the development of economy in Bangladesh has gained momentum over the past few

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decades, its healthcare system is yet at a cross-road. According to Barkat et al. (2003), poor utilization of facilities, cost effectiveness, quality of services etc are the major obstacles for the healthcare industry of Bangladesh. So to fill these gaps, today the national healthcare system is significantly influenced by the private healthcare sector, even though access to private facilities is limited to certain beneficiaries of medical schemes (Christo et al. 2014). It provides services to people who can afford and ready to pay for them (Redwanur R. 2007). The industry offers modern allopathic medicine, provided by a highly qualified doctors working in relatively formal settings in government facilities, private premises or in both. Private settings in Bangladesh include private hospitals and clinics. Although, there has been a lot of research has been done globally on the service quality and its relationship to satisfaction, profitability, loyalty, purchase intentions etc, this research attempts to explore the aspects of the Dhaka city private healthcare services quality in order to make changes in the existing service quality measurement models and to extend the research further in order to develop one standardized measurement instrument to be in line with the changing world scenario (Prachi et al. 2015).

Problem Statement

In Bangladesh, the private healthcare provides services to those individuals who pay out of their own pocket or work for companies that fund healthcare facilities. So it is important to the management of all private hospitals to provide quality services to their quality conscious patients (Biermann 2006). Over the year enormous studies have indicated that a higher level of service quality can led to high profits, cost savings and high market share (Parasuraman et al. 1985; Rust & Zahorik, 1993; Rundle-Thiele & Russell-Bennett, 2010; Fullerton & McCullough 2014). According to these studies it is still remain extremely important in the current competitive market where providers must deliver quality service, effective medical treatment and patient satisfaction by understanding the service quality from the patient's point of view and how to deliver this healthcare services (Christo at el. 2014). In order to retain and further increase the market share in the current economic condition, it has become extremely important to understand the patient's experience that is provided by the provider. It has become even more important to deliver different and unique patient experience, as the services can easily be duplicated. So to create an unforgettable experience, service personnel must focus on patients' unique needs and engage them respectably (Reichheld 2008). It is also noted that, these is no such service quality measurement tool is available that can suit to all hospitals in Dhaka city. Since each providers needs are different and these is no generic measurement tool available, customized measurement tools are the only option to measure the quality. But customized measuring tools are not validated. The validated models are the renowned SERVQUAL, SERVPERF, hierarchical and multidimensional model, multilevel model, Kano etc. But these general nature of models can't capture the unique service needs of a service provider (Christo at el. 2014).

Objectives of the Study

a. The primary objective of the study is to measure the service quality in a private hospital of Dhaka city, Bangladesh.

b. The specific objectives of the study are to:

   ↳ Determine the healthcare services quality in a private hospital

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- Identify the factors influencing the quality of services provided by a private hospital
- Measure the reliability of the factors
- Develop and validate a research instrument to measure the service quality levels
- Statistically measure the acceptability of the sample employed

Review of the Related Literature

This study has observed that the service quality in the public healthcare sector in Dhaka city is quite low and inadequate. In fact patients are frustrated with the level of service being provided in the public hospitals (Andaleeb, 2000). Overcrowd, lack of adequate skilled manpower, insufficient equipment and negative perceptions & beliefs are the major reasons behind the patients being directed towards the alternatives (Savaş, 2002; Kara et al., 2003). To address these imminent and unavoidable problems, both academics and practitioners are giving consideration to the privatization alternative. Thus, in 1982 *"The Medical Practice & Private Clinics & Laboratories Ordinance"* was developed to encourage the growth of private healthcare sector (Andaleeb, 2000). Today the private healthcare sector seems to be the alternative in Dhaka, perhaps all over Bangladesh. Therefore, the number of private hospitals are in a tremendously increasing trend (Andaleeb, 2000). While the growth of the private healthcare sector is remarkable, the perceptions that the consumers have about the relative service quality is not so favorable and remains to be assessed. So at this point the assessment of quality is very important as it strongly influence the patients' choice of private hospitals. In the private healthcare settings several departments are responsible for providing the services. These departments include hospital management, doctors, nursing, laboratory, pharmaceutical, information technology, customer service and food. According to Pui-Mun (2004), all these departments are equally significant to provide quality service to ensure patient satisfaction.

Over the years researchers have found that the patients are more satisfied with doctors who fit an expected demographic norm (Ross et al. 1982). It is also noticed that, doctors and other medical stiffs' behavior are dominant determinants of patients' attitudes about a hospital as a whole (Ditto et al. 1995, Lovdal and Peerson 1989). Same author also argued that, doctor is a healthcare's emotional variable rather than perceived competence in determining the satisfaction with their physician. Whereas, affective behavior makes patients think that the doctor is well trained and highly skilled (Ware et al. 1978). Andaleeb et al (2007) compared the services received in public, private and foreign hospitals in a developing country from the patient's point-of-view and the results displayed that there was no significant difference in doctors' behaviors between public and private hospitals but foreign doctors were always rated significantly higher. Huque et al. (2011) studies on the private hospitals from the viewpoint of the healthcare service quality and found that, the availably of the competent and specialist doctors are the key factors in selecting private hospitals. Whereas, Hasan et al. (2012) identified that, doctors' competence and attention significantly affect the level of satisfaction of patients of private hospitals in Bangladesh.

According to Mayuri et al. (2008), nurses medical care quality is measured during the patients' stay in the hospital to fulfill their needs and wants (Tafreshi et al. 2007). Whereas, other authors stated that the nursing services must pose friendly behavior, availability and

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provide satisfactory medical care (Gilson et al., 1994; Newman, 1998). Otani et al. (2012) stated that the friendliness, courtesy and concern of nurses are interpersonal variables subject to interpretation by patients. Later Otani et al. (2012) claimed that most patient surveys outlined between care provided by a nurse and that provided by a doctor. So clearly, nursing care has become to be a major factor of patient satisfaction (Kutney-Lee et al., 2009; Papastavrou et al., 2014). Over the years many researchers have discoveries that, there is a strong relationship between nursing and service outcomes and these research have highlighted the significant contribution of nursing to the quality of patient care (Needleman et al, 2003). So Carman (1990) used a regression model to test a set of variables and found that, nursing care was the most significant variable in the critical hospital care. Today in many countries, while quality healthcare services delivery continues to be a critical factor, one important issue affecting healthcare service quality is nurse shortage (Hollis, 2006; Saravanan et al. 2007; Negi, 2009; Wicks et al., 2009). Since availability of nurse is linked to improved healthcare quality, it is significant for researchers to addresses nurse shortage and subsequently leads to healthcare quality (Zahari et al., 2008; Temizer et al., 2012).

According to Lemmink et al. (2002) and Stauss et al. (1999), service delivery in healthcare occurs during the encounter of the Staff and the patient. So the patients' perception develops based on the encounter's emotional and intangible elements (Lemmink et al. 2002; Stauss et al. 1999). Thus Staff's attitudes and behaviors effect patients' perceptions (Schneider and Bowen, 1985). According to Bitran and Hoech (1990), in high-contact services, stuffs must be happy enough to make his/her customers happy. Since healthcare offers high-contact services by nature, staffs play significant role in service evaluation among patients (Schneider and Bowen, 1985). According to Padma et al. (2009), the Staffs support services are likely to be friendly, reliable, gracious, sincere and capable by the customers. Whereas, Kiran (2010) found that, cooperative and helpful staffs can develop confidence among the patients and is the core for patients' satisfaction.

Silvestro (2005) studied on patient perceptions and expectations and found that, different perceptions exist in the disease screening and diagnosing scheme. The author also stated that, the evaluation ratings of screened patients' were to some extent lower than diagnosed patients, which indicated that the diagnosed patients' were more sensitive to service levels. Earlier Oswald et al. (1998) pointed out that a major relationship exists among the patient satisfaction and the quality of services. So the caregiver should focus on the diagnosis process through the use of state of the art equipment. Beside that, other researchers' revealed that, service quality may vary due to doctors' wrong diagnosis (Swartz & Brown, 1989). Thus, wrong diagnosis can develop negative perception of service quality in patients' mind and disseminate negative word-of-mouth to other patients (Brown & Swartz, 1989).

Till today physical facilities are a common component for patients to evaluate healthcare services (Woodside et al., 1989). Kotler (1973) in his study identified the servicescape as an important service experience, where the care process and the patient's experience become vital components of service performance (Ponsignon et al., 2015). So Bitner (1992) presented a framework that portrays the effects of servicescape in the service settings. But later Hutton et al. (1995) customized Bitner's framework by merging it with Kotler's (1973) atmospherics, calling it healthscape. Andaleeb (1988) suggested that, physical amenities like equipment, cleanliness and the positive feeling on the servicescape condition can perceive patient satisfactions. Whereas, Bendapudi et al. (2006) found that, patients come to caregiver with illness, concern, pain, fear and anxiety. So caregivers should provide amenities that can

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satisfy patient's needs through comfort, convenience, safety, security, privacy and support (Pai and Chary 2014). Therefore, room layouts & decor, housekeeping, TVs, food, common area layout & décor, laundry room, pharmacy, cafeteria, parking area etc (Godfrey 1999) surrounding the basic product are important for healthcare perceive quality.

Today food service is known to be a major influence on overall patient satisfaction during their stay for treatment, whereas food service satisfaction is often ignored compare to nursing, physician and other services (Amany, at el., 2012). McKinnon (2007) in his research found that most patients believe that they don't have any control over the food choice during their hospitalization. Whereas, Stanga et al. (2003) in his study on two Swiss hospitals revealed that, the longer the patients stay in a hospital, the greater they show dissatisfaction on the food quality. Again the patients who stay long period are more likely to have severe conditions, may lose their appetites (Stanga et al. 2003). Later Kandiah et al. (2006) found that, huge amount of foods are being wasted by patients who stayed longer in the hospital. But sufficient amount of meal consumption is needed to meet patients' nutritional requirements (Hartwell et al., 2006; Stanga et al. 2003). So the caregiver should provide patients desired foods to ensure that the treatment is successful (Norton, 2008). The caregiver must also take responsibility for the food quality, delivery, nutritional quality, balance and tastiness of the same (Beck et al., 2001).

Over the years, many researchers have studied on admission procedure of the hospitals. A study by Yogesh et al. (2016) on admission have stated that, admission process comprises a nonstop interaction between caregiver and the patients. Other authors have found that the admission process is an augmented service that essentially supports the delivery and the consumption of the core service but are not necessary to its core (Grönroos, 1990; Lovelock et al., 2001). Duggirala et al. (2008) argued that, many hospitals delay at the different stages of the admission process. Therefore the caregiver should find a way to reduce waiting-time, error-free records and generate required documents to show that they care for their patients (Boshoff & Gray, 2004).

According to the study of Al-Borie et al. (2013), patients satisfaction significantly influenced by socio-demographic variables like age, gender, education, income and occupation. However, Tucker (2002) specified that there is unclear links exist between satisfaction and sex, social class, race and marital status. Whereas education and health status were strongly associated with patient satisfaction. The author further identified that, younger, less educated, married, poorer health and high-service use patients' show less satisfaction (Tucker, 2002). Another author has found that, sex and age strongly impact patients' quality perceptions, but only on the "amenity" dimension (Butler et al. 1996). Same author also revealed that, females usually appreciate "amenity" more than males and the perceived quality on the same dimention was found to be more attractive to older than younger patients (Butler et al., 1996). Another study has revealed that, satisfaction differs between the users and the observers (Strasser et al., 1995). However, Butler et al. (1996) has revealed that there were no significant differences in the healthcare quality perceptions among the users and the observers. Whereas, a major difference was noticed on "amenity", where the clients criticized about the tangible more than the observers (Butler et al., 1996). Earlier, another study has found that the income has strong influence on patient satisfaction levels (Mummalaneni et al. 1995).

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METHODOLOGY OF THE STUDY

Population, Sampling Procedure and Collection of Data

The population of this research has contained estimated 40,000 in-patients who have visited four specific private hospitals (Apollo, United, Square and Lab Aid) of Dhaka city from December 2016 till May 2017 (6 Months). The total sample for this study contained 221 respondents. The samples were selected by convenience sampling technique. According to Sekaran U. (2000), if the population size is 75,000 individuals then the sample size of 382 would be representative. Since the present study is based on the estimated population size of 40,000, therefore the sample size of 221 would be representative to the population and the results can be safely generalized to the population. The samples were consisted of conveniently selected patients or their representatives from the four private hospitals of Dhaka city throughout the 2 weeks period. The respondents who were able to complete the questionnaire were selected to become part of the study. The data were collected by distributing the structured questionnaire physically. This questionnaire helped respondents to evaluate the services provided them during their stay in the hospital. A convenience sample of 300 respondents was targeted and a total of 221 completed questionnaire were received back, signifying a favorable response rate of 74%.

Research Instrument Development and Pre-testing

An instrument was developed by using the norms and experiences of the previous research studies as basic concepts (Christo 2014). The construction, phrases and wording were modified to fit in the Dhaka city private hospitals' environment. The instrument contains different sections that covered the services delivered by the hospitals. These sections include doctors' services delivery, nurses' services delivery, diagnostics process, premises, room & dress up, food services and admissions procedures that the patient encountered (Farid 2008). These above sections influence satisfaction and importance of the patients and has a significant relationship with the service quality provided by the caregiver. The instrument was constructed with 36 detailed questions divided into 6 sub-sections that measured elements as described above. The instrument collected data on a 5-point Likert scale. Additionally, the instrument also used a section where demographic variables could be recorded. Initially a draft structured questionnaire was developed for the purpose of pre-testing. Later necessary corrections were made before finalizing the instrument.

Data Analysis

The data for this study was investigated by employing descriptive statistics and factor analysis. A personal computer with well-known statistical package called SPSS (Statistical Package for Social Sciences) version 23 was employed to analyze the data. While analyzing, the sample adequacy was statistically determined by calculating the Kaiser, Meyer and Olkin test (KMO). Bartlett's tests were also calculated.

Factor Analysis

Factor analysis is concerned with the reduction of a set of observable variables in terms of a small number of latent factors. The technique is developed to analyze the relationships among a number of measurable entities (e.g. survey items or test scores). The underlying assumption of this technique is that there exists a number of unobservable latent variables that account for the correlations among observed variables, such as, if the latent variables are

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partialled 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:

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

RESULTS

Frequency Tables

Table 1: Age in Years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	23	10.4	10.4	10.4
	26-32	23	10.4	10.4	20.8
	33-39	86	38.9	38.9	59.7
	40 & Above	89	40.3	40.3	100.0
	Total	221	100.0	100.0	

Table 1: The table shows that 40 percent respondents belong to age group 40 and above, 39 percent respondents belong to age group 33 to 39 years and on the other hand, 10 percent

Table 2: Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	176	79.6	79.6	79.6
	Female	45	20.4	20.4	100.0
	Total	221	100.0	100.0	

Table 2: This table shows that 80 percent of the respondents were male and only 20 percent of the respondents were female.

Table 3: Monthly Income of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less Than 10000Tk.	23	10.4	10.4	10.4
	10001-20000 Tk.	23	10.4	10.4	20.8
	20001-30000 Tk.	42	19.0	19.0	39.8
	30001-40000 Tk.	89	40.3	40.3	80.1
	Above 40000 Tk.	44	19.9	19.9	100.0
	Total	221	100.0	100.0	

Table 3: The table shows that 40 percent respondents belong to income group 30,001 to 40,000 Tk., 20 percent respondents belong to income group above 40,000 Tk., 19 percent respondents belongs to income group 20001 to 30000 Tk. and only 10 percent respondents belong to both income groups 10001 to 20000 Tk. and less than 10,000 Tk respectively.

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Table 4: Educational Qualification of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SSC/O Level	23	10.4	10.4	10.4
	HSC/A Level	23	10.4	10.4	20.8
	Bachelor/Equivalent	86	38.9	38.9	59.7
	Masters//Equivalent	89	40.3	40.3	100.0
	Total	221	100.0	100.0	

Table 4: The table depicts that 40 percent respondents did masters or equivalent degree, 39 percent respondents hold bachelor degree and only 10 percent respondents studied up to SSC/O Level and HSC/A Level respectively.

Table 5: Profession of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Private Service	67	30.3	30.3	30.3
	Public Service	23	10.4	10.4	40.7
	Businessman	64	29.0	29.0	69.7
	Student	67	30.3	30.3	100.0
	Total	221	100.0	100.0	

Table 5: This table displays that 30 percent respondents were students, 29 percent respondents were businessmen and, 10 percent respondents were government service holders and 30 percent were private service holders.

Table 6: Reliability Statistics

Cronbach's Alpha	N of Items
.889	36

Table 6: This table portrays that overall Cronbach's Alpha value was .889 which is greater than 0.7.

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
Doctors were punctual at all times	130.57	365.637	-.139	.895
Doctors were very knowledgeable and able to answer my questions	130.11	339.634	.625	.883
A skilled Doctor was available all times & was aware of my specific case	130.46	329.277	.649	.881
Doctors were listening to what I have to say	130.59	327.124	.731	.880

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Doctors were explaining carefully what is required for me	129.88	347.159	.554	.885
Doctors were spending enough time on me	130.52	334.796	.397	.887
Doctors were carefully examining before determining my problem	130.69	343.550	.324	.888
Doctors were discussing me regarding any decisions for my treatment	130.05	344.379	.478	.885
Doctors were treating me with respect at all time	130.23	333.224	.617	.882
Doctors were having highest degrees	130.57	327.091	.647	.881
Nurses were exceptionally hygienic	130.19	344.234	.410	.886
Nurses were skilled and knowledgeable for the nursing service	129.96	358.648	.027	.892
Nurses services (tests, procedures & medication) were done on time	130.52	344.351	.297	.888
Nurses were always empathetic/concerned	130.32	361.210	-.038	.893
Nurses were communicating me clearly & in an acceptable language	130.14	345.315	.378	.886
Nurses were always responding in an acceptable time-span	130.43	332.729	.532	.883
Nurses were always providing personal attention to me	130.43	333.874	.610	.882
Nurses were understanding my specific needs	129.82	351.440	.323	.887
Doctors were never ordering unnecessary diagnostical medical tests	130.56	335.548	.419	.886
Laboratory and X-Ray technicians were highly skilled	130.68	347.819	.255	.889
Laboratory Tests and X-Rays were done correctly the first time	130.09	346.361	.429	.886
Lab Tests and X-Rays were delivered punctually	130.31	335.878	.532	.884
Hospital has had state of the art Technological Equipment	130.54	329.767	.615	.882
Buildings, Landscape & Physical Lay-Out were visually appealing	130.06	343.923	.477	.885
Employees of the hospital were Professionally Dressed	129.92	357.026	.057	.892
Brochures & Leaflets were contained the types of service it provides	130.50	338.042	.433	.885
Rooms were visually attractive	130.31	361.450	-.044	.893
Cleanliness of both rooms & bathrooms were maintained	130.01	343.500	.529	.885
Housekeeping personnel were pleasant	130.50	329.433	.646	.881

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Room Noise Levels were acceptable	130.46	333.850	.596	.882
Meals were served at correct temperatures	129.79	350.556	.405	.887
Meals were of a very high quality	130.48	332.223	.484	.884
Meals were prepared according to my specific needs	130.52	346.751	.258	.889
Admission Process was quick and well-organized	130.02	347.836	.368	.887
Admission Personnel were providing directions and schedules	130.35	337.766	.433	.885
Admission Personnel were very friendly & helpful	130.65	336.019	.469	.885

Table 7: The table demonstrates the 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.

Table 8: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.739**
Bartlett's Test of Sphericity	Approx. Chi-Square	6405.640
	df	630
	Sig.	.000

Table 8: Here the factors underlying the original variables affected the analysis as presented through the Kaiser, Meyer & Olkin (KMO) sampling criterion (0.739) and the statistically significant Bartlett sphericity criterion.

Table 9: Communalities

	Initial	Extraction
Doctors were punctual at all times	1.000	.705
Doctors were very knowledgeable and able to answer my questions	1.000	**.835**
A skilled Doctor was available all times & was aware of my specific	1.000	.723
Doctors were listening to what I have to say	1.000	.817
Doctors were explaining carefully what is required for me	1.000	.833
Doctors were spending enough time on me	1.000	.793
Doctors were carefully examining before determining my problem	1.000	**.852**
Doctors were discussing me regarding any decisions for my treatment	1.000	.819
Doctors were treating me with respect at all time	1.000	.809
Doctors were having highest degrees	1.000	**.868**
Nurses were exceptionally hygienic	1.000	.607
Nurses were skilled and knowledgeable for the nursing service	1.000	.790
Nurses services (tests, procedures & medication) were done on time	1.000	.677
Nurses were always empathetic/concerned	1.000	.790
Nurses were communicating me clearly & in an acceptable language	1.000	.670
Nurses were always responding in an acceptable time-span	1.000	.633
Nurses were always providing personal attention to me	1.000	.775

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Nurses were understanding my specific needs	1.000	.756
Doctors were never ordering unnecessary diagnostical medical tests	1.000	.795
Laboratory and X-Ray technicians were highly skilled	1.000	.645
Laboratory Tests and X-Rays were done correctly the first time	1.000	.707
Lab Tests and X-Rays were delivered punctually	1.000	.693
Hospital has had state of the art Technological Equipment	1.000	**.843**
Buildings, Landscape & Physical Lay-Out were visually appealing	1.000	.649
Employees of the hospital were Professionally Dressed	1.000	.697
Brochures & Leaflets were contained the types of service it provides	1.000	.599
Rooms were visually attractive	1.000	.796
Cleanliness of both rooms and bathrooms were maintained	1.000	.783
Housekeeping personnel were pleasant	1.000	.617
Room Noise Levels were acceptable	1.000	.740
Meals were served at correct temperatures	1.000	.723
Meals were of a very high quality	1.000	.767
Meals were prepared according to my specific needs	1.000	.716
Admission Process was quick and well-organized	1.000	.710
Admission Personnel were providing directions and schedules	1.000	.791
Admission Personnel were very friendly and helpful	1.000	.745

Extraction Method: Principal Component Analysis.

Table 9: According to communalities, the most important independent variable is the Doctors' Highest Degree (.868), the second most important one is Doctors' Examining Reports (.852), the third most important variable is Hospital's Technological Equipment (.843) and the fourth most important independent variable is the Doctor's knowledge (.835)

Table 10: Total Variance Explained

	Initial Eigenvalues		
Component	Total	% of Variance	Cumulative %
Knowledgeable &	9.362	26.006	26.006
Language &	4.320	12.001	38.008
Degrees & Equipment	3.576	9.934	47.941
Tests & Meals	2.349	6.525	54.466
Needs & Caring	2.153	5.980	60.446
Attractive & Punctual	1.465	4.069	64.515
Examination & Skills	1.281	3.559	68.074
Admission Process	1.179	3.275	71.349
Professionally	1.079	2.998	74.347

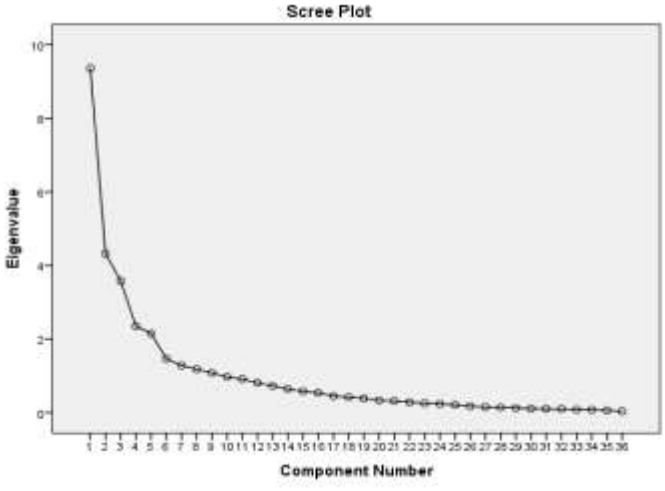

Figure 1: Scree Plot

The **Scree Plot** is a graph of the eigen values against all the 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 began to flatten between the factors 10 to 36 and the factor 27 has an eigenvalue of less than 1, so only nine factors have been retained.

Table 11 : Rotated Component Matrix

	Component								
	Knowledgeable & hygienic	Language & Cleanliness	Degrees & Equipment	Tests & Meals	Needs & Caring	Attractive & punctual	Examination & skills	Admission Process	Professionally Dressed
Doctors were very knowledgeable and able to answer my questions	**.752**								
Nurses were exceptionally hygienic	**.693**								
Doctors were discussing me regarding any decisions for my treatment	**.643**								
A skilled Doctor was available all times & was aware of my specific case	**.618**								
Doctors were listening to what I have to say	**.571**								
Doctors were treating me with respect at all time	**.563**								
Nurses were communicating me clearly & in an acceptable language		**.725**							
Nurses were always providing personal attention to me		**.690**							
Cleanliness of both rooms and bathrooms were maintained		**.667**							
Room Noise Levels were acceptable		**.603**							
Laboratory Tests and X-Rays were done correctly the first time		**.599**							

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Buildings, Landscape & Physical Lay-Out were visually appealing		**.590**							
Lab Tests and X-Rays were delivered punctually		**.568**							
Doctors were having highest degrees			**.789**						
Hospital has had state of the art Technological Equipment			**.752**						
Brochures & Leaflets were contained the types of service it provides			**.622**						
Nurses were always responding in an acceptable time-span			**.572**						
Housekeeping personnel were pleasant			**.493**						
Nurses services (tests, procedures & medication) were done on time			**.490**						
Doctors were never ordering unnecessary diagnostical medical tests				**.834**					
Meals were of a very high quality				**.799**					
Doctors were spending enough time on me				**.767**					
Nurses were understanding my specific needs					**.824**				
Meals were served at correct temperatures					**.800**				
Doctors were explaining carefully what is required for me					**.774**				
Rooms were visually attractive						**.857**			
Nurses were always empathetic/concerned						**.819**			
Doctors were punctual at all times						**.725**			

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Doctors were carefully examining before determining my problem							**.822**		
Meals were prepared according to my specific needs							**.745**		
Laboratory and X-Ray technicians were highly skilled							**.689**		
Admission Personnel were providing directions and schedules								**.765**	
Admission Personnel were very friendly and helpful								**.602**	
Admission Process was quick and well-organized								**.502**	
Employees of the hospital were Professionally Dressed									**.775**
Nurses were skilled and knowledgeable for the nursing service									**.542**

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 14 iterations.

Principal component factor analysis with rotated factor loadings (Table 11) was performed on the survey data. Principal Component Analysis (PCA) is the commonly used method for grouping the variables under few unrelated factors. Variables with a factor loading of higher than 0.5 are grouped under a factor. A factor loading is the correlation between the original variable with the specific factor and the key to understanding the nature of that particular factor (Debasish 2004). Table 11 provides the rotated factor loadings against the 36 observed variables. Moreover, Factor analysis using Varimax rotation finds nine derived factors.

Factor 1 named as "Knowledgeable & Hygienic" consisted of 6 variables. The names of the variables are Doctors were very knowledgeable and able to answer my questions (.752), Nurses were exceptionally hygienic (.693), Doctors were discussing me regarding any decisions for my treatment (.643), A skilled Doctor was available all times & was aware of my specific case (.618), Doctors were listening to what I have to say (.571) and Doctors were treating me with respect at all time (.563).

Factor 2 named as "Language & Cleanliness". The factor is constituted by 7 variables

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including Nurses were communicating me clearly & in an acceptable language (.725), Nurses were always providing personal attention to me (.690), Cleanliness of both rooms and bathrooms were maintained (.667), Room Noise Levels were acceptable (.603), Laboratory Tests and X-Rays were done correctly the first time (.599), Buildings, Landscape & Physical Lay-Out were visually appealing (.590) and Lab Tests and X-Rays were delivered punctually (.568).

Factor 3 named as "Degrees & Equipment". The factor is constituted by 6 variables including Doctors were having highest degrees (.789), Hospital has had state of the art Technological Equipment (.752), Brochures & Leaflets were contained the types of service it provides (.622), Nurses were always responding in an acceptable time-span (.572), Housekeeping personnel were pleasant (.493) and Nurses services (tests, procedures & medication) were done on time (.490).

Factor 4 named as "Tests & Meals". This factor consists of 3 variables. The variables are Doctors were never ordering unnecessary diagnostical medical tests (.834), Meals were of a very high quality (.799) and Doctors were spending enough time on me (.767).

Factor 5 named as "Needs & Caring". This factor consists of 3 variables. The variable are Nurses were understanding my specific needs (.824), Meals were served at correct temperatures (.800) and Doctors were explaining carefully what is required for me (.774).

Factor 6 named as "Attractive & Punctual". This factor consists of 3 variables. The variable are Rooms were visually attractive (.857), Nurses were always empathetic/concerned (.819) and Doctors were punctual at all times (.725).

Factor 7 named as "Examination & Skills". This factor consists of 3 variables. The variable are Doctors were carefully examining before determining my problem (.822), Meals were prepared according to my specific needs (.745) and Laboratory and X-Ray technicians were highly skilled (.689).

Factor 8 named as "Admission Process". This factor consists of 3 variables. The variable are Admission Personnel were providing directions and schedules (.765), Admission Personnel were very friendly and helpful (.602) and Admission Process was quick and well-organized (.502).

Factor 9 named as "Professionally Dressed". This factor consists of 2 variables. The variable are Employees of the hospital were Professionally Dressed (.775) and Nurses were skilled and knowledgeable for the nursing service (.542).

CONCLUSIONS AND RECOMMENDATIONS

From the above factor analysis, it is clear that *Knowledgeable & Hygienic, Language & Cleanliness, Degrees & Equipment, Tests & Meals, Needs & Caring, Attractive & Punctual, Examination & Skills, Admission Process* and *Professionally Dressed* are the most significant factors to be considered for selecting the private healthcare services. These above nine factors can be used as guideline for the concerned decision makers. Among the nine factors, Knowledgeable & Hygienic (9.362), Language & Cleanliness (4.320) and Degrees & Equipment (3.576) are the three most important factors for selecting private medical

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providers because they reveal higher eigenvalues than other factors. So the decision makers should understand and give priority to those factors that influence patients' choice behavior. Furthermore, the findings of the study may be used as an index to improve the healthcare services for wider acceptance and develop marketing strategies accordingly. The findings can also have implications for consumer research by both academics and practitioners.

FUTURE RESEARCH

In this research the survey was limited to four private hospitals with superior amenities and their locations were at the urban area. Also the study randomly selected the samples from the 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. So in the future, it is suggested to include different cities and multiple segments for the better understanding of the sector. To collect the primary data the researcher approached to only those patients or their representatives who were staying in the cabins. Since the perceptions of the patients may vary from cabins to wards, in future it is suggested to approach the patients at the wards also. The study focused only the in-patients, so in the future out-patients should be included. Furthermore, this research suggests to explore the linkage between the waiting time (examinations room) and the patient's satisfaction (Dana 2016), which was beyond the scope of the current study.

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