



**CONSUMER SATISFACTION WITH MEDICARE SERVICES IN BANGLADESH:  
AN APPLICATION OF THE SERVQUAL MODEL**

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**ABSTRACT**

*Good health is a gift from Almighty Allah. The study aims to evaluate patient satisfaction and loyalty in Medicare institutions in Bangladesh. The study employs a conceptual framework of the quality service dimension and measurement to see the relationships between clients' satisfaction and loyalty. It proposes eleven hypotheses for developing a conceptual framework. It has selected four categorical medical institutions; out of them, 19 Medicare institutions have been considered a sample unit through random sampling from the northern area of Bangladesh. A self-administered questionnaire was applied to collect data. This study has used the SERVQUAL service quality model, which has gained much importance over the last decades, to measure the overall service standard of every enterprise. The study revealed that the semantic deferential 7-point rating scale provides an overall mean value of 3.9680 for the Medicare institutions in Bangladesh, which means that the respondents are not satisfied with the existing Medicare services. Healthcare providers can enhance patient satisfaction by streamlining processes, investing in staff training, ensuring accessibility, maintaining cleanliness, integrating technology, collecting feedback, fostering empathy, ensuring transparency, and regularly updating services.*

**Keywords:** Medicare services, Satisfaction, Loyalty, SERVQUAL, Bangladesh.

**INTRODUCTION**

Patient satisfaction is a useful measure for providing quality indicators in healthcare services. Health is wealth. The healthcare division of a country needs superior attention from the government since health care quality delivers hope and relief to patients and their dependents. It also aids in maintaining a healthy human capital that contributes to the country's development (Irfan, 2011). At present, people are so health-conscious and quality-seekers that they want to get more than they want (Yogesh, 2012). Consumer satisfaction with healthcare services is a critical aspect of healthcare management, particularly in the context of developing nations such as Bangladesh. In the context of Bangladesh, where the healthcare system is continuously evolving to meet the needs of a diverse and growing population, understanding consumer satisfaction with specific services, particularly Medicare, becomes imperative.

Patient satisfaction or dissatisfaction compares patients' expectations with the actual performance of services. Satisfaction is a feeling of personal pleasure or disappointment resulting from a product or service's perceived performance (or conclusion) to his or her hopes. If the version downstream meets expectations, the patient is dissatisfied. If the performance meets expectations,

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the patient is pleased and satisfied. When the performance exceeds expectations, the patient is exceedingly satisfied or delighted. Medicare institutions are those organizations that make available basic medical aid to the masses. It is a managerial approach to formulate a social service mix in the face of the latest developments in the medical service (World Health Organization, 2010).

The health care service sector is undergoing significant changes in terms of daily operation and the competitive structure of the sector. Medicare institutions include public and private hospitals, NGOs related to health care formula planning, physicians, dentists, nursing and personal care homes, medical laboratories, home health services, kidney dialysis centers, pathologists and diagnosis centers, pharmaceutical companies, and so on that provide care to patients. Patients' satisfaction is a key indicator of the excellence of Medicare services, and it is a key determining factor in the choice of a health care provider. Patient satisfaction depends on doctor quality and behavior, medicine, clinical condition, staff behavior, etc. (Ahmad, 2010). Patient satisfaction is a critical issue for successfully conducting business in today's competitive marketplaces. Similarly, Medicare institutions are no exception. The Medicare institutions have a key role in ensuring sustainable overall socio-economic expansion in developing countries like Bangladesh.

The people of Bangladesh remain unhappy due to the poor service of Medicare, like in other underdeveloped countries. The Medicare service is still based in urban areas in Bangladesh. People living outside of urban areas are most deprived of the quality of Medicare services as per their requirements. Despite multidimensional problems in receiving health care services, Bangladesh has the potential to achieve success in its proper utilization of existing resources. The People's Republic of Bangladesh is committed to developing the healthcare sector as outlined in the Vision 2021 plan. Bangladesh is characterized by a high population, low income, a low literacy rate, a high number of unemployed individuals, a lack of awareness about health and family planning, a prevalence of underage marriages, and limited access to nutritious and balanced diet foods (Ministry of Health and Family Welfare, 2003). It is known to all that health is the root of all happiness. Day by day, the government should emphasize both private and public hospitals as the health care sector that has a significant contribution to the economy of Bangladesh. Quality has been considered a strategic advantage for the organization to gain success and sustain itself in the business world (Irfan and Ijaz, 2011). Sound health and mind are the preconditions of a developed nation. The overall qualities of our Medicare institutes in Bangladesh are not standard. But getting quality health services is the fundamental right of any human being (Bangladesh Rural Advancement Committee, BRAC, 2010).

#### **OBJECTIVES OF THE STUDY**

The present study aims to evaluate patient satisfaction in Medicare institutions in the northern area of Bangladesh. Besides, the current research attempts: 1) to measure the patients' level of satisfaction and loyalty to the health care services; 2) to find out the attributes of service quality that affect consumers in the selection of private and public Medicare institutions along with other Medicare institutions; and 3) to provide a range of recommendations and suggestions to improve patients' satisfaction with the services of Medicare institutions in Bangladesh.

It has also raised the following questions: 1) What is the patient's level of satisfaction and loyalty towards the Medicare institutions in Bangladesh? 2) What service quality factors influence people to choose among various Medicare institutions? 3) What are the relationships between patient satisfaction and the factors of the SERVQUAL model? This study will add value to the existing literature and help formulate policy in the health sector of Bangladesh.

## REVIEW OF RELEVANT LITERATURE

Over the past decade, healthcare quality and customer satisfaction have been major research topics. Various researchers have measured customer satisfaction in various environments. Consumers' desires and their perceptions of satisfaction change as the environment changes. As a result, one major issue is defining the complex nature of customer satisfaction in a variety of environments. However, in order to improve service quality, a compromising trade-off in operational costs is required. A number of researchers approached the issue from various perspectives and with varying backgrounds (Badri et al., 2009; Larsson and Larsson, 2010; Naidu, 2009).

Patavegar et al. (2012) studied patients' satisfaction with services received at tertiary care hospitals on an OPD basis. They also witnessed that the highest number of patients, i.e., 197 (43.78%), were aged 49 and above. The number of female patients was about 61%. About the hygiene of the waiting area, 44.5% of patients responded with dissatisfaction. According to the explanation given by the pharmacist about the treatment, 77% of patients were satisfied. 91% of patients believed that OPD timing was convenient. 176 (39.12%) patients had to wait for less than 30 minutes before consulting a doctor.

Shrestha and Mongkolchati (2012) wrote an article on the valuation of patient satisfaction at a traditional medicine hospital in Nepal. They have conducted this cross-sectional, vivid study regarding patient satisfaction without patient department (OPD) services at Naradevi Ayurveda hospital in Kathmandu, Nepal. A structured questionnaire was directed to 296 patients attending the OPD during February 2012.

Irfan et al. (2012) studied Patient Satisfaction and Service Quality of Public Hospitals in Pakistan: An Empirical Assessment, and they indicated that the quality of a product or service is the main factor that determines performance, eventually referring to organizational performance. Patients are the main determiners of the quality of a certain product or service. Nevertheless, measuring the quality of services is very challenging owing to its intangible aspect. The aim of this research is to figure out how effective public hospitals in Pakistan are at providing healthcare to their patients. Pakistan's current healthcare sector consists of public hospitals, healthcare units, and pharmacies, which are insufficient to satisfy the needs of the country's 169.9 million citizens. The purpose of this study is to look into the quality of services provided by public hospitals throughout Pakistan to their patients. A questionnaire based on a modified 'SERVQUAL' was generated for this reason, with five service quality dimensions: empathy, tangibles, timeliness, responsiveness, and assurance.

Kasimi et al. (2013) studied an empirical investigation to measure different dimensions of hospital service quality (HSQ) by gap analysis and patient satisfaction (PS). It also endeavors to quantify patients' satisfaction with three dimensions derived from exploratory factor analysis (EFA) by the principle component analysis method and conformity factor analysis (CFA). Besides, the study analyzes the relationship between HSQ and PS in the context of Iranian hospital services, using structural equation modeling (SEM) from patients' perspectives.

Bisschoff and Clapton (2014) worked on measuring patient service in a private hospital, and they investigated that this study measures service quality management in a private hospital in Gauteng, South Africa. This was done by determining the current standard of service quality management, identifying the gap between the value and satisfaction of the service quality dimensions, as well as the influence of gender on the perception of service quality.

Sritharan (2014) studied an article on Measuring Service Quality Dimensions: An Empirical Study of Private Hospitals in Jaffna District, Sri Lanka. He has investigated that the quality of hospital

services has a significant impact on patient satisfaction with healthcare in private hospitals in Jaffna District, Sri Lanka. The findings of this study could provide useful information as to how hospitals could better manage their services to enhance their service quality.

Khandakar (2014) said that the rural health care system in Bangladesh has a focus on specific areas. It investigated people's health-seeking behavior in rural Bangladesh. It has also revealed patients' attitudes toward health-care services in Bangladesh. The study included 311 people from 12 villages in three different districts in Bangladesh: Comilla, Brahmanbaria, and Sylhet. The SERVQUAL model variables used in this study are reliability, assurance, tangibles, communication, empathy, process features, cost, and access. The study's findings indicate that a negative relationship exists between the eight SERVQUAL model variables and patient satisfaction.

Adhikary et al. (2018) stated that 2207 patients attended selected health facilities in Bangladesh's two administrative divisions, Rajshahi and Sylhet. We discovered that 63.2% of participants were satisfied with the healthcare they received. Patients in private facilities reported the highest level of satisfaction (73%), while patients in primary care facilities reported the lowest level of satisfaction (52%). Patients' satisfaction was significantly associated with factors such as convenient opening hours, asking related questions to providers, facility cleanliness, and privacy settings. The strongest predictors of patient satisfaction were facility cleanliness (multivariable OR 4.30; 95% CI: 3.29–5.62) and privacy settings (multivariable OR 1.68; 95% CI: 1.28–2.21). To summarize, a sizable proportion of patients in Bangladesh are dissatisfied with the care they have received.

Ullah (2019) conducted a study looking into the role of service quality in patient satisfaction and loyalty in Bangladesh. Data were gathered from three hospitals in Dhaka, Bangladesh. This analysis employs Smart PLS, version 3.2.7, software for data analysis, as this software is widely used in marketing research to perform the PLS-SEM method. The study's findings revealed that service quality has a significant impact on patient loyalty and patient satisfaction.

Snigdha et al. (2020) conducted a study on Bangladesh among 165 out-patients; 135 (81.8%) were satisfied with medical services, while 30 (18.2%) were dissatisfied. Total patient satisfaction had a mean and standard deviation of 69.1 (16.9). Financial factors accounted for 29 (17.6%) of patient dissatisfaction with Unani and Ayurvedic treatment, owing to a lack of free medicine supply and the high cost of medicine.

Mohiuddin (2020) discussed that higher levels of patient satisfaction indicate higher levels of patient empowerment, commitment to care, and compliance with recommended management—all of which result in better health outcomes. Concerns about the quality of healthcare services in Bangladesh have resulted in a loss of faith in healthcare providers, low utilization of public health facilities, and increased outflows of patients from Bangladesh to hospitals abroad. The main barriers to accessing health services are inadequate services and poor quality of existing facilities, a lack of medical supplies, the busyness of doctors due to high patient load, long travel distance to facilities, and long waiting times once facilities were reached, very short consultation times, a lack of empathy on the part of health professionals, their generally callous and casual attitude, aggressive pursuit of monetary gains, poor levels of competence, and, on occasion, disregard for the pain that patients endure because they are unable to express their concerns—all of these service failures are frequently reported in the print media.

Bangladesh's healthcare sector faces challenges due to its high population, economic constraints, and cultural nuances, necessitating addressing them to improve service quality (Khan et al., 2020; Ahmed & Rahman, 2021).

The SERVQUAL model, developed by Parasuraman et al., is widely used to evaluate healthcare service quality from a consumer perspective, focusing on reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman et al., 1988; Zeithaml et al., 1990; Kumar & Garg, 2019; Singh & Bansal, 2020).

Consumer satisfaction studies in developing countries, including Bangladesh, emphasize the influence of socio-economic factors, literacy rates, and cultural considerations on healthcare experiences (Haque et al., 2019; Akter & Dey, 2020).

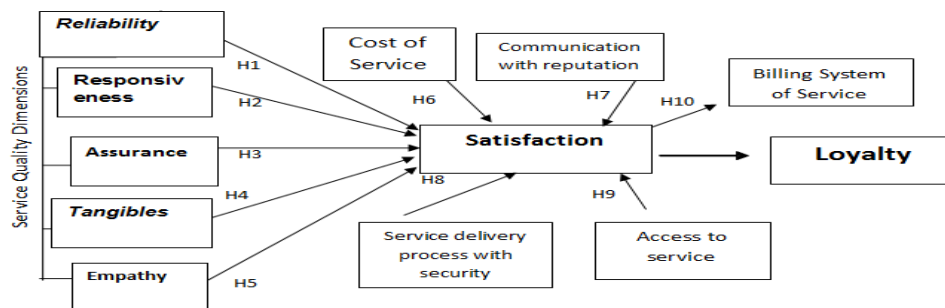
**Research Gap:** The research gap in healthcare service quality and consumer satisfaction in Bangladesh is significant, with existing studies mainly focusing on generic services. The SERVQUAL model, which has been applied in diverse industries, is not applicable to the unique context of Medicare services in Bangladesh. Addressing this gap is crucial for developing targeted interventions and policy recommendations.

**THEORETICAL FOUNDATIONS**

This study applied the SERVQUAL model by considering both outpatients and inpatients in Medicare. Parasuraman and Zeithaml's (1985) SERVQUAL model, which includes five measuring dimensions relevant to the service quality of Medicare by its consumers. The dimensions are reliability (capability to accomplish the promised service dependably and accurately), tangibility (physical facilities, equipment, and appearance of personnel), responsiveness (willingness to help patients and provide prompt service), assurance (Knowledge and courtesy) of concerned doctors and nurses and their ability to inspire trust and confidence) Finally, aknowledgey, empathy (caring, individualized attention the service provider gives its consumers). The majority of scholars support five factors for the SERVQUAL model, and these five considerations appear to be the most useful in determining a firm's service quality. But some researchers found other factors to be prominent additions to reliability, responsiveness, assurance, empathy, and tangibles.

Previous studies do not cover other types of Medicare institutions or the loyalty of patients to Medicare institutions. Besides, probably no studies have yet been conducted in the northern area of Bangladesh. Thus, this study was conducted to measure patient satisfaction and loyalty to four categories of Medicare institutions in Bangladesh. The previous study was performed in different countries, e.g., India, China, Malaysia, and so on. Few studies were conducted to measure satisfaction with the SERVQUAL model in Bangladesh, considering both the outpatients and inpatients of Medicare. So, we strive to fulfill it by performing a current empirical study on patient satisfaction and loyalty in Medicare institutions in Bangladesh.

**Figure 1:** A primarily conceptual framework of service quality dimension and its relationships with client satisfaction and loyalty based on literature review



## **HYPOTHESES DEVELOPMENT**

Based on the previous literature (e.g., Rahman and Kutubi, 2013; Andaleeb et al. 2007; Ampona and Hiemenz, 2009; Choi et al. 2004; Sritharan, 2014). The following hypotheses are formulated to meet the research objectives:

H1: Reliability of services strongly influences the patient satisfaction in Medicare Institutions in Bangladesh

H2: Responsiveness of services strongly influences the patient satisfaction in Medicare Institutions in Bangladesh

H3: Assurance of services strongly influences patient satisfaction in Medicare Institutions.

H4: Tangibles of services strongly influence patient satisfaction in Medicare Institutions.

H5: Empathy of services strongly influences patient satisfaction in Medicare Institutions.

H6: Cost of services strongly influences patient satisfaction in Medicare Institutions.

H7: Communication of services strongly influences patient satisfaction in Medicare Institutions.

H8: Service delivery process with security strongly influences patient satisfaction.

H9: Access to services strongly influence the patient satisfaction

H10: The billing system of services strongly influences the patient satisfaction

H11: There is a significant relationship between patient satisfaction and patient loyalty

## **METHODS OF THE STUDY**

### **Sampling Techniques**

The study is quantitative, and information is gathered from primary and secondary sources. The target population was all patients who had taken health services once or more times from medical institutes in Bangladesh. As the research is empirical, the field survey method is used here. The study was limited to 19 private, public, NGO-related health care and other Medicare institutions in the northern area of Bangladesh. The present study applies convenience sampling techniques to collect the necessary data. Convenience sampling is a practical, efficient, and cost-effective non-probability sampling technique used for pilot studies, exploratory research, and small population sizes. It is ideal for time constraints, resource limitations, and specific population accessibility, providing preliminary insights for more rigorous studies. Both rural and urban areas are included in the present study. The study was conducted in the northern province of Bangladesh.

Based on the research title, the researcher has used the questionnaire survey method to collect data among the patients from the northern areas of Bangladesh, like Rajshahi, Rangpur, Dinajpur, Pabna, and Bogra city. Conducted a healthcare-related questionnaire survey in specific districts to understand variations in healthcare needs, accessibility, and health outcomes. Factors like population density, infrastructure, demographic diversity, and accessibility should be considered for data collection. Here, the study selected a total of 19 Medicare institutions, including private (11) and public (5) NGOs related to health care (2) and other (1) Medicare institutions. Then the study also used the convenience sampling technique to select the respected respondents from these targeted areas of Medicare institutions. Approximately 750 accessions were contacted directly. Finally, the questionnaires were supplied to 670 respondents (outdoor patients were 360 and indoor patients were 310). Among them, 620 respondents (outdoor patients were 330 and indoor patients were 290) returned the questionnaires that had been completed. Because of the respondent's inability, unconsciousness, and excessive missing values, a total of 53 questionnaires

were discarded. So, finally, the size of the sample stands at 567 (five hundred sixty-seven). The study selected Medicare institutions and respondents using purposive and convenience sampling, with private institutions chosen based on patient load, public institutions chosen by healthcare settings, and two NGOs included. Convenience sampling was applied to 670 respondents.

### **Questionnaire and Data analysis techniques**

Around 800 respondents were primarily targeted. Researchers may choose to target around 800 respondents in a study for various reasons, including statistical power, representativeness, subgroup analyses, non-response concerns, precision of estimates, analysis complexity, previous research guidelines, funding, and achieving confidence levels. The researcher used a self-administered questionnaire to collect data for the research. A self-administered questionnaire is a survey in which respondents take responsibility for reading and answering the questions. It is considered a superior model for minimizing bias and improving response rates (Bell et al., 2004). The effects of independent variables on the dependable variable are assessed by the 7-point semantic differential attitude scale. The study was conducted on the basis of both primary and secondary data.

This study was completed using a variety of statistical analyses. Such things as frequencies, the construction of different tables, descriptive analysis, simple and multiple correlations, regression analysis, and various tests are performed through the SPSS 20 version.

**Limitations of the Study:** The study on consumer satisfaction with healthcare services in Bangladesh has limitations such as sampling bias, convenience sampling, cross-sectional design, self-report bias, SERVQUAL model limitations, cultural context, response rate and non-response bias, limited generalizability, external factors, and a single-method approach. These factors may affect the generalizability of the findings, as the sample may not represent diverse consumers, and the model may require cultural adaptations for accurate measurement. External factors like changes in healthcare policies may also be unaccounted for.

### **Empirical Model Developments**

To determine the degree of effect of each SERVQUAL attribute on patient satisfaction, a linear regression model was created. The  $\beta$  value of each attribute demonstrates the degree and direction of influence on overall patient satisfaction in Bangladeshi Medicare facilities. The linear regression model is used to measure the patient satisfaction in Medicare institutions in Bangladesh are as follows:

$$PSMIB = \alpha + \beta_1(REL) + \beta_2(RES) + \beta_3(ASS) + \beta_4(TAN) + \beta_5(EMP) + \beta_6(COS) + \beta_7(COM) + \beta_8(PRO) + \beta_9(ACC) + \beta_{10}(BS) + \varepsilon$$

Where,

PSMIB= Patient satisfaction in Medicare institutions in Bangladesh

$\alpha$  = the intercept (constant) model

$\varepsilon$  = the unobserved variables

The definition and the measurement of the above explanatory variables and the range of their values are presented by explaining dependent and independent variables:

## FINDINGS AND ANALYSIS OF THE STUDY

**Sociodemographic Profile of the respondents:** The total respondent was 567 (five hundred and sixty seven) where 57.5% are male and 42.5% are female. Among them 60.9% married, 33% unmarried and 7.1% are a widower. Urban respondents are 60% and 40% are from rural. Briefly 34% respondents are private job holder, followed by 21.2% government job, 24.5% farmer, 15% business and rest of the 5.3% are others. 46.9% Respondents choose public medicare institution, while 42.3% select private medicare institutions, 7.2% NGO' operating medicare institutions, and rest of the 3.5% chooses other types of medicare institutions.

Table 1: Overall Level of Patients Satisfaction Based on Different Ten (10) Variables

	Mean	Std. Deviation	Minimum	Maximum	CV
Reliability of Services	3.9753	1.03587	1.60	6.80	.2605
Responsiveness of Services	3.7090	1.12585	1.67	6.67	.3035
Assurance of Services	4.6213	1.22815	1.25	7.00	.2640
Tangibility of Services	3.9330	1.17170	2.00	6.40	.2979
Empathy of Services	4.1752	1.04731	2.00	6.67	.2508
Financial Expenses (Cost)	3.8029	1.00246	2.00	5.75	0.2636
Communication of Services	3.3757	1.26510	1.00	6.33	.3747
Accessibility of services	3.8929	.77923	2.50	7.00	.2001
Services Delivery Process	4.1896	.63171	2.50	7.00	.1507
Billing Services	4.4630	1.09021	2.00	7.00	.2442
Overall Consumer Satisfaction towards the Medicare Institutions in Bangladesh	3.9680	.81234	2.03	6.05	.2047

(Source: Statistical Analysis 2021)

The above table indicates that the assurance of service providers (doctors, nurses, and Staff) is at a satisfactory level, with a mean value of 4.6213. The billing service systems of the responding patients are more satisfied, with a mean value of 4.4630. The empathy of the Services (friendly behavior of doctors, nurse, and Staff) is at a less satisfactory level, Mean value of 4.1752.

On the other hand, the Reliability of Services 3.9753, the responsiveness of service 3.7090, Tangibility of Services 3.9330, Communication of Services 3.3757, Cost of services 3.8029, and Accessibility of service 3.8929 providers in Medicare is dissatisfied. Overall the mean value of Patient Satisfaction towards the Medicare Institutions in Bangladesh is 3.9680.

Table 2: Overall Satisfaction of Services

Attributes	Frequency And Percentage							Mean	SD	CV
	1	2	3	4	5	6	7			
Patient Satisfaction With Hospital Services	F	8	63	356	84	55	1	4.2081	.82308	0.195
	%	1.4	11.1	62.8	14.8	9.7	0.2			
Patients are Disease Free After Taking Services (outcome)	F	9	0	120	277	79	81	4.1711	1.02651	0.247
	%	1.6	2	21.2	48.9	13.9	14.3			

Overall mean value 4.1896

(Source: Statistical Analysis 2021)

The above table makes it clear that the respondents are overall satisfied with the Medicare service institutions in Bangladesh (mean value 4.2081). And there is a relationship between patient satisfaction and the outcome of treatment (mean value 4.171).

**Table 3: Loyalty of Patient**

Attributes	Frequency And Percentage								Mean	SD	CV
		1	2	3	4	5	6	7			
Patients Refers Someone to Go His/hers Previous Hospital	F	9	22	145	311	41	0	39	3.8977	1.11215	0.285
	%	1.6	3.9	25.6	54.9	7.2	0	6.9			
Patients Possibility to Go His or Her Previous Hospital	F		9	177	257	98	25	1	3.9224	.85791	0.219
	%	0	1.6	31.2	45.3	17.3	4.4	.2			

Overall mean value 3. 91005

(Source: Statistical Analysis 2021)

The above table shows that the patient will refer to others because of loyalty towards the hospital. The mean value is not so strong. So, all concerned people should increase the number of loyal patients. Few people are satisfied and loyal those will come back again to the existing Medicare institutions in Bangladesh.

### 7.1 MULTICOLLINEARITY ANALYSIS

The multicollinearity between variables was investigated using Pearson's pair-wise product-moment correlation coefficient (r), as is seen in Table-4. The highest number is 0.690, which existed between tangibility of service and assurance of service. Some authors (for example Judge, Griffiths, Hill, Lutkepohl and Lee, 1985; Bryman and Cramer, 1997) proposed that simple correlation between independent variables should not be considered harmful until and unless they exceed 0.80 or 0.90. Thus, the observed correlations between independent variables were not considered harmful. This finding suggests that multicollinearity between independent variables is not a problem in interpreting the results of multivariate analysis.

**Table 4: Correlations Matrix**

	RES	ASS	TAN	EMP	FIN (Cost)	COM	ACC	BS	REL	PRO
RES	1	.552**	.504**	.471**	.606**	.395**	.452**	.407**	.533**	.357**
ASS		1	.690**	.690**	.612**	.529**	.581**	.504**	.548**	.459**
TAN			1	.635**	.761**	.783**	.807**	.245**	.570**	.568**
EMP				1	.576**	.515**	.586**	.368**	.690**	.414**
FIN					1	.697**	.696**	.488**	.620**	.498**
COM						1	.807**	.266**	.468**	.468**
ACC							1	.201**	.485**	.531**
BS								1	.477**	.154**
REL									1	.358**
PRO										1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

(Source: Statistical Analysis 2021)

The above table indicates that among the ten variables there is multicollinearity between the accessibility of service and tangibility of service which value is .807. Besides this, there is multicollinearity between the accessibility of service and the communication of service variables (value is .807). For this reason, the accessibility of service variables should be dropped.

Again, we can draw a new correlation matrix by considering the rest of the nine variables. Here nine variables are fully capable enough of explaining the changes of the dependent variable by the changes of the independent variable.

**Table 5: Correlations Matrix with 9 variables**

	RES	ASS	TAN	EMP	FIN	COM	BS	REL	PRO
RES	1	.552**	.504**	.471**	.606**	.395**	.407**	.533**	.357**
ASS		1	.690**	.690**	.612**	.529**	.504**	.548**	.459**
TAN			1	.690**	.690**	.612**	.529**	.504**	.548**
EMP				1	.576**	.515**	.368**	.690**	.414**
FIN					1	.697**	.488**	.620**	.498**
COM						1	.266**	.468**	.468**
BS							1	.477**	.154**
REL								1	.358**
PRO									1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

(Source: Statistical Analysis 2021)

Above table 5 indicates that there is no multicollinearity among the nine variables. So with the help of these variables we can prove the regression model.

**7.2 REGRESSION ANALYSIS**

**Table 6: Test of Hypothesis through Regression Analysis**

R	R Square	Adjusted R Square	Std. Error of the Estimate
.995 <sup>a</sup>	.991	.991	.07760

a. Predictors: (Constant), Services Delivery Process, Billing Services, Responsiveness of Services, Communication of Services, Empathy of Services, Reliability of Services, Assurance of Services, Financial Expenses (Cost), Tangibility of Services

The adjusted R Square value is .991 which indicates that the capability to explain the changes of the dependent variable by the change of the independent variable. The model is fitted enough.

R<sup>2</sup>, the coefficient of determination, shows that overall patient satisfaction towards the Medicare Institutions in Bangladesh explained 99.1% by Reliability of Services, Responsiveness of Services, Tangibility of Services, Cost of Services, Empathy of Services, Communication of Services, Assurance of services, Services Delivery Process and Billing Services.

**Table 7: Result of ANOVA<sup>a</sup>Test**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	370.151	9	41.128	6829.810	.000 <sup>b</sup>
Residual	3.354	557	.006		
Total	373.505	566			

a. Dependent Variable: Overall Consumer Satisfaction towards the Medicare Institutions in Bangladesh

b. Predictors: (Constant), Services Delivery Process, Billing Services, Responsiveness of Services, Communication of Services, Empathy of Services, Reliability of Services, Assurance of Services, Financial Expenses (Cost), Tangibility of Services

(Source: Inferential Statistics, 2021)

From the ANOVA table, we get F-value is 6829.810 and P= 0.000. Since P<0.01, the null hypothesis is rejected, then alternative hypothesis is significant at 1%, which means that the Reliability of Services, Responsiveness of Services, Assurance of Services, Tangibility of Services, Cost of Services, Empathy of Services, Communication of Services, Services Delivery Process, Billing Services statistically significantly explained of Overall Patient Satisfaction towards the Medicare Institutions in Bangladesh.

**Table 8: Result of Coefficients**

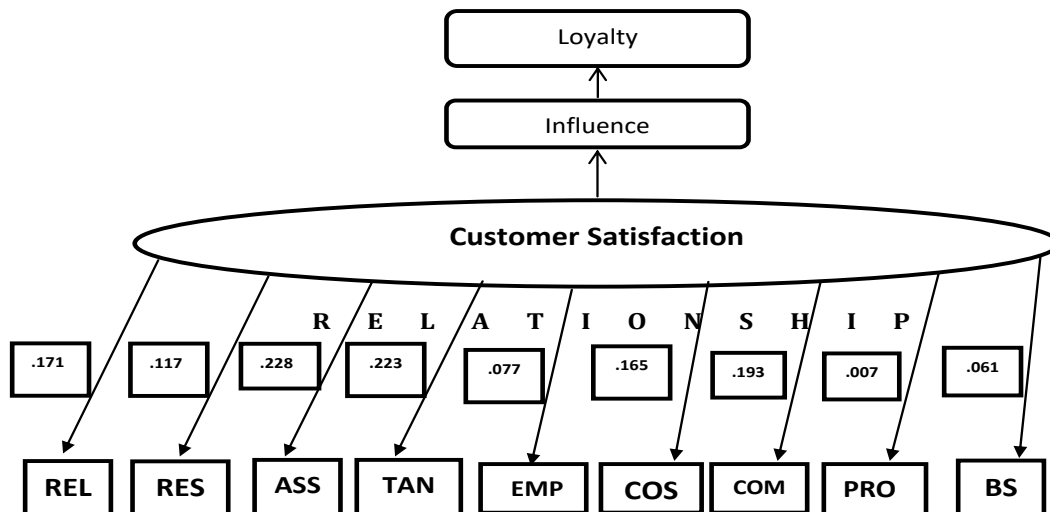
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.392	.025		15.749	.000
RES	.085	.004	.117	21.666	.000
ASS	.151	.005	.228	32.205	.000
TAN	.154	.006	.223	24.712	.000
EMP	.060	.005	.077	11.646	.000
FIN (Cost)	.136	.006	.168	21.673	.000
COM	.124	.004	.193	28.655	.000
BS	.045	.004	.061	11.038	.000
REL	.134	.005	.171	27.197	.000
PRO	.009	.006	.007	1.377	.169**

a. Dependent Variable: Overall Consumer Satisfaction towards the Medicare Institutions in Bangladesh  
 \*\*hypothesis is rejected.

(Source: Inferential Statistics, 2021)

From the above table, we can see the regression coefficient that is also significant at 1% level Reliability of Services, Responsiveness of Services, Assurance of Services, Tangibility of Services, Cost of Services, Empathy of Services, Communication of Services and Billing Services all the hypotheses are accepted. But the RH 7 about Services Delivery Process are rejected.

Figure 2: Patient satisfaction and loyalty.



$$PSMIB = a + \beta_1(REL) + \beta_2(RES) + \beta_3(ASS) + \beta_4(TAN) + \beta_5(EMP) + \beta_6(COS) + \beta_7(COM) + \beta_8(PRO) + \beta_9(ACC) + \beta_{10}(BS) + e$$

$$PSMIB = .392 + .171(REL) + .117(RES) + .228(ASS) + .223(TAN) + .077(EMP) + .168(COS) + .193(COM) + .007(PRO) + .061(BS) + .025$$

The above analysis provides the information that the value of Beta = .228 for Assurance of service variables indicate that among all other variables respondents are more aware of the assurance of services in case of their satisfaction measurement. Most of the respondents are satisfied with the Assurance factors of the SERVQUAL model. Next to an assurance of services Tangibility of services (Beta = .223) is a more important considerable factor, by the respondents for evaluating the satisfaction in Medicare institutions. Communication of service is a significant role in measuring patient satisfaction. Its Beta value is 193. The Reliability of services plays a significant role in measuring patient satisfaction. The result proved that Medicare patient satisfaction depends on the Reliability of services (Beta = .171). In this study, patients also emphasize or provide weights about the Cost of services (beta = .168). The relation between patient satisfaction and the service delivery process is not significant. The respondents assume that these are less important factors among the other variables in the case of measuring patient satisfaction in Medicare institutions in Bangladesh.

CHI-SQUARE test

**Table 9d: Test Statistics**

	Are you loyal towards the service of existing hospitals?	Sig.
Chi-Square	95.748 <sup>a</sup>	.000 <sup>b</sup>
Df	1	
Asymp. Sig.	.000	
Monte Carlo Sig.	99% Confidence Interval	
	Lower Bound	.000
	Upper Bound	.008

## DISCUSSION AND IMPLICATIONS

As per the findings and the analysis of the study, there are some discussions to improve the condition of the Medicare institution in Bangladesh, given below:

- Doctors, nurses, and staff should be trained properly so that they can provide the promised and expected services at the right time, at the right cost, and using the right method with efficiency and effectiveness.
- The cost of service should be reduced to ensure total quality management by providing modern equipment for treatment, neat hygiene, and clean service to the patients.
- Ensure available health services and relevant information with low-cost but high-quality services; avoid all types of broker- and agent-free services.
- Ensure a universal model of service in all types of Medicare institutions in Bangladesh. Be careful about the safety, security, and reliability of the service.
- Avoid all types of unnecessary diagnostics, medicine, etc.

Recommendations for improvement can be made, targeting providers, policymakers, and stakeholders. Cultural considerations should be considered in healthcare delivery. The study may also discuss implications for Bangladesh's healthcare policies.

The study suggests that healthcare providers should improve service quality by addressing gaps between consumer expectations and perceptions. This could involve improving reliability,

responsiveness, assurance, empathy, and tangibles. Training programs for healthcare professionals could be beneficial, and patient-centered care approaches should be adopted. Policy recommendations for Bangladeshi healthcare could direct resources to areas with identified service quality gaps. Monitoring and evaluation mechanisms could track improvements over time. Collaboration between healthcare institutions, NGOs, and government bodies could also improve overall healthcare services.

## **CONCLUSIONS**

Health care services should be accurate and make the customer satisfied and delighted. Because the cost of retention of the patient is lower than creating a new patient. Patients' complaints should be addressed effectively, efficiently, and immediately. If the patient gets dissatisfied with the service of Medicare institutions due to high cost, inefficiency of doctors, nurses, and technicians, an unhealthy environment, more waiting time for availing of the service or doctors, poor trade supply of medicine, foods, water, technician reports, load shedding, theft problems, etc. Subsequently, patients should transition to a different institution. Even they may choose the service abroad. So, the Medicare institutions should listen to the complaints and take the necessary steps against them. A positive experience of health care service indicates the satisfaction of the patient towards the service provider, and it will be the best source of positive word-of-mouth, publicity. And ultimately, patients would like to maintain a lifetime relationship. Patients do indeed notice when they receive excellent health care. The availability of efficient doctors, nurses, technicians, medicines, clean beds and washrooms, good staff behaviors, quick processing of service, modern equipment for diagnosis, low cost of service, etc. helps to ensure the satisfaction level. When all elements are missing, it indicates poor health service, which denotes the dissatisfaction of a patient with the service provider. It is no longer enough to satisfy your patient; you have to make them delighted. So, the government, the owner of private medical hospitals, and the stakeholders should be careful and good enough to provide patient-oriented service. Especially for the vulnerable people (children, disabled, widows, and the elderly), the authority should meet the level of expectation and manage special quality services to save their lifetime, energy, and cost. There is a strong relationship between patient satisfaction and service quality. The service designers, providers, and investors should carefully identify the service gap, the knowledge gap, the delivery gap, the communication gap, and the standard gap in health care services. If the respective authority is unable to identify the gap, they will fail to meet the expectations of the inbound and outbound patients. More and more detailed policy-making studies should be conducted on this issue, which will create new opportunities for further research.

### **Further scopes of the study**

The study on consumer satisfaction with Medicare services in Bangladesh, using the SERVQUAL Model, suggests several areas for future research. These include exploring regional disparities, conducting longitudinal analyses to assess changes over time, comparing findings with international models, integrating technology and telehealth, understanding stakeholder perspectives, developing quality improvement strategies, examining patient empowerment and involvement, examining healthcare accessibility and equity, examining the economic impact of satisfaction, and analyzing the influence of external factors. These findings could help policymakers tailor services to meet diverse regional needs, improve accessibility, and explore the economic implications of satisfaction. The study also suggests examining the impact of external factors on consumer satisfaction.

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