


Gender Differences in Service Quality of Upazila Health Complex in Bangladesh

Journal of Patient Experience
Volume 8: 1-6
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DOI: 10.1177/23743735211008304
journals.sagepub.com/home/jpx


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Abstract

The gender-based differences in satisfaction on the service quality of the Upazila Health Complex (UHC) in Bangladesh are assessed in this paper using the SERVQUAL model. Two Upazila, field administrative unit of Bangladesh, of Meherpur district of Bangladesh, were selected to conduct the study. The study used a quantitative approach, primarily using the survey method. The research found that the perception of male and female on service quality of UHC varies significantly. Though they have a similar perception of reliability dimension, females still have a comparatively more positive perception of accessibility, tangibles, empathy, and responsiveness dimensions to UHC than male service receivers. The regression result showed that responsiveness is the key factor to bring satisfaction in service, while empathy and accessibility moderately influence service receivers' satisfaction. The findings will be useful for policymakers, public health stakeholders, earnest learners, practitioners, and academia.

Keywords

Upazila health complex (UHC), Bangladesh, service quality of health service, SERVQUAL model, gender perspective

Introduction

Service quality is considered to be a crucial indicator in measuring patients' satisfaction in health care organization (1). Several studies have confirmed that a strong relationship between patients' satisfaction and service quality is present in discussing the condition of the health care organization (2,3). To measure the service quality of care, 5 dimensions including reliability, accessibility, tangibility, responsiveness, and empathy of SERVQUAL framework are considered to be an effective model which was later refined by different authors to make it more appropriate in the context of Bangladesh (4–6).

The government of Bangladesh has undertaken a 5 layers of institutions in the health sector such as Community Clinic, Union Health and Family Welfare Centre, Upazila Health Complex (UHC), District Hospital, and Medical Colleges & Postgraduate Institutes. Among them, UHC is a top-level health center in the rural area which provides primary service between 2 00 000 to 4 50 000 patients through both indoor and outdoor services (7). Still, the government medical services are not client-focused, need-based, and within the reach of the poorest (8). Even so, those who get the health care service from the government are favored by social class, geographic advantages, wealth or position, and gender preference (9).

A study found that older women are neglected from the biomedical and traditional health system in rural areas of Bangladesh (10). Another study on rural health care revealed that men are more likely to avail health service than women because of their strong socioeconomic position (11). Consequently, the health care services of rural women in Bangladesh are limited to family planning and menstrual care (12). However, it is necessary to perceive the perceptions and preferences of older women to reduce these obstacles and enhance access to health services in rural areas (13). A cross-sectional study reported that the quality of UHC services are comparatively poor and identified some key factors behind these including lack of doctors and laboratory facilities, poor

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hospital infrastructure, lack of proper training, supervision of the nurses, and so on (14,15). Moreover, when service quality is inadequate, it may be underused and bypassed (5). However, the previous literature has found limited discussions regarding the patient's satisfaction between male and female in rural areas. Particularly, indicators like assurance, tangibility, responsiveness, reliability, and empathy were not well discussed in previous studies to measure service quality of UHC. In this study, we explored the service quality of the UHC in Bangladesh based on gender difference.

Research Objectives

- To evaluate the differences in the perception of male and female patients regarding the service quality of UHC

Hypothesis

- H1:** There is a difference in the reliability dimension of service quality at UHC between male and female patients.
- H2:** There is a difference in the accessibility dimension of service quality at UHC between male and female patients.
- H3:** There is a difference in the tangibles dimension of service quality at UHC between male and female patients.
- H4:** There is a difference in the empathy dimension of service quality at UHC between male and female patients.
- H5:** There is a difference in the responsiveness dimension of service quality at UHC between male and female patients.

Methodology

Study Area and Location

This study was conducted in the Meherpur district, which is situated in the southwestern part of Bangladesh. The respondents are mainly health care facility receiver of Gangni UHC and Mujibnagar UHC within the last 1 year.

Research Approach

Cross-sectional study design and quantitative approach have been followed in this study to meet our research objectives. The quantitative approach was used by Andaleeb and Millet for similar types of studies (16).

Sample Size

Quantitative data were collected by following a random sampling technique through a structured questionnaire. Data collectors translated and validated the questionnaire for the illiterate respondents to get the views on the respective issues. As the total number of patients who received service from the UHC in the last 1 year was unknown to the researcher, Godden's formula was used to determine the sample size. A

total of 384 surveys were needed to be taken to meet the research objective. Sixteen additional respondents were taken to reduce the chance of nonresponse error.

Questionnaire Design and Measurement Scale

To examine the reliability of the questionnaire, a pilot study was conducted among 15 respondents. Data collected from this pilot test was excluded from the results but helped to make the questionnaire more standard, relevant, and user-friendly.

There were 2 segments of the questionnaire. The first segment was dealing with the respondent's basic information like sociodemographic information. The second part is mainly aimed at measuring the perception of service quality of UHC using the SERVQUAL model. Parasuraman et al (1985) proposed separately 10 dimensions for measuring the service quality of different sectors, which was later modified into 5 key components, namely responsiveness, assurance, tangibility, empathy, and reliability specially designed for the health sector (4,17,18).

Assurance dimensions were replaced with accessibility dimension with attributes such as physical accessibility and convenience to fit the model in the local context (19,20).

Considering the SERVQUAL framework, the study followed the below-mentioned items to measure the quality of care in UHC.

1. Tangibles refer to the physical facilities, tools, or equipment used to provide services at UHC.
2. Reliability denotes the ability to deliver the service which was promised in the Citizen Charter as accurately as possible and maintain the quality of lab reports.
3. Responsiveness concerns the service provider's readiness to offer a prompt health care service and diagnosis facility.
4. Empathy refers to caring, knowing patients' demands, and individualized attention provided to them.
5. Accessibility refers to reduce physical distance and cost of getting service at UHC.
6. Satisfaction is measured by comparing patients' demand and quality of service delivery at UHC.

Based on the experience gathered from the literature review, total of 23 questions were developed under the 5 broad dimensions of the SERVQUAL model, namely reliability, accessibility, tangibles, empathy, and responsiveness, to capture the service quality dimension of UHC from 400 respondents in between November 10 and 15, 2019. The responses under reliability, empathy, and responsiveness have been categorized using a 5-point Likert scale in which "1" indicated "Strongly disagree" and "5" indicated "Strongly agree." Accessibility and tangible dimensions responses were recorded on a 3-point Likert scale.

Quality Assurance: Data Analysis Techniques, Reliability, and Validity

A reliability test was conducted to check the internal consistency and the score Cronbach's α was 0.851, which fulfilled the recommendation of Nunnally (21,22). Items were pretested before conducting the study and discussed with senior health care professionals to ensure face validity. All the measurement construct was taken from the previous research by reviewing the literature to ensure content validity. Collected data had been chronologically arranged concerning the questionnaire outline.

Multivariate analysis of variance (MANOVA) was used in this study to test the significant group differences based on gender because of numerous correlated service quality factors. It helped to protect from type I errors (23).

Finally, 2-group discriminant analysis mainly showed the importance of service quality factors and to identify which are the essential service quality factors that discriminate between male and female. It helps to identify the direction and intensity of each variable's impact on the overall differences (24,25). Regression analysis was done to explore the variation in the dependent variable and its impact on patient's satisfaction as it helps to indicate the significant relationship between an independent and dependent variable (26). The Statistical Package

for Social Science (SPSS; IBM, version 23) has been used for all these quantitative data analyses.

Respondents Profile

Table 1 showed that more than half of the respondents (60%) were male. Considering the age, most of the participant's age was between (16-35)years old. Only 22% of participants were from above 45 years. In this research, only 3% of respondents from the upper class. This represented that still we have a huge disparity of wealth in the rural areas of Bangladesh. Very few people have occupied most of resources there.

Results

Table 2 contains descriptive statistics. The mean scores of SERVQUAL dimensions indicate the service quality ratings of UHC are below average. It denotes that patients are not satisfied with the existing service quality system of UHC. Only the Reliability dimension's Cronbach α value 0.266 was found insignificant based on Nunnally's recommendation.

It is seen that gender has a statistically significant effect on accessibility ($P < .05$), tangibles ($P < .05$), empathy ($P < .05$), and responsiveness ($P < .05$). This accepts the null hypothesis and rejects the alternative one for H2 to H5. But it has no significant effect on reliability ($P < .151$). This rejects the null hypothesis and accepts the alternative one for H1. For Box test reveals that, since the significance level is .000 ($P < .05$), so the covariance among the groups is not the same. In the multivariate test, the P value is .000, which indicates there is a significant difference in terms of satisfaction level between male and female about UHC. In tangibles, accessibility, empathy, and responsiveness, the mean of female patients is greater than the overall mean and mean of male patients. It applies that female patients possess more positive notions on the service quality factors than their male counterparts.

Discriminant Analysis

A discriminant function was estimated for the gender that is for male and female groups. From Table 3, we have found that the canonical correlation connected with this function is 0.449. The square of the canonical correlation is 0.2016, which indicates the selected model explains 20.16% of the variation in gender group. The Wilks' λ statistic is used to test the significance of the function. The value of the Wilks'

Table 1. Demographic Information of the Respondents.^a

Characteristics of the respondents	Frequency	Percentage
Gender		
Male	238	59.5%
Female	162	40.5%
Education level		
Illiterate	114	28.5%
Primary	100	25%
Secondary	119	29.8%
Higher education	67	16.7%
Income level		
Lower class	124	31%
Lower-middle class	131	32.8%
Middle class	133	33.2%
Upper middle class	12	3%

^aThose who earn less than 5000 taka per month are counted as lower class people. Lower-middle class people earn between 5000 and 10 000. Middle-class people's income is from 10 000 to 30 000 and those who earn more than 30 000 are considered upper middle class people.

Table 2. Descriptive Statistics and MANOVA Tests on Service Quality Factors of Upazila Health Complexes.

Variables	Number of items	Coefficient α	F ratio	P value	Group means	
					Male	Female
Reliability	5	0.266	2.075	.151	13.07	12.81
Accessibility	3	0.723	64.332	.000	4.04	5.29
Tangibles	7	0.819	12.558	.000	14.58	15.84
Empathy	4	0.868	25.441	.000	10.34	12.02
Responsiveness	4	0.792	8.699	.003	11.25	12.17

Table 3. Discriminant Analysis and Classification result of UHC by Gender.^a

Variables	The Wilks' λ	P value
Reliability	0.995	.151
Accessibility	0.861	.000 ^b
Tangibles	0.969	.000 ^b
Empathy	0.940	.000 ^b
Responsiveness	0.979	.003 ^b

Actual group	Cases	Predicted group	
		Male	Female
Male	238	167 (70.2%)	71 (29.8%)
Female	162	44 (27.2%)	118 (72.8%)

Abbreviation: UHC, Upazila Health Complex.

^aThe percentage of group cases correctly classified is 71.3%.

^bHighly significant ($P < .01$).

λ is found 0.799, which transforms to a χ^2 of 88.993 with 5 degrees of freedom with significance level .000 ($P < .05$). The result indicates that the model is significant and explain the satisfaction of service quality by male and female.

It also indicates the importance of service quality factors. This analysis shows similar findings of the MANOVA test result. The Wilks' λ result denotes accessibility as the most critical dimension (the less the value, the more it discriminates between the groups) to differentiate between 2 gender groups followed by empathy, tangibles, and responsiveness dimensions. The reliability is not significant, which does not affect discrimination. This model hit ratio indicated that about 71.3% of group cases are correctly classified.

Regression Analysis

The basic regression model of satisfaction on service quality is

$$\text{Satisfaction} = \alpha + \beta_1 \times \text{Reliability} + \beta_2 \times \text{Accessibility} + \beta_3 \times \text{Tangibles} + \beta_4 \times \text{Empathy} + \beta_5 \times \text{Responsiveness} + \text{Error}.$$

Table 4 describes that the model for the sample is significant at $P < .001$ ($F = 113.7$), and 59% of the variation in the dependent variable can be explained. The crucial factors that explain the high percentage of variation in patient's satisfaction are accessibility, empathy, and responsiveness. The β indicate that responsiveness is the most influential factor where accessibility and empathy moderately influence patient's satisfaction level in the rural area.

Discussion

The rating on the service quality items is found to be below average for 3 dimensions (reliability, empathy, and responsiveness) and above average for 2 dimensions (accessibility and tangibles), which indicates that rural people are not passionate about the service provision at UHC. This is alarming

Table 4. Regression Analysis Results Taking Satisfaction Level as the Dependent Variable.^a

Variables	β (standard error)	P value	95% CI of β	
			Lower limit	Upper limit
Constant	1.021 (0.26796)	.000 ^b	0.494	1.547
Reliability	-0.030 (0.01771)	.087	-0.065	0.0045
Accessibility	-0.058 (0.01906)	.002 ^b	-0.096	-0.021
Tangibles	0.020 (0.01067)	.057	-0.00064	0.041
Empathy	0.049 (0.01483)	.001 ^b	0.0198	0.0782
Responsiveness	0.175 (0.01627)	.000 ^b	0.144	0.207

^aMultiple $R^2 = 0.59$ and adjusted $R^2 = 0.585$. F value = 113.7; $P < .001$.

^bHighly significant ($P < .01$).

news that the poor and underprivileged people living in rural areas are not getting quality care from the government institutions (8). Though the government has taken different initiatives to upgrade the existing primary health care facilities at UHC under Health Policy 2011, still these reform initiatives cannot increase the patient's satisfaction (27). The reform in the health policy was mainly a top-down approach rather than a people-centric initiative, which is the key factor behind it (28). On the contrary, lower income people possess a tendency to buy medicine from pharmacy shops to save money and time (29,30).

Another promising finding was gender dimensions significantly influence people's perception of service quality. From the MANOVA test, the data revealed that mean of the service qualities is different by gender. Female patients are comparatively more optimistic about the health care services of UHC than their male counterparts. Discriminant analysis results identified that the accessibility dimension is the most differential factor in the service quality dimension. The male population is mainly involved in different activities to earn their livelihood in the day time, which is set for consultation at UHC. It is challenging for them to take leave from their work and visit UHC for treatment as a considerable population lives hand to mouth in the rural area. The opportunity cost of visiting the UHC is very high for them. On the other hand, the female population in rural areas is mostly dependent on their husbands' income. They can easily avail of treatment from the local UHCs for its good physical accessibility. Female patients have fewer expectations from the service providers at UHC because of their weak socioeconomic conditions (16). That is why the average quality of service from UHC is making them comparatively happier than male patients in the empathy dimension. The new building, infrastructures, and neat & clean environment of UHC trigger the female patients to give a good rating in the tangibles dimensions, but male patients are less gratified with the physical infrastructures as the proper utilization of that equipment is rarely seen at UHCs.

Our result demonstrates that the patients' satisfaction can be improved by focusing on some key areas of service

delivery. The responsiveness of hospital management has been identified to be the most critical indicator for improving the quality of health service at UHC. Patients demand proper institutional arrangements for quick diagnosis of patients' problems and prompt service delivery in the critical situation will increase patients' satisfaction and create customer loyalty among the rural people (31). Accessibility and empathy dimensions also moderately influence the service quality rating at UHC. The UHCs should be physically accessible, enough beds, and important medicines should be reserved for critical patients (19,20). Rural people will be more positive toward the service provision of UHC if the consulting hour will be increased and emergency treatment facilities will be introduced there (32,33). The behavior of doctors and nurses is considered to be one of the most important indicators for patients' satisfaction (34-36). Proper job orientation of the service providers and an increase in the doctor-nurse ratio will ease the workload and create a more congenial environment for treatment at UHC.

Limitations of the Study

The research embraces some limitations—other models might also be useful rather than using the SERVQUAL model to measure gender-based satisfaction on the service quality of UHC; further analysis can be conducted to apply other models. There has a scope of further study focusing on other covariates such as education, race, age, and previous experience with health care. Moreover, the study dealt with only 1 district and between 2 gender variations, based on such a limited area of study, it is hard to generalize the result on the whole of Bangladesh.

Concluding Remarks and Policy Implication

The findings of the study accept the research hypotheses except in the reliability dimension that there has variation in satisfaction level between male and female on the quality of health services rendered by UHC in Bangladesh. From the descriptive analysis, results show that the quality of UHC health service is below average, meaning UHC is failing to ensure optimum satisfaction for the service receiver. The research found a significant insight that the satisfaction level of male and female service receivers varies where females are comparatively more positive than males on the UHC health services. Discriminant analysis results identified that the accessibility dimension is the most differential factor in the service quality dimension. Regression analysis found that responsiveness is the most influential factor to satisfy the service receivers, and accessibility and empathy influence moderately in bringing satisfaction.

As the research found significant gender differences in satisfaction level on health services of UHC, a gender-sensitive policy is required to ensure the gender balance in satisfaction level. Also, many doctors, developed machinery, nurses, and medical technicians should be increased

proportionately to deliver the proper treatment in rural Bangladesh. Training programs, including counseling to the service providers at UHC, will increase empathy and responsiveness toward service receivers who are mostly poor. Hospital authorities and service providers need to be due taken care of on responsiveness—ensuring prompt service delivery, availability of the required equipment required, quick diagnoses of diseases, and proper administer of allocated drugs. To increase empathy towards service receivers, the attentive and understanding mentality of the care providers and mental support need to be addressed. Ethical approval was taken from institutional board of Department of Public Administration, University of Dhaka. Verbal consent of taken from the respondents before taking their responses for the study.

Authors' Note

This article is not simultaneously submitted to any other journal for review or publication. Authors have no potential conflict of interest regarding this paper.


Declaration of Conflicting Interests


The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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