

# Assessment of Patient Satisfaction and Associated Factors at Impulse Hospital in Dhaka City During January to June 2023 After the COVID-19 Pandemic

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## Abstract

**Background:** Inpatient satisfaction levels in private corporate Hospitals are not adequately studied in Bangladesh. **Objective:** The study was undertaken to determine the socio-demographic characteristics of the inpatients and to assess their levels of satisfaction regarding healthcare services at Impulse Hospital, a private corporate institution in Dhaka City, Bangladesh. **Patients & Methods:** The present descriptive cross-sectional study was conducted with 117 Inpatients/Respondents at 250-bed Impulse Hospital, Dhaka, Bangladesh from January to June 2023 after the COVID-19 pandemic. The pretested questionnaire was used to collect data by face-to-face interviews relevant to the evaluation of Socio-demographic features; Status of patient satisfaction on the admission process; Standard of cleanliness at impulse hospital; Quality, Quantity, and taste of food and drink supplied; Nurse/Nursing related information; Ward attendance (PCA) related information; Doctor/Clinician related information; Process of release from hospital related information; Comments and suggestions by patients/respondents about overall management at Impulse Hospital, Dhaka. The satisfaction levels were noted on the questionnaire sheet as very good, good, fair, bad, and no answer according to the questionnaire and areas for assessment. Simple frequencies and percentages of all variables were used to find the relationship between dependent and independent variables. All necessary procedures regarding ethical issues were followed as laid down by the World Medical Association (WMA). **Results:** Among 117 inpatients/respondents, the majority of them i.e. 65 (55.5%) were in the age group of 21-40 years, 72 (61.5%) were males and 45 (38.5%) were females. Regarding qualification, family size and annual income, 63 (53.8%) were graduates, 83 (70.9%) were nuclear families and 34 (29.1%) were joint families and the income varied from 20001 to 50000 Taka (n=72, 81.5%) per month and by profession, they were private job holder (43, 36.6%) and business (31, 26.5%) and by religion mostly Muslims (n=102, 87.2%). Status of patient satisfaction on (1) The admission process was about 90.6%-91.5%; (2) Cleanliness varied from 87.2%-90.6%; (3) Quality, quantity,

and taste of food and drink ranged from 51.3%-89.5%. Quality of some foods was compromised as satisfaction level dropped to 24.7%-26.5%; (4) Nurse/Nursing services and their approach to inpatients varied from 75.2%-91.5% with good behavior and cooperation from nurses; (5) Cooperation and behavior of PCA also varied from 91.5%-93.2%; (6) Doctor/Clinician related information was excellent as inpatients satisfaction level varied from 93.2%-97.4% for various components such as visiting by doctor every day (97.4%), seen by the specialized doctor (93.2%) quick response during patients need (96.6%), answering to queries quickly (94.0%) and approach by clinicians (95.7%); (7) Very high percentage (97.4%) of inpatients were satisfied with the release process from hospital after treatment; (8) Finally, a large number of inpatients/respondents made comments and suggestion about overall management at Impulse Hospital with expressions as very good (31/117, 26.5%), good (67/117, 57.2%), fair (2/117, 1.7%), bad (4/117, 3.4%) and NA (13/117, 11.2%). **Conclusion:** Impulse Hospital has almost all the required facilities relevant to providing high-quality healthcare services in all sub-specialties of Medicine, Surgery, Obstructive & Gynaecology and Paediatrics, etc. However, more improvements are definitely needed in some areas of healthcare services such as food supply, cleanliness, and overall management of the hospital. Further studies should be conducted including more respondents and hospitals in Dhaka city with the aim of overcoming the deficiencies in the present study.

### Keywords

Inpatient, Patients Satisfaction, Corporate Hospital

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## 1. Introduction

Bangladesh is the seventh most populous country in the world and the population of the country is more than 18 core that will be nearly doubled by 2050 [1]. In Bangladesh, people face three important challenges in the healthcare delivery system such as improving quality, increasing access, and reducing cost. Among the three, quality of service is more important because it alone can influence patient satisfaction [2]. It is an indicator of healthcare quality service and is involved as an outcome measure. In December 2019, a new strain of coronavirus, severe acute respiratory syndrome coronavirus2 (SARS-CoV-2), was reported in Wuhan, Hubei Province, China. The disease caused by SARS-CoV-2 was named Corona Virus Disease-19 (COVID-19) by the World Health Organization (WHO) [3]. COVID-19 rapidly spread from Wuhan to other parts of Chinese regions and by mid-March 2020, cases have been reported from most countries worldwide [3, 4]. And on 11 March 2020, WHO raised the COVID-19 status to that of a pandemic disease [5]. In the COVID-19 pandemic situation, the quality of healthcare service and patient satisfaction have been affected due to the partial closure of departments, absence of doctors, nurses, and other staff, and shortage of medical supplies due to lockdowns of various countries of the world [6]. The Ministry of Health and Family Welfare, Bangladesh (MHFW, B) plans and implements public healthcare delivery through various healthcare infrastructures, from the national to the community level in Bangladesh [7].

In 1948, the WHO defined health as “A state of complete physical, mental, social and spiritual wellbeing and not merely an absence of disease or infirmity.” From this definition, it is clear that there are a lot of responsibilities upon the healthcare facilities or healthcare industry [8]. But this is difficult to achieve and if any country tries to achieve it, it needs cultural change, requiring time, commitment, political support, and changes of norms to overcome all the barriers against health [9]. Nowadays, patients are treated as an important consumer of the hospital. Every step should be taken for the satisfaction and benefit of the patient by the healthcare provider. Management should remember that expectation differs from person to person due to their different thoughts, feelings, and needs. So, healthcare providers should adopt a policy to take the opinion of the patients as users of the service. Then by analyzing their opinion make the standard level of all facilities in the hospital [10]. Patient satisfaction depends upon the patient’s expectations and in our country, most of the patients are not financially well off and their expectation levels are also not so high. They become happy to receive treatment, doctor’s counseling, and some free-of-cost medicine. They desire less waiting

time, easy access, and lower prices for outdoor tickets. Simple quality measures can satisfy patients who come from distant areas of the country. However, there are some limitations in the measurement of the status of service qualities of a hospital, as it is a very important research tool for administration and planning [11]. Patient satisfaction can be measured by focusing on different aspects of healthcare facilities proposed by Hall and Dornan such as Accessibility, Accessibility of service, Affordability, Interpersonal relations, Facilities, etc. [12].

A literature review has shown that there are only a few studies, but inadequate information on user's perception of the healthcare facilities and services after the emergence of COVID-19 reported from Bangladesh [13-16]. A 250-bed corporate hospital named 'Impulse Hospital' at Tejgaon, Dhaka, Bangladesh started functioning and rendering healthcare services to patients in September 2017. And it has provided successfully all forms of healthcare services during the COVID-19 pandemic. The present study was therefore undertaken to assess the inpatient satisfaction level at Impulse Hospital, Tejgaon in Dhaka City, Bangladesh from January to June 2023 after the COVID-19 pandemic. The general objective of the present study was to identify the level of satisfaction of inpatients in medical services; The specific objectives were to: (1) Determine the socio-demographic characteristics of inpatients/respondents and (2) Assess the level of satisfaction regarding facilities available in the hospital in post COVID-19 period.

## 2. Patients & Methods

The Present descriptive cross-sectional study was conducted with 117 inpatients and some of their parents/attendants at 250-bed Impulse Hospital, Tejgaon, Dhaka, Bangladesh from January to June 2023 after the COVID-19 pandemic. The inclusion criteria were the inpatients and some of their parents/attendants who accompanied the inpatients and agreed to participate in the study, otherwise excluded from the study.

The questionnaire was prepared relevant to the evaluation of patient satisfaction and the variables were categorized into the following: (1) Socio-demographic features i.e. age, gender, religion, family type and size, education level, job pattern, monthly income, etc.; (2) Status of patients satisfaction on admission process; (3) Standard of cleanliness at impulse hospital; (4) Quality, quantity, and taste of food and drink supplied; (5) Nurse/Nursing related information; (6) Ward attendance (PCA) related information; (7) Doctor/Clinician related information; (8) Release process from hospital related information; (9) Comments and suggestions by patients/respondents about overall management at Impulse Hospital, Dhaka.

At first, the structured questionnaire was developed in English, translated into Bangla, and pretested among ten inpatients at Impulse Hospital, and after necessary corrections, it was adopted finally. Data were collected through face-to-face interviews with inpatients/respondents. The satisfaction levels were noted on the questionnaire sheet as; very good, good, fair, bad, no answer (NA), etc., according to the questionnaire and areas for assessment [17]. All raw data were checked for completeness to exclude inconsistent and missing data. Simple frequencies and percentages of all variables were used to find the relationship between dependent and independent variables.

Regarding ethical issues, administrative permissions required were obtained from the authorities of the hospital and verbal informed consent was taken from the patients/respondents before the collection of data. Privacy and confidentiality of data were maintained strictly and patients/ respondents had the right to refuse or withdraw themselves from the study during data collection. All necessary procedures regarding ethical issues were followed as laid down by the World Medical Association (WMA) and Bangladesh Medical Research Council (BMRC) strictly [13, 18].

## 3. Results

The results of socio-demographic features i.e. age, gender, religion, family type and size, education level, job pattern, and monthly income of the patients/respondents are stated in Table 1. The assessment of inpatient satisfaction with the admission process, cleanliness, quality of food, nursing/nurses response, ward attendants response, doctor/clinician response, release from hospital-related information, and comments/suggestions by inpatients on overall management at Impulse Hospital are presented in Table 2, Table 3, Table 4, Table 5, Table 6, Table 7, Table 8, and Table 9, respectively.

The socio-demographic and educational status of the inpatients/respondents are stated in (Table 1). Among them, 65(55.5%) and 52(44.5%) were 21-40 years and  $\geq 41$  years respectively (Male: 72/61.5%, Female: 45/38.5%) Islam: 102/87.2%, others: 15/12.8%), About the family type and members, 83 (70.9%) were nuclear families with 49 (59.1%) and 34 (40.9%) having members  $\leq 4$  and  $\geq 5$  respectively and 34 (29.1) were having members  $\leq 4$  (01/2.9%) and  $\geq 5$  (33/97.1 %) respectively. Job patterns of the inpatients/respondents were students (4/3.4%), government services (26/22.3%), private jobs (43/36.6%), businesses (31/26.5%), and others (13/11.2%) respectively. Monthly income varied from  $\leq 20000$  to  $\geq 100000$  Taka as the following  $\leq 20000$  (13/11.2%), 20001-40000 (72/61.5%), 50001-

100000 (28/29.3%), and  $\geq 100000$  (4/3.4%) respectively.

**Table 1. Socio-demographic & Educational status of the respondents/patients (n=117)**

Socio-demographic features	Frequency (n)	Percentage (%)
<b>Age (Year)</b>		
21-40	65	55.5
$\geq 41$	52	44.5
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Gender</b>		
Male	72	61.5
Female	45	38.5
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Religion</b>		
Islam	102	87.2
Others	15	12.8
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Family type &amp; members</b>		
Nuclear	83	70.9
$\leq 4$	49	59.1
$\geq 5$	34	40.9
Joint	34	29.1
$\leq 4$	01	2.9
$\geq 5$	33	97.1
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Education Level</b>		
$\leq$ HSC	33	28.3
Graduate	63	53.8
$\geq$ Masters	21	17.9
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Monthly Income (TK)</b>		
$\leq 20000$	13	11.2
20001-50000	72	61.5
50001-10000	28	23.9
$\geq 100000$	4	3.4
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Job Pattern</b>		
Student	4	3.4
Government	26	22.3
Private	43	36.6
Business	31	26.5
others	13	11.2
<b>Total</b>	<b>117</b>	<b>100</b>

Status of patients satisfaction on admission process indicated that very high percentage were pleased about behavior and help by the staff at the reception (Good-107/91.5%, Fair-8/6.8%, Bad-2/1.7%); Patients/respondents received answers to their questions regarding medical services and expenses at Impulse Hospital (Yes-106/90.6%, No-4/3.4%, NA-7/6.0%); Majority of patients responded that time taken for their admission were 30 min (102/87.1%), 60 min (12/10.2%), and > 60 min (3/2.7) (Table 2). The standard of cleanliness inward/cabin, toilet, bed, dress, etc., was excellent (yes-106/90.6%, No-8/6.2%, NA-3/3.6%), and behavior cooperation from the cleaners was very much satisfactory (good-102/87.2%, fair-11/9.4%, bad-2/1.7%, NA-2/1.7%) (Table 3). Quantity of foods supplied was very much reasonable (Correct-100/85.5%, Over-6/5.1%, Less-7/6.1%, NA-4/3.5) and also quantity/taste of foods was also well maintained (good-79/67.6%, fair-29/24.7%, bad-5/4.3%, NA-4/3.4%); All meals were reasonably good (71/60.7%), except that some in the morning (20/17.1%), noon (12/10.2%) and night (11/9.5%) were not so good (3/2.5%) patients did not make any comments (Table 4).

**Table 2. Status of Patient's Satisfaction on Admission Process**

<b>Behavior of, and help by, staff at the reception?</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Good	107	91.5
Fair	8	6.8
Bad	2	1.7
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Given answers to your questions regarding medical services?</b>		
Yes	106	90.6
No	4	3.4
NA	7	6.0
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Time Taken for patient's admission?</b>		
30 min	102	87.1
60 min	12	10.2
> 60 min	3	2.7
<b>Total</b>	<b>117</b>	<b>100</b>

**Table 3. Standard of Cleanliness at Impulse Hospital**

<b>Ward/Cabin, Toilet, Bed, dress, etc. clean enough?</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	106	90.6
No	8	6.8
Neither Yes/NO	3	2.6
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Behavior and cooperation/help from cleaners?</b>		
Good	102	87.2
Fair	11	9.4
Bad	1	0.8
NA	3	2.6
<b>Total</b>	<b>117</b>	<b>100</b>

**Table 4. Quality, Quantity & Taste of Food and Drink Supplied?**

Quality and quantity of food and drink served?		
Correct	100	85.5
Over	6	5.2
Less	7	5.9
NA	4	3.4
<b>Total</b>	<b>117</b>	<b>100</b>
Taste and quality of food supplied?		
Good	79	67.6
Fair	29	24.7
Bad	5	4.3
NA	4	3.4
<b>Total</b>	<b>117</b>	<b>100</b>
If not good, which meal you did not like?		
All meals good	60	51.3
Morning	30	25.6
Noon	13	11.2
Night	11	9.4
NA	3	2.5
<b>Total</b>	<b>117</b>	<b>100</b>
Serving of food and delivery were neat and clean?		
Yes	105	89.7
No	3	2.6
NA	9	7.1
<b>Total</b>	<b>117</b>	<b>100</b>

Nursing services were much appreciated for prompt response by the nurse at the time of patient need (10 min: 88/75.2%, 15 min: 22/18.8%, 30 min: 3/2.6, NA: 4/3.4%) and patients were quite satisfied with this behavior and cooperation (good: 107/91.5%, fair: 8/6.8%, bad: 0/0.0%, NA: 2/1.7%) (Table 5). Similarly ward attendant (PCA) extended this full cooperation to the patients (Yes: 109/93.2%, No: 3/2.6%, NA: 4/4.2%) and the patients expressed this satisfaction were the behavior of the PCA (Yes: 106/90.6%, No: 6/4.3%, NA: 6/5.1%) (Table 6). Doctor/clinician-related information showed that a high percentage of the patient were seen by doctors (Yes: 114/97.4, No: 2/1.7%, NA: 1/0.9%); and also, by a specialist clinician (Yes: 109/93.2%, No: 6/5.1%, NA: 2/1.7%) every day; They responded were rapid during patients need (Yes: 113/96.6, No: 2/1.7%, NA: 2/1.7%); Also, they gave the answer to all queries regarding all aspect of treatment (Yes: 110/94.0%, No: 3/2.6%, NA: 4/3.4%); Patients were highly satisfied with approach and behavior of doctor/clinician (Yes: 112/95.7, No: 2/1.7%, NA: 3/2.6%) (Table 7). During release from the hospital, patients were briefed in detail about this treatment plan, diet, and next visiting time, etc. (Yes: 114/97.4%, No: Nil/0.0%, NA: 3/2.6%) (Table 8). Finally, patients expressed their strong positive feelings and made some comments and suggestions about overall management at Impulse Hospital, Tejgaon, Dhaka, Bangladesh (Very good: 31/26.5%, Good: 67/57.2%, Fair: 2/1.7%, Bad: 4/3.4, Na: 13/11.2%) (Table 9).

**Table 5. Nurse/Nursing Related Information**

After how much time nurse respond at the time of need for patient?		
	Frequency (n)	Percentage (%)
10 min	88	75.2
15 min	22	18.8
30 min	3	2.6
NA	4	3.4
<b>Total</b>	<b>117</b>	<b>100</b>
How was the behavior and cooperation of nurses?		
	Frequency (n)	Percentage (%)
Good	107	91.5
Fair	8	6.8
Bad	0	0.0
NA	2	1.7
<b>Total</b>	<b>117</b>	<b>100</b>

**Table 6. Ward Attendant (PCA) Related Information**

<b>Did you get the cooperation of the ward attendant (PCA)</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	109	93.2
No	3	2.6
NA	5	4.2
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Was the behavior of PCA satisfactory?</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	106	90.6
No	5	4.3
NA	6	5.1
<b>Total</b>	<b>117</b>	<b>100</b>

**Table 7. Doctor/Clinician Related Information?**

<b>Did doctor see you every day?</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	114	97.4
No	2	1.7
NA	1	0.9
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Did Specialist doctor/clinician see you regularly?</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	109	93.2
No	6	5.1
NA	2	1.7
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Did doctor respond rapidly/quickly during patient need?</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	113	96.6
No	2	1.7
NA	2	1.7
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Did doctor give answer to your queries regarding treatment i.e. treatment process, outcome, counselling explanation about</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	110	94.0
No	3	2.5
NA	4	3.4
<b>Total</b>	<b>117</b>	<b>100</b>
<b>Were you satisfied about doctor's behavior?</b>		
	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Yes	112	95.7
No	2	1.7
NA	3	2.6
<b>Total</b>	<b>117</b>	<b>100</b>

**Table 8. Release from hospital-related information**

Were details of treatment, medicine, suggestion, diet and next treatment/ visiting time, etc. well mentioned in the hospital release letter?		
	Frequency (n)	Percentage (%)
Yes	114	97.4
No	0	0.0
NA	3	2.6
<b>Total</b>	<b>117</b>	<b>100</b>

**Table 9. Impression about management at Impulse Hospital**

Comments and suggestions by patients/respondents about overall management		
	Frequency (n)	Percentage (%)
Very Good	31	26.5
Good	67	57.2
Fair	2	1.7
Bad	4	3.4
NA	13	11.2
<b>Total</b>	<b>117</b>	<b>100</b>

#### 4. Discussion

Although the health status of developing countries of the world is not so satisfactory, the efforts of Bangladesh to improve its healthcare system have increasingly emphasized the quality of care [14-16]. Patient satisfaction is an important determinant as an outcome for the quality of care provided by a healthcare institution/hospital [19, 20]. The present study was conducted at Impulse Hospital in Dhaka city among 117 inpatients/respondents with an aim to assess the patient's perceived satisfaction with services. Among 117 inpatients/respondents, the majority of them i.e. 65 (55.5%) were in the age group of 21-40 years, 72 (61.5%) were males and 45 (38.5%) were females. Regarding qualification, family size, and monthly income, 63 (53.8%) were graduates (highest percentage) 83 (70.9%) were nuclear families and 34 (29.1%) were joint families and monthly income was 20,001 to 50,000 (n=72, 81.5%). By profession, they were private job holders (43, 36.6%) and business (31, 26.5%), and by religion mostly Muslims (n=102, 87.2%) (Table 1). Patient satisfaction with services provided by the hospital was assessed based on information about the admission process, cleanliness, quality of food, Nursing service, word attendant service, doctor/clinician approach to patients, release process from hospital, comments and suggestions by inpatients/respondents as stated in Table 2, Table 3, Table 4, Table 5, Table 6, Table 7, Table 8, and Table 9 respectively.

Status of patients satisfaction at Impulse Hospital on (1) Admission process was about 90.6%-91.5% (Table 2); (2) Cleanliness varied from 87.2%-90.6% (Table 3); (3) Quality, quantity and taste of food & drink ranged from 51.3%-89.5%; quality of some foods were compromised as satisfaction level dropped to 24.7%-26.5% (Table 4); (4) Nurse/Nursing services and their approach to inpatients varied from 75.2%-91.5% with good behavior and cooperation from nurses (Table 5); (5) Cooperation and behavior of PCA also varied from 91.5%-93.2% (Table 6); (6) Doctor/Clinician related information were excellent as inpatients satisfaction level varied from 93.2%-97.4% for varies components such as visiting by doctor everyday (97.4%), seen by specialized doctor (93.2%) quick response during patients need (96.6%), answering very as queries (94.0%) and approach by clinicians (95.7%) (Table 7); (7) Similarly, very high percentage (97.4%) of inpatients were satisfied about the release process from hospital after treatment (Table 8); (8) Finally, large number of inpatients/respondents made comments and suggestions about overall management at Impulse Hospital with expressions varied as very good (31/117, 26.5%), good (67/117, 57.2%), fair (2/117, 1.7%), bad (4/117, 3.4%) and NA (13/117, 11.2%) (Table 9). Therefore, Impulse Hospital has almost all the required facilities relevant to providing satisfactory high-class quality healthcare services in all sub-specialties of Medicine, Surgery, Obstetrics & Gynaecology and Paediatrics, etc. However, further improvements are definitely needed in some areas of healthcare services such as food supply, cleanliness, and overall management at Impulse Hospital, Dhaka, Bangladesh.



According to Donabedian's healthcare model, improvements in the structure of care should lead to improvements in clinical processes that should in turn improve patient outcomes. Donabedian model for healthcare quality i.e. structure → process → outcome (S+P= O) was universally accepted and has been used in the literature practically [21-24]. Clients i.e. patient satisfaction, according to Donabedian, is an outcome measure of the quality of healthcare [23, 24]. It offers information on the provider's success at meeting expectations of most relevance to patients. Measures of patient satisfaction are important tools for administration, planning, and research to evaluate the process of healthcare in a hospital [15, 24-26]. In this regard, the Inpatients Quality Indicators (IQIs) and Patient Safety Indicators (PSIs) developed by the Agency for Healthcare Research and Quality (AHRQ) in collaboration with Evidence-based Practice Center (EPS), USA and the Process of Care Indicators (PCIs) developed by Center of Medicare and Medicaid Services (CMS), USA are important to be implemented and followed their effectiveness to determine and maintain quality of healthcare services in private corporate hospitals [19, 20, 27, 28]. Recently, Giasuddin *et al.* reported their study results on the status of quality and compliance to IQIs and PSIs in a selected private hospital in Dhaka city, Bangladesh and the findings suggested that the selected hospital's healthcare services were demanding and its authority was concerned about quality services [29].

## 5. Conclusion

In conclusion, keeping in mind Donabedian's proposals and IQIs, PSIs, and PCIs, further studies should be recommended including many more respondents and private corporate hospitals in Bangladesh with the aim of overcoming the deficiencies and difficulties in improving the quality of healthcare services and thus achieving highest satisfaction level among patients.

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