



PATIENTS' PERSPECTIVE OF THE QUALITY OF MEDICAL CARE RECEIVED AT AYUB TEACHING HOSPITAL, ABBOTTABAD.

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ABSTRACT

Introduction: Patient satisfaction is increasingly being perceived as a dimension of the quality of hospital care along with clinical safety and effectiveness because it gives insight into the internal aspects of hospital care. We aimed to record the level of patient satisfaction at the different dimensions of patient satisfaction from the services received at Ayub Teaching Hospital (ATH), Abbottabad. Through it, we hope to bring a positive impact on healthcare facilities and patient satisfaction at this facility.

Methodology: This cross-sectional study was carried out on admitted patients at ATH, Abbottabad. Data was collected on a structured questionnaire consisting of the patient satisfaction questionnaire 18 along with socio-demographic parameters from 351 volunteered participants. Ten in-patients for more than three days were included by lottery method from each ward of the hospital. Data was analyzed using SPSS version 25. Participants' characteristics are presented in frequencies, percentages and mean with standard deviations where applied. P-value of <0.05 was considered statistically significant.

Results: Mean of the overall satisfaction score was calculated at 69.77 ± 9.314 (3.88 ± 0.5275) indicating a good level of satisfaction. When correlated with the studied independent variables, it showed a statistically significant difference only in the occupation sub-factors. Respondents with higher education and urban dwellers indicated a significantly higher level of satisfaction in financial aspects and communication.

Conclusions: Achieving the optimum level of patient satisfaction should be the set goal. Hospital administration should arrange training workshops for the staff on diverse topics of significance and take initiatives to mitigate patient grievances in all the domains of patient satisfaction in order to improve the overall level of patient satisfaction.

Keywords: Patient Satisfaction, Patient Satisfaction Questionnaire 18, PSQ III, Medical Care, Healthcare Services.

INTRODUCTION

Every hospital aims to provide quality health care to its patients. ¹ Hospital administration tries its best to achieve certain standards of quality of services to satisfy its clients however, often, hospitals do not perform at their optimal level such that the patients/ clients feel dissatisfied. ² Patient satisfaction depends upon various factors including, but not limited to, the competence of the doctors and allied staff, availability of necessary equipment used for investigative and diagnostic purposes, time given to the patient, positive hospital atmosphere, and effective communication between patient and health care providers. ^{2, 3} Private hospitals having a variety of high-tech instruments are considered better but are also horrendously overpriced for the common masses, leading to a cycle of frustration and skepticism. ⁴ To break this cycle, Pakistan has recently introduced the sehat sahulat programme (SSP) to achieve universal health coverage. ⁵ It is believed to play a positive role in improving HDI by ensuring the provision of free health care. ⁶

Patient satisfaction is increasingly being perceived as a dimension of quality of hospital care along with clinical safety and effectiveness because it gives insight into the internal aspects of hospital care such as communication with staff, empathy from staff perceived by the patients, and the patient's perspective of what gives them satisfaction and what their needs are from the healthcare facility. ⁷ The knowledge about the behavioral consequences of satisfaction is useful in formulating health policy. ⁸ Satisfied respondents are less likely to report having seen multiple physicians or having changed providers during that time. ⁸ The major outcomes of patients' satisfaction include continuity and follow-up care. ^{8, 9}

Tools like HCAHPS, SERQUAL, SERVPREF technique, PSQ III, and others have been applied to quantify the patient's perception of their experience and satisfaction with services provided in a hospital. ^{9- 11} Each technique has its strengths and weakness, as studies have found them to be lacking in one way or another, strengthening the point that patient satisfaction is dependent on multiple variables. ^{12, 13} To quantify the different factors which affect patient's perception of satisfaction from the quality of care that they receive, we used the patient satisfaction questionnaire PSQ18 which is the short form of the patient satisfaction questionnaire III, a validated, reliable and adaptable tool that could be used in various settings. ^{14, 15}

We aimed to record the level of patient satisfaction at the different dimensions of patient satisfaction from the services received at Ayub Teaching Hospital (ATH), Abbottabad. Through it, we hope to bring a positive impact on healthcare facilities and patient satisfaction at this facility. An article was published in 2017 and conducted in the outpatient department of ATH using the SERQUAL technique to assess the gap in the actual services delivered to that of the patient's expectations. ¹⁶ As per our knowledge, no study has ever been conducted to have investigated the in-patient level of satisfaction with the services availed in MTI-ATH. Therefore, it is considered beneficial for the administration/policymakers to get to know the general perception of the patients about the standards of care provided at MTI-ATH, especially after the recent introduction of SSP facility. ⁵

MATERIAL AND METHODS

This cross-sectional, descriptive study was conducted at Ayub Teaching Hospital (ATH), Abbottabad. Taking the confidence interval at 95%, 5% the margin of error, the proportion of patient satisfaction at 59.1%, and the targeted population size of 1400 (hospital inpatient capacity), a sample size of 294 was calculated. 351 patients participated in this research, which took place from 10th January to 10th February 2022. In-patients for at least three days were selected via lottery

method from each ward of ATH. The sample size from each ward corresponded to the number of beds allotted to each ward. The questionnaire, originally in English was translated into the local language (Urdu) and retranslated into English to preserve its connotation. After informed consent, data were collected on a structured questionnaire. This was done in a face-to-face interview, to have a quantified objective experience. The response was quantified on the Patient Satisfaction Questionnaire 18, having a scale of 1 to 5, with 1 strongly agreeing with the statement of the question and 5 suggesting strong disagreement. For pediatric/ underage patients, the response of either parent/ guardian was recorded in the questionnaire.

The tool patient satisfaction questionnaire 18 (PSQ 18) consists of seven domains; General satisfaction, Technical quality, Interpersonal manner, Communication, Financial aspects, accessibility and convenience, and Time spent with the doctor. Scoring of Patient satisfaction questionnaire 18 was done according to the developer guidelines. Respondents' (patients') participation was volunteered after informed consent, thus, fulfilling the objective, irrespective of age and gender. Only in-patient for more than three days was included by lottery method from each ward. Participants' characteristics are presented in frequencies, percentages, and mean (\pm) SD where applied. Shapiro-Wilk test ($p > 0.05$) was used when the PSQ18 subscales and total scores were normally distributed. For comparison of independent (grouping variables: gender, job title, residence, education level, previous exposure, and days to admission) and domains of PSQ 18 (test variables: General satisfaction, Technical quality, Interpersonal manner, Communication, Financial aspects, accessibility and convenience, and Time spent with the doctor and total score), independent samples t-test was applied to normally distributed data, while Mann-Whitney U test was used for non-parametric data. Data were entered into and analyzed on SPSS version 25. A P-value of < 0.05 was considered statistically significant.

RESULTS

The general characteristics of the study participants are shown in table 1. A total of 351 patients were included in this survey, of which 161 (45.9%) were males and 190 (54.1%) were females. Most of our patients were illiterate (36.8%), and hailing from rural areas (65.6%). While 28.8% had a high school education, only 19.1% had a degree from a university. Keeping the literacy rate in mind, it came as no surprise that the majority of our female participants 166 (47.3%) were housewives while most of the males (13.4 %) were laborers.

The age of the study participants and the time (days) to admission are shown in table 2. The mean age of the participants was 40.57 ± 15.64 years. The minimum age of the respondent was 18 years because the questionnaires were filled by the first attendant (Guardian/ Parent) of underage patients. Table 3 shows the statistics for PSQ-18 subscales and constituent items with mean and SD. As per the scale, the overall satisfaction level of the respondents was good. All the subscales yielded a good level of satisfaction (mean value ranges from 3.76-5) except the communication and financial aspect which yielded a moderate level of satisfaction (with a mean value range of 2.51- 3.75).

Table 4 shows the correlation of PSQ 18 subscales and the various parameters under study. Correlation of the educational background with the PSQ subscales showed that those respondents who had higher education showed a statistically significant higher level of satisfaction only in the financial aspect.

We observed that the occupation of the patient affected the general satisfaction, technical quality, communication, and time with the doctor. Our data shows that laborers had the highest overall satisfaction score of 4.06 ± 0.49 ; housewives 3.9 ± 0.53 , farmers having only 8.3% representation in the consensus gave a score of 3.7 ± 0.39 , whereas healthcare workers themselves rated the overall satisfaction at 3.9 ± 0.35 . The difference in the level of satisfaction of people from different occupations was statistically significant.

Residence correlation showed that the interpersonal manner, communication, and financial aspect for the urban dwellers were significantly higher than for the rural dwellers. The difference in the overall satisfaction scores was statistically not significant for the residents of the patients.

A statistically significant difference was found in the interpersonal manners in those who had previous exposure, giving a higher score. The p-value was found insignificant for the rest of the subscales.

No significant correlation was found between the PSQ 18 subscales or the overall satisfaction score and gender or the days to admission.

The sum of all the subscales of PSQ 18 also called the overall satisfaction score is shown in figure 1. The Mean of the overall satisfaction score was calculated at 69.77 SD 9.314, the median was 70 and the mode was 71. The overall satisfaction scores when correlated with the different independent variables showed a statistically significant difference only in the occupation sub-factors. No statistically significant difference was seen in the overall satisfaction scores of any of the other studied variables.

Table 5 shows the spearman's rho correlation between the overall satisfaction score and the age of the respondents in years. As can be seen, no statistically significant correlation was found between the age of the patient and the overall satisfaction score of the patients.

Table 1: General characteristics of the study participants

Gender Distribution	Frequency	Percent
Male	161	45.9
Female	190	54.1
Job Title		
Housewife	166	47.3
Farmer	29	8.3
Laborer	47	13.4
Teacher	14	4.0
Healthcare worker	10	2.8
Retired	32	9.1
Student	29	8.3
OTHER	9	2.6
forces	15	4.3
Education level		
nil	129	36.8
middle Pass	54	15.4
matric Pass	101	28.8
higher education received	67	19.1
Previous Exposure		
Yes	21	6.0
No	26	7.4
Total	47	13.4
Missing values	304	86.6
Residence		
Rural	230	65.5
Urban	121	34.5
Days to admission		
3 to 5	236	67.2
6 to 10	94	26.8
>10	21	6.0

Table 2: Age of participants and days since admission

	Minimum	Maximum	Mean	Std. Deviation
Age in years	18.00	90.00	40.5726	15.64352
Days since admission	3.00	21.00	5.4501	3.27365

Table 3: Statistics for PSQ-18 subscales and constituent items

PSQ-18 subscales and constituent items	Mean	SD	Level of satisfaction
General satisfaction	3.89	.64892	Good
The medical care I have been receiving is just about perfect	4.01	.70506	Good
I am dissatisfied with some things about the medical care I receive	3.78	.81883	Good
Technical quality	4.04	.55597	Good
I think my doctor's office has everything needed to provide complete care.	3.76	.84672	Good
Sometimes doctors make me wonder if their diagnosis is correct.	4.03	.82595	Good
When I go for medical care, they are careful to check everything when treating and examining me.	4.13	.68969	Good
I have some doubts about the ability of doctors who treat me	4.25	.63904	Good
Interpersonal manner	4.11	.60984	Good
Doctors act too business-like and impersonal to me.	3.96	.80803	Good
My doctors treat me in a very friendly and courteous manner	4.26	.67487	Good
Communication	3.74	.79354	Moderate
Doctors are good about explaining the reason for medical tests.	3.58	1.19732	Moderate
Doctors sometimes ignore what I tell them.	3.90	.86306	Good
Financial aspects	3.49	.98737	Moderate
I feel confident that I can get the medical care I need without being set back financially.	3.48	1.08711	Moderate
I have to pay for more of my medical care than I can afford.	3.50	1.08199	Moderate
Time spent with the doctor	3.97	.71145	Good
Those who provide my medical care sometimes hurry too much when they treat me.	3.87	.88270	Good
Doctors usually spend plenty of time with me.	4.07	.78051	Good
Accessibility and convenience	3.80	.61355	Good
I have easy access to the medical specialists I need	3.73	.92233	Moderate
Where I get medical care, people have to wait too long for emergency treatment	3.73	.84655	Moderate
I find it too hard to get an appointment for medical care right away.	3.81	.79071	Good
I can get medical care whenever I need it.	3.95	.75075	Good
Summation All	69.77 (3.88)	9.31 (0.5275)	Good

The mean value from 1-2.50 means a Weak level of satisfaction, 2.51-3.75 means a Moderate level of satisfaction, and 3.76-5 means a good level of satisfaction.

Table 4: PSQ 18 Subscales VS Gender, Education, Occupation, Residence, Days of Admission and Previous exposure

Variables	Patient Satisfaction Questionnaire 18 Domains							Mean Sum All Mean SD
	Gen Sat	Tech Qual	Interper Manner	Comm	Finan Asp	Time with doc	Access	
	Mean SD	Mean SD	Mean SD	Mean SD	Mean SD	Mean SD	Mean SD	
Gender								
Male	3.8416	3.9891	4.1273	3.7733	3.3913	3.9565	3.9789	3.8558
Female	3.9342	4.0789	4.0974	3.7105	3.5737	3.8168	3.7947	3.8936
P value	0.087	0.08	0.593	0.917	0.076	0.366	0.338	0.165
Education								
Nil	3.8798	3.9709	4.0194	3.6163	3.2442	3.9690	3.8004	3.8079
Middle	4.0556	4.1019	4.1944	3.7407	3.6019	4.1111	3.9815	3.9856
Matric	3.8168	4.0347	4.1287	3.7822	3.5099	3.9455	3.8193	3.8768
Higher	3.8955	4.1194	4.1940	3.9104	3.8433	3.8881	3.6493	3.9187
P value	0.134	0.511	0.405	0.285	0.001	0.423	0.262	0.334

Occupation								
House wife (166)	3.9458	4.0873	4.0934	3.7199	3.5753	4.0000	3.8012	3.9013
Farmer (29)	3.7931	3.8621	3.9655	3.5345	3.0517	3.7586	3.7931	3.7126
Labor(47)	4.1277	4.1915	4.2766	3.9574	3.4681	4.2340	4.0798	4.0674
Teacher (14)	3.8214	4.0893	4.4286	3.8214	3.8571	3.8571	3.6250	3.9127
Healthcare worker (10)	3.9000	4.2250	4.2500	3.5000	3.5000	3.8500	3.8250	3.9000
Retired (32)	3.6406	3.7812	4.1250	3.3437	3.4531	3.9375	3.8047	3.7413
Student (29)	4.0000	4.1724	3.9828	4.0000	3.5172	3.9310	3.7931	3.9291
Forces (15)	3.4000	3.7333	4.0000	4.0000	3.4333	3.7667	3.5000	3.6741
Other (9)	3.4444	3.5833	3.9444	3.8889	3.0000	3.5556	3.2778	3.5062
P value	0.000	0.000	0.050	0.008	0.136	0.026	0.090	0.005
Residence								
Rural	3.8935	3.9902	4.0783	3.6739	3.3022	3.9609	3.8098	3.8343
Urban	3.8884	4.1281	4.1736	3.8636	3.8471	3.9835	3.7955	3.9559
P value	0.482	0.053	0.031	0.049	0.000	0.963	0.269	0.128
Days of admission								
3- 5	3.9174	4.0371	4.1271	3.8030	3.5381	3.9915	3.8125	3.8974
6- 10	3.8670	4.0426	4.1011	3.6383	3.4787	3.9681	3.7739	3.8540
>10	3.7143	4.0238	3.9762	3.4762	3.0000	3.9687	3.8048	3.7381
P value	0.580	0.939	0.389	0.095	0.078	0.173	0.965	0.575
Previous exposure								
Yes	4.05 ± .76	4.1 ± .54	4.43 ± .43	3.9 ± .62	3.33± 1.04	4.00± .77	4.21± .54	
No	3.83 ± .49	3.94 ± .53	4.00 ± .40	3.75± .47	3.33± .811	4.02± .64	3.85± .66	
P value	0.125	0.420	0.001	0.165	0.956		0.056	

Independent samples Kruskal Wallis Test; Independent samples Mann Whitey's U Test

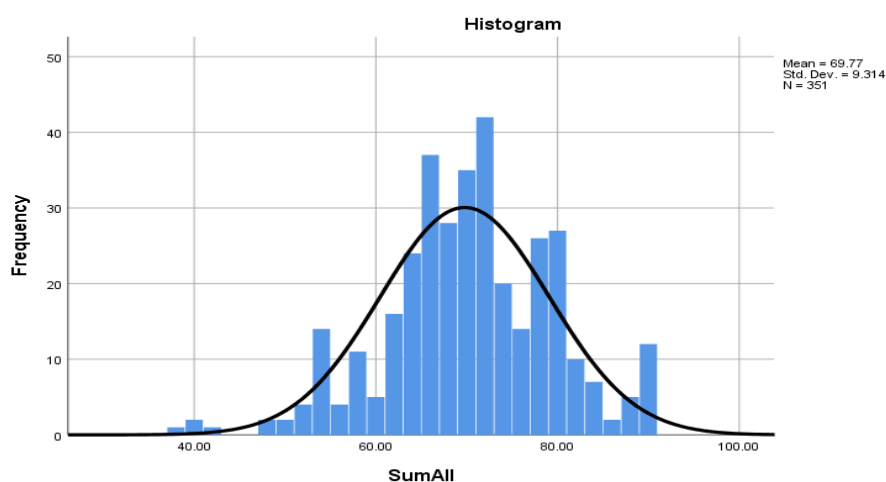


Figure 1: Sum of all the PSQ 18 subscales

Table 5: Correlation between the overall satisfaction score and Age in years

			Sum All	Age in years
Spearman's rho	Sum All	Correlation Coefficient	1.000	.013
		Sig. (2-tailed)	.	.815
		N	351	351
	Age in years	Correlation Coefficient	.013	1.000
		Sig. (2-tailed)	.815	.
		N	351	351

DISCUSSION

Patient satisfaction forms the incarnation of the hospital's strength in modern hospital management. ² Patient satisfaction surveys provide cognizance and understanding of the patient's outlook on the quality of healthcare but satisfaction scores alone cannot be considered a reliable measure of the quality of care as it is not affected by the outcome of the treatment or complication rates. ¹² The lack of negative impact of adverse treatment outcomes on the patient satisfaction scores might be due to the positive attitude and mannerisms of the healthcare team towards the patients and may not be related alone to the quality of treatment received by the patient. ¹⁷ A hospital's is more likely to get recommended based on better patient-nurse interaction than the medical treatment provided. ⁸

Our results showed that the overall satisfaction scores' mean value lies at the lower limit of the good range of the level of satisfaction. The range of the values included in the good level of satisfaction included 3.76- 5 and our calculated mean value for the overall satisfaction score was 3.88 ± 0.5275 . The high value of the standard deviation shows that there is a need for improvement in the quality of service. The scores of satisfaction were lower in the financial aspects and accessibility and convenience of the questionnaire. Investigating the paramount factors that influence patient satisfaction, Fang J et al. reported that medical staff service attitude, service quality, and hospital convenience had a significant effect on patient satisfaction. ² Evaluating data from 999 hospitals from all across Germany, researchers reported the mean rating of patients' satisfaction for the quality of hospital care dimensions including medical care, nursing care, organization and services, and general satisfaction to be 81.5%. ⁷ In a prospective study on the impacts of various components on the level of patient satisfaction, the amount of time spent with the doctor was not found to be associated with the satisfaction scores; although, the teamwork of staff/ provider was reported to be associated with the overall quality of care ($p \leq 0.03$). ¹⁸

Independent samples Kruskal Wallis Test, Independent samples Mann Whitey's U Test, and spearman's rho correlation of the PSQ subscales and the different independent variables such as the gender, age, and time (days) to admission indicating the length of stay in the hospital, education, residence and previous experience of this health facility were performed. Gender, days to admission, and age had no statistically significant effect on the subscales of PSQ or the overall satisfaction scores. Patients who had a previous experience in this facility were more satisfied in the interpersonal manner domain only. This could be because they had familiarity with the system and its working mechanism therefore, it becomes easier for the patients to adjust easily in the hospital.

In a study of data from 171 hospitals, the authors reported that the median length of stay in the hospital or favorable surgical outcome of the treatment and the level of patient satisfaction did not show any significant relation to any of the HCAHPS scores. ¹⁹ Quintana JM et al. analyzed the predictors of patient satisfaction in their study and reported that high satisfaction was associated with the increasing age of the patients. They also reported that patients having no schooling or primary education expressed a higher level of satisfaction. Their data also showed that previously admitted patients expressed lower satisfaction rates of some of the parameters including human care, comfort, and cleanliness. ²⁰

In this study, patients with higher education were more satisfied in the financial aspect only; the other subscales of satisfaction had no statistically significant difference for the people of different levels of education. The higher satisfaction in the financial aspect of the highly educated people could be because of the better employment and financial stability due to higher education. Similarly, urban dwellers were more satisfied with the interpersonal manner, communication, and financial aspects. These all are assumed to be because being more educated is related to having better job opportunities, knowledge of one's rights and being able to understand medical terms better, and being interested in discussing as well as able to understand one's health issues. In a study conducted to assess the level of satisfaction in diabetes mellitus patients in Pakistan with the doctor-patient interaction, a significant association of patient satisfaction was noted with technical expertise, interpersonal aspects, communication, time, and accessibility. ²¹ the authors also suggested working on the development of interpersonal and clinical skills of the healthcare staff to improve patient satisfaction and patient experience at the hospitals. ²¹ Gender, education, and occupation were also

found to have a statistically significant association with the level of patient satisfaction.²¹ A study conducted by Karaca A et al. in Istanbul to check the level of patients' satisfaction with the quality of nursing care reported a higher level of patient satisfaction among patients with higher education.²²

Our data shows that all the subscales of PSQ as well as the mean of the overall satisfaction score, with exception of the financial aspect, have a statistically significant difference among the subcategories of occupation. Laborers had the highest scores of satisfaction followed by teachers, housewives, and healthcare workers. Collectively they form 67.52% of the total sample. Their scores lay in the range of a good level of satisfaction. The scores of the rest of the occupation categories lay in the upper limits of moderate level of satisfaction. This difference in the level of satisfaction needs to be investigated properly with studies having a higher sample size with people participating equally from all the different occupations.

Patient satisfaction is predictive of patients' future behavior.⁸ If a health care facility provides better quality services; it retains its old clients as well as attracts new ones.²³ Studying the relationship between patient satisfaction with the received medical care and the subsequent healthcare provider change, Marquis MS et al. reported that 66% of the patient with the least satisfaction tertile changed their healthcare provider in the next year as compared to 42% of the most satisfied patients. They concluded that consumer satisfaction does predict provider change so much that one point decrease in general satisfaction with medical care increases the probability of the individual changing the healthcare provider by 3.4% in the next year.⁸ The mean value of the overall patient satisfaction score of 3.88 ± 0.5275 out of 5 means that there is room for improvement. The administration should focus on investigating the causes of the decreased satisfaction scores of the communication and financial dimensions of patient satisfaction and take remedial steps to ensure improvement in patient satisfaction at this facility. A mixed method study with a bigger sample size, including both in-patients as well as out-patients, should be carried out further to validate and quarry the areas of patient satisfaction that need improvement. Also, we recommend a healthcare provider satisfaction and burnout survey to be carried out to understand the nurse and doctor's perspective in this aspect as well.

Conclusions:

Although patient satisfaction was found to lie in the range of good level of satisfaction but achieving the optimum level of patient satisfaction should be the goal. The administration should arrange workshops for training the staff on communication skills, and doctor/nurse-patient relationships and take initiatives to mitigate patient grievances in all the domains of the patient's satisfaction.

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