

# Customer Relationship Management- A Study of Public & Private Hospitals in Punjab

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## **Abstract**

Healthcare sector in India comprises of both public and private sector. Revenues from healthcare sector account for almost 6.2% of GDP making it the 3rd largest segment in India. Various studies revealed that both public and private sector provide different services in different ways. On the basis of customer relationship management a big gap has been found between public expectation and perception. The purpose of this research paper is to examine the expectations and perception of the patients towards quality of medical/ dental services in the hospitals and to find various factors influencing the expectations of the patients with regard to various medical services in the hospitals. The comparative study has been conducted to analyze the customer care services provided in public and private sector hospitals. The study has been conducted vis-à-vis four hospitals in the city of Amritsar (Punjab). The sample consisted of 2 corporate hospitals and 2 public sector hospitals. The primary data is gathered with the help of a self-developed questionnaire. Factor analysis technique has been used for analysis of data. The result shows that the patients have attached highest expectations to the factors elaborating the caring abilities of the hospital staff, cleanliness and comfort in the hospital.

**Keywords:** CRM, Caring Ability, Cleanliness, Comfort, Factor Analysis

## **Introduction**

India's healthcare sector has been growing leaps and bounds. Revenues from Healthcare Sector account for almost 6.2% of GDP-making it the 3rd largest segment In India. Healthcare in India is provided by both Public and Private sector. An important feature of Indian healthcare system is that it is perhaps the largest community based tradition of indigenous system of medicine which includes Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy. Public sector is financed through General tax and non tax revenues from both internal and external agencies. Major role of Public sector is to plan, regulate and shape the Indian healthcare delivery system. It consists of Central State and local government run institutions. A large number of medical colleges, paramedical training institutions, laboratories, dispensaries, hospitals are a part of this system. Access to and utilization of public sector healthcare services varies from region-to-region as well as area-to-area.

Public sector accounts for 20-25% of the total healthcare expenditure which is approximately 1% Of the GDP (Peter et. al. 2002). As such the presence of public healthcare is not only weak but underutilized and inefficient. Annual per capita healthcare spending in public sector is higher than that at Bangladesh or Indonesia yet healthcare outcomes such as infant mortality are worse in India than in either of these countries (Peter et. al. 2002). Private sector is quite dominant in the healthcare sector i.e. around 80% of total spending on healthcare in India comes from private sector representing one of the highest proportions of private healthcare spending in the world. (National Commission of Macroeconomics 2005 and Peters et. al. 2002). Inadequate public investment in health infrastructure has given an opportunity to private hospitals to capture a larger share of the market. In addition the demand for hospital services has been increasing due to the rise in lifestyle related diseases. Private Healthcare system in India is highly diverse ranging from voluntary nonprofit, for profit corporate, trusts, diagnostic labs, pharmacy shops and unqualified health service providers. Many healthcare service providers are unregistered as reported by Deshpande et al (2004). Approximately 80% of all patient visits take place in private sector. The finding is Similar by Income group, urban and rural populations, by gender, by caste and by tribe affiliation and above and below poverty line Mahalet. al.(2001). Hospitalization and institutional deliveries (births) are shared almost equally between public and private sector. Preventive services such as antenatal care and immunization however are predominately given in public sector (60% of antenatal visits 90% of immunizations). Therefore the main thrust of public health sector is the provision by curative services.

### Quality of medical services

The test of efficiency for any healthcare institution is the consumer satisfaction (Goel and Kumar, 1989) thus, they must strive for maximum consumer satisfaction and consumer oriented services. Though, the consumer is the most important dimension on which the success of the organization depends but the factors like medical and therapeutical treatment, greater and refined medical and surgical knowledge, effective facilities and equipmentsetc, are the core factors for any health organization's effective performance and these factors cannot be ignored at any cost (Srivastava, 1973). The quality of medical service revolves around these factors as well. Thus, it is necessary that the health organizations should have a clear understanding of the concept of health care service product in order to provide maximum satisfaction to the patients.

On the other hand, full description of health care service product is incomplete unless it includes the expectations of the patients with regard to doctors, nurses, physical comfort

facilities etc, along with other technical qualities of the products (Flexner et. al., 1985). The health care service product as stated by Lytle and Mokwa (1992) is a unique combination of tangible and intangible benefits that should be adaptable to the needs of the patients. The consumer will be satisfied if the service quality confirms to their needs and requirements (Lytle and Mokwa, 1992 and Parasuraman et al., 1988). Greater the service conformance to the requirements of the consumers, the better will be the service quality and consequently greater will be the patient satisfaction (Parasuraman et. al., 1988).

### Review of literature

The application of quality-management practices by manufacturers and service providers has become increasingly widespread. Recognition of the differences between goods and services like intangibility, inseparability and heterogeneity of service products has enabled quality-management practitioners to develop approaches that have proved effective in improving service quality (Buttle, 1996; Berry and Parasuraman, 1991; Zeithaml et al., 1990).

The quality of service - both technical and functional - is a keyingredient in the success of service organizations Technical quality in healthcare is defined primarily on the basis of the technical accuracy of the diagnosis and procedures. Several techniques for measuring technical quality have been proposed and are currently in use in healthcare organizations (Gronroos, 1984). Functional quality in contrast, relates to the manner of delivery of health-care services. With competitive pressures and the increasing necessity to deliver patient satisfaction, the elements of quality control, quality of service, and effectiveness of medical treatment have become more important (Friedenberg, 1997). Several studies like (Butler et al., 1996, Kandampully, 1997 and Strasser et al., 1995) have proposed that significant variation exists between patient expectation of treatment quality and the perceived service quality of the treatment received and this is due to a number of factors related to the service quality of the treatment delivered. These studies indicated that a lower priority is placed on patients' non-clinical expectation of service quality. Carson et al. (1998) have stated that some professionals argue that customers' perception of quality service in health care is distorted due to the inability of patients to judge the technical competence of the medical practitioner with any accuracy. John (1996) believes that medical courses cover technical details and knowledge in detail but expect students to develop customer-service skills as they become more experienced. The focus of the medical practitioner on technical progress and knowledge is understandable, given the highly complex nature of the profession and the immense resources that are devoted to the education and training of doctors (Baldwin et a., 2002).

The above discussion on the subject, service quality and health services, leads to the conclusion that as patients are often unable to assess the technical quality of medical services accurately, functional quality, therefore becomes primary determinant of patients' perceptions of quality. This perceived quality is the single most important variable influencing consumers' perceptions of value and affects their future intention to purchase such services.

### **Research gaps and the agenda for future research**

The above review highlights some important studies on service quality, customer satisfaction and hospital services and brings to light the gaps and deficiencies in the respective areas. It conveys that in various countries a good deal of effort has already been made to study a large number of problems associated with service quality. In India unfortunately very little attention has been paid to study such problems. This may be due to the fact that services marketing in general and service quality in particular till recently, was not recognized as an area of significance in the socio-economic requirements of our country. Most Of the existing studies are by their nature, general and descriptive and lack empirical evidence. With a view to study service quality, with an objective and analytical approach, all the problems inhibiting the growth of research in the field will have first to be looked into.

In a liberalized environment, an analysis of service quality in hospitals has a vital significance, but in the city of Amritsar unfortunately, it was almost left out of in-depth analysis. The dynamic process of development coupled with structural, financial and technological changes have given birth to stiff competition not only from hospitals but also from non-hospital institutions. In view of these developments, there is a need to study quality of existing and new patient services, hospital patient relationship, service technology' and various other issues so as to meet growing needs of patients or customers and health officials.

Very little effort has so far been made to assess and develop the concepts, research methods and procedures used in research on service quality vis-à-vis hospital industry in the city of Amritsar. Other vital issues such as physical facilities available in a hospital convenient registration and admission procedure, treatment procedure, hospital patient relationship, service delivery, friendly staff, food services, cleanliness and comfort, physician care, nursing care which have direct bearing on service quality have rarely been touched with any empirical evidence. This calls for well-organized research and documentation centers, which are indispensable for the growth of health services marketing.

In conclusion, with a view to strengthen the analytical framework for studies in service quality, it is desirable to concentrate on the research efforts in the above-mentioned areas. With all above in the backdrop, the present study is

aimed to fill up this gap in the existing literature with following objectives:

### **Research Methodology**

#### **Objective of study**

1. To examine the Expectations and Perception of the patients towards quality of medical/ dental services in the hospitals under study.
2. To find various factors influencing the expectations of the patients with regard to various medical services in the hospitals under study.
3. To make suggestions on the basis of study results and Means for improving, customer care in hospitals in order to make hospital services more effective and efficient.

#### **Need for the study**

Healthcare along with Banking, Insurance, Education and many other institutions is covered under the Services Sector. Like other counter parts the complaints from hospitals are not uncommon. People have numerous complaints pertaining to the behavior of the staff (from doctors to class fourth), sanitary conditions, facilities of treatment, bribery, nepotism and many other evils. The most specific complaints about the hospitals are long waiting periods, overcrowded waiting rooms, OPD's and lack of civic amenities and absence of workable appointment system etc. Consumers' satisfaction is the pioneering point to understand marketing dynamism and is the most important aspect for the success of any organization (Cronin and Taylor, 1992). Satisfying consumer needs is considered as means to ends like competitive advantage, customer loyalty, long-term growth and survival in both commercial and non-commercial concerns (Gopala Krishna and Mummalaneni, 1993). Bolton and Drew (1987) while supporting this contention observed that consumer satisfaction is strongly related to quality of medical service and service quality is a pre-requisite of patient satisfaction. Our public health system is basically set up to provide adequate health care services to all. Despite the high priority given to this sector, there is growing evidence of its negative impact on the level of patient satisfaction. The government has spent vast amount on the infrastructure of hospitals, primary health centers, dispensaries etc. Despite such an elaborate network of territory, secondary and primary health care units, the quality medical service has not been improved and is still a neglected issue. Apart from this, the faith of patients in the efficiency of the public health system is decreasing day by day because of negligence and indifference on the part of hospital managements. The objective of establishing public health care units are not being realized and the money so far spent on it should be considered as wastage of public money. The widespread frustration among community, in particular

among the weaker section of our society with regard to public health care is quite evident. Intensified competition, mushrooming growth of private sector and scarcity of funds in the government sector have further aggravated the patient problems.

In the light of above research findings, quality of medical service is critical to the success of the hospitals particularly in today's increasingly competitive environment. In spite of the tremendous importance of customer care in health care services, it has been almost academically unexplored in the city of Amritsar, as such this study has been conducted to study the quality of medical services and its dimensions in government and private hospitals in the city of Amritsar.

### Type of study

The comparative study has been conducted to analyze the customer care services provided in public and private Sector hospitals.

### Area of study

The study has been conducted vis-à-vis four hospitals in the city of Amritsar (Punjab).

### Universe of the sample

The sample consisted of 2 corporate hospitals and 2 public sector hospitals. Further elaboration of the sample has been given as under:

Name of the hospital	Type of the hospital	Size of the sample withdrawn
Amandeep Hospital	Private Hospital	24
Escort Hospital	Private Hospital	21
Punjab Government and Dental Hospital	Government Hospital	22
Government Medical College	Government Hospital	27

### Data Collection

To achieve the objectives of the study data is collected mainly from the primary sources. The primary data is gathered with the help of a self-developed questionnaire.

### Data Analysis and Interpretation

The data analysis has been conducted on total number of forty two attributes constituting the study. The data analysis and interpretation with regard to the study is based upon the expectations of the patients towards quality of medical service in the hospitals under study and perception of the patients towards quality of medical service in the hospitals under study with reference to the same set of variables.

**Table 1:- Shows the Expectations and Perceptions of the Patients towards quality of Medical Service in Hospitals vis a vis respective variables.**

	Dimensions of Patient Care	Expected Mean Scores	Perception of Government Hospital (G.H)	Perception of Private Hospital (P.H)	Gap (Expected-Perceived) (G.H)	Gap (Expected-Perceived) (P.H)
1	Nurses are polite and sympathetic.	3.71	2.51	3.41	1.20	0.30
2	Nurses are prompt in their services.	3.83	2.42	3.53	1.41	0.30
3	Nurses are very intelligent	3.86	2.32	3.86	1.54	0
4	Nurses regularly interact with patients.	3.84	2.31	3.64	1.53	0.20
5	Nurses are supportive and helpful.	3.74	2.23	3.34	1.51	0.40
6	Nurses respond quickly when patients call them.	3.77	2.20	3.27	1.57	0.50
7	Nurses are confident and trustworthy.	3.72	2.14	3.52	1.58	0.20
8	Nurses treat patients with courtesy and respect.	3.72	2.12	3.22	1.60	0.50
9	Nurses answer questions/ queries of patients in the way they could understand.	<b>3.70</b>	<b>2.10</b>	<b>3.80</b>	<b>1.60</b>	<b>-0.1</b>
10	Corridors are neat and clean.	3.90	2.03	3.56	1.87	0.34
11	Bathrooms and toilets are clean and functioning.	<b>3.70</b>	<b>2.02</b>	<b>3.76</b>	<b>1.68</b>	<b>-0.06</b>
12	Waiting rooms are neat and clean.	<b>3.68</b>	<b>2.00</b>	<b>3.76</b>	<b>1.68</b>	<b>-0.08</b>
13	Bedding etc. is regularly changed.	3.98	2.87	3.45	1.11	0.53
14	Garments and curtains are fresh and clean.	3.46	2.85	3.43	0.61	0.03
15	Drinking water area is clean.	<b>3.98</b>	2.44	3.45	1.54	0.53

16	Ventilation and temperature of wards is excellent.	3.69	2.31	3.56	1.38	0.13
17	Floors are regularly cleaned.	3.66	2.66	3.46	1.00	0.20
18	Doctors are polite and sympathetic.	3.69	2.11	3.32	1.58	0.37
19	Doctors very prompt in their services.	3.73	2.11	3.34	1.62	0.39
20	Doctors are intelligent.	3.79	2.30	3.54	1.49	0.25
21	Doctors are supportive and helpful.	3.85	2.10	3.65	1.75	0.20
22	Doctors are able to instill confidence in patients.	3.89	2.27	3.34	1.62	0.55
23	Doctors explain the reasons for tests.	<b>3.90</b>	2.12	3.45	1.78	0.45
24	Doctors spent enough time on care and treatment of patients.	3.63	2.31	3.22	1.32	0.41
25	Doctors answer questions from patients in a way they could understand.	3.68	2.51	3.11	1.17	0.57
26	Doctors are confident and trustworthy.	3.60	2.18	3.50	1.42	0.10
27	The condition of patients improves after consulting the doctors.	3.60	2.14	3.32	1.46	0.28
28	The medicine's patients need is/are always adequately available	<b>3.99</b>	2.19	3.35	1.80	0.64
29	The medical test facilities are adequately made available to patients.	<b>3.98</b>	2.38	3.65	1.60	0.33
30	Result of tests comes quickly from the laboratory.	3.78	2.26	3.23	1.52	0.55
31	Blood bank services are excellent.	3.67	2.22	3.32	1.45	0.35
32	Overall procedure of treatment is excellent.	<b>3.97</b>	2.22	3.47	1.75	0.50
33	Method of explaining the result of tests is excellent	3.89	2.12	3.54	1.77	0.35
34	Patients get attention from nursing regarding drips and wounding dressing.	3.87	2.29	3.58	1.58	0.29
35	----- -----	3.76	2.27	3.36	1.49	0.40
36	Patients are treated with politeness.	<b>3.93</b>	3.11	3.58	0.82	0.35
37	Behavior of gate keepers is excellent.	3.43	2.32	3.53	1.11	<b>-0.10</b>
38	Employees at registration counter are polite and helpful.	3.81	<b>2.41</b>	<b>3.71</b>	<b>1.40</b>	<b>0.10</b>
39	Attendants act honestly when patients are in queue.	3.80	2.23	3.49	1.57	0.31
40	Employees providing admission and consulting tickets act honestly.	3.79	2.20	3.35	1.59	0.44
41	Overall procedure of registration is excellent.	3.77	2.14	3.38	1.63	0.39
42	Patients don't have to wait for too long to be attended to.	3.75	2.12	3.39	1.63	0.36

Source: Primary data

Table no.1 depicts the expectations and perceptions of patients of the hospitals under study with regard to various services and facilities provided by these hospitals. Under table no.1 mean scores for each variable under study has been shown with regard to expectations and perceptions of patients in the hospitals under study. The scrutiny of the mean score with regard to the expectations of the respondents for each variable depicts that respondents have given quite high importance to the services like doctors explaining the reasons for tests(V23, M=3.90), the

medicine's which patients need is/are always adequately available (V28, M=3.99), the medical test facilities are adequately made available to patients (V29, M=3.98), overall procedure of treatment should be excellent (V32, M=3.97), patients should be treated with politeness (V36, M=3.93), on the other hand least expectations have been attained when respondents have been asked that garments and curtains should be fresh and clean (V14, M=3.46) and behavior of gate keepers should be excellent (V37, M=3.43).

The scrutiny of weighted mean scores about perception of respondents with regard to various medical services provided by government hospitals reveals that almost on each attribute under study respondents have been found of the views that government hospitals under study are not performing according to the expectations of the respondents under study. Almost all of the attributes under study have been found quite low on the mean score depicting the views of respondents as they feel that government hospitals under study are not providing services upto the mark and as per their expected requirements. The scrutiny of the weighted scores further reveals that respondents believes that corridors are not much neat and clean(V10, M=2.03),bathrooms and toilets are not functioning properly (V11, M=2.02). Waiting rooms are not that neat and clean(V12, M=2.00).

As far as perception about various services provided by private hospitals are concerned the scrutiny of the concerned weighted scores reveal that respondents are of the view that private concerns are doing quite well with regard to attributes under study. The private hospitals under study are providing services very close to the expectations of the respondents. Further analysis reveals that in some areas respondents are of the view that these hospital are doing remarkable job as they are of the view that nurses working in these hospitals are very intelligent(V03, M=3.86) and nurses answer questions/ queries of patients in the way they could understand(V09, M=3.80) as depicted by considerable high mean scores.

While analyzing the gap between the expected and perceived scores vis-a-vis government hospitals with regard to various attributes under study, considerable gap have been found in most of the variables showing that government hospitals under study are not providing the services as expected by the respondents. Further scrutiny of the variable reveals that highest gap in expected and perceived scores have been found when respondents are asked about corridors being neat and clean (V10, Gap=1.87),the medicine's patients need is/are always

adequately available whenever needed (V28, Gap=1.80) and the taste of food is good in the hospitals is good. (V44, Gap=1.83). Whereas the least amount of gap have been found when respondents have asked about that floors of the hospitals are regularly cleaned (V17, Gap=1.17) and patients are treated with politeness (V36, Gap=0.82).

As far as the gap between the expected and perceived scores vis-a-vis private hospitals with regard to various attributes under study is concerned, not much difference have been found in most of the variables showing that respondents are of the view that private hospitals under study to the great extent are meeting the expectations of the respondents under study. Further analysis revealed that in many of the variables the perceived score have been found more as compared to the expected scores, this has been evident while studying the expectation perception gap, respondents have attached more significance to perceived value as compared to its expected value when they were asked that nurses answer questions/ queries of patients in the way they could understand(V09, Gap=-0.1),bathrooms and toilets are clean and functioning(V11, Gap=-0.06), waiting rooms are neat and clean(V12, Gap=-0.08), behavior of gate keepers is excellent(V37, Gap=-0.10), while no difference have been found in expectations and perceptions when respondents have been asked that nurses are very intelligent(V03, Gap=0.00).

#### Factor Analysis

Factor analysis is a technique which reduces a large set of dimensions in terms of comparatively few groups of variables, known as factors on the basis of correlation existing between these variables. With this in consideration, factor analysis has been performed on the set of forty two statements as described in questionnaire. Scrutiny of correlation matrix revealed a significant amount of correlation within various variables under study, after satisfying the major assumption of the test we proceeded ahead for inferring further results of the factor analysis test.

**Table No.2 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		<b>.909</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	3690.257
	Df	861
	Sig.	<b>.000</b>

Source: Compiled from the questionnaire

Scrutiny of the Table No 2 reveals that significance level of the Bartlett's test of sphericity is 0.00 as such we reject null hypothesis that there is no internal consistency or correlation among the variables under study. Further Kaiser-Meyer-

Oklin Measure of Sampling Adequacy was found to be 0.909 which is quite high, thus confirming the adequacy of sample, indicating us to proceed further.

**Table No.3 Total Variance Explained**

Factors	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.880	44.952	44.952	18.880	44.952	44.952	12.40	29.539	29.539
2	2.345	5.583	50.536	2.345	5.583	50.536	4.787	11.397	40.936
3	2.133	5.079	55.615	2.133	5.079	55.615	3.378	8.043	48.978
4	1.693	4.032	59.647	1.693	4.032	59.647	2.982	7.100	56.078
5	1.673	3.983	63.629	1.673	3.983	63.629	2.448	5.828	61.906
6	1.314	3.129	66.758	1.314	3.129	66.758	1.591	3.789	65.695
7	1.157	2.756	69.514	1.157	2.756	69.514	1.309	3.116	68.811
8	1.005	2.392	71.906	1.005	2.392	71.906	1.300	3.095	71.906
9	.964	2.296	74.202						
10	.830	1.976	76.178						
11	.808	1.924	78.102						
12	.718	1.709	79.811						
13	.692	1.648	81.460						
14	.626	1.492	82.951						
15	.582	1.386	84.337						
16	.575	1.370	85.707						
17	.516	1.229	86.936						
18	.464	1.105	88.041						
19	.441	1.050	89.091						
20	.403	.960	90.051						
21	.397	.945	90.997						
22	.364	.867	91.863						
23	.350	.833	92.696						
24	.322	.766	93.462						
25	.286	.680	94.142						
26	.265	.632	94.773						
27	.245	.584	95.357						
28	.229	.545	95.902						
29	.211	.502	96.404						
30	.195	.465	96.868						
31	.180	.429	97.298						
32	.167	.398	97.695						
33	.149	.354	98.050						
34	.136	.324	98.374						
35	.125	.297	98.671						
36	.112	.266	98.936						
37	.104	.249	99.185						
38	.092	.218	99.403						
39	.073	.174	99.577						
40	.062	.149	99.726						
41	.061	.146	99.872						
42	.054	.128	100.000						

Extraction Principal Component Analysis Method

Table No 3 shows that eight factors have extracted out of forty two variables by the application of Principal Component analysis (PCA) along with Varimax rotation method of factor analysis based on the Eigen values and the amount of variance explained by these factors. Eight factors have been extracted on the basis of Kaiser criterion of '1', which states that factors representing Eigen values of one or more than one should be retained as factors extracted out of

various variables under study. Analyzing the results Table no....depicts that eight factors have the Eigen values more than 1 i.e. factor 1, factor 2, factor 3, factor 4, factor 5, factor 6, factor 7 and factor 8 having Eigen values (18.880), (2.345), (2.133), (1.693) (1.673) (1.314) (1.157) and (1.005) respectively . Eight factors collectively explained the variance of 71.906%.

**Table No.4 Rotated Component Matrix**

Statement Label	Factor Loadings							
	1	2	3	4	5	6	7	8
V04	.858	.273	.014	.129	.094	-.040	.167	.078
V03	.842	.195	.204	.111	.098	-.041	-.008	.114
V06	.837	.258	.099	.079	.194	-.097	.088	.068
V01	.820	.156	.090	.174	.079	.010	.023	.098
V27	.809	.263	.090	.175	.135	-.121	.162	.061
V36	.808	.213	.194	.100	.137	-.032	-.007	-.033
V02	.798	.297	.145	.081	.113	-.087	-.018	-.099
V22	.796	.263	.155	.179	.121	-.085	.031	.003
V21	.792	.178	.230	.231	.086	-.068	-.010	-.032
V26	.787	.253	.183	.192	.092	.009	.033	.179
V23	.770	.216	.209	.121	.093	-.170	.151	-.058
V25	.748	.274	.173	.142	.130	-.002	-.161	.006
V05	.660	.178	.181	.251	.287	-.225	-.007	.098
V24	.647	.081	.096	.138	.311	-.101	-.122	.114
V18	.621	.429	.228	.106	.081	-.028	-.138	-.193
V07	.613	.196	.117	.349	.357	.067	-.027	-.045
V19	.602	.145	.170	.323	.347	-.019	-.019	-.014
V08	.505	.464	.114	.409	.216	.059	.152	-.013
V09	.500	.080	.292	.207	.427	.127	.074	.165
V20	.449	.326	.403	.352	.069	-.132	-.217	.190
V14	.269	.816	.130	.008	.055	-.092	.054	-.045
V15	.329	.742	.041	.123	.115	-.108	.018	.135
V10	.270	.728	.171	.038	-.001	.038	-.106	.015
V12	.324	.586	.125	.353	.194	.112	-.132	-.023
V11	.344	.586	.007	.182	.380	.007	.067	.186
V16	.461	.471	.093	.270	.102	.169	.084	-.074
V17	.201	.465	.207	.387	-.245	.104	-.024	.291
V13	.391	.434	.226	.129	.251	-.038	.285	-.098
V29	.154	-.001	.875	.104	.049	-.045	.019	.018
V30	.075	.253	.699	.177	.221	.142	.010	.074
V28	.409	.160	.687	.058	-.110	-.151	.081	.156
V32	.235	.074	.661	.002	.221	-.091	-.174	-.171
V35	.379	.405	.525	-.141	-.123	.093	-.088	-.005
V39	.338	.047	.055	.792	-.016	.033	-.051	.065
V38	.320	.227	.109	.765	.060	-.086	.168	-.039
V42	.252	.179	.058	.571	.369	-.151	.327	-.042
V37	.430	.040	.101	.074	.718	.061	-.045	-.106
V40	.372	.225	.117	-.017	.696	-.081	-.168	.042
V34	-.083	.107	.053	-.124	.013	.788	-.029	-.022
V31	-.174	-.106	-.114	.088	-.018	.778	.061	-.039
V41	.064	-.037	-.087	.106	-.116	.038	.860	.053
V33	.090	.057	.029	.010	.003	-.069	.040	.922

Extraction Method: Principal Component Analysis  
Rotation Method: Varimax with Kaiser Normalization.

Table No 4 shows the factor loadings of each statement under study with regard to the factors extracted along with the communalities represented by each variable. Factor loadings show the relationship of each variable with its corresponding factor. Thus, higher the factor loading representing the variable in a factor, stronger will be the

relation between the particular factor and its representative variable. It is assumed that factor loadings higher than 0.45 are termed as a good representative of a factor. As such following this assumption variables accounting for more than the value of .45 or near to this value have been placed under its corresponding factor.

**Table No. 5**

Factor Number	Statement Label	Name of the Factor (% of Variance)	Factor Loading
<b>Factor 1</b>		<b>Caring Abilities of Hospital Staff (44.952%)</b>	
	V04	Nurses regularly interact with patients.	.858
	V03	Nurses are very intelligent	.842
	V06	Nurses respond quickly when patients call them.	.837
	V01	Nurses are polite and sympathetic.	.820
	V27	The condition of patients improves after consulting the doctors.	.809
	V36	Patients are treated with politeness.	.808
	V02	Nurses are prompt in their services.	.798
	V22	Doctors are able to instill confidence in patients.	.796

V21	Doctors are supportive and helpful.	.792
V26	Doctors are confident and trustworthy.	.787
V23	Doctors explain the reasons for tests.	.770
V25	Doctors answer questions from patients in a way they could understand.	.748
V05	Nurses are supportive and helpful.	.660
V24	Doctors spent enough time on care and treatment of patients.	.647
V18	Doctors are polite and sympathetic.	.621
V07	Nurses are confident and trustworthy.	.613
V19	Doctors very prompt in their services.	.602
V08	Nurses treat patients with courtesy and respect.	.505
V09	Nurses answer questions/ queries of patients in the way they could understand.	.500
V20	Doctors are intelligent.	.449

Table No.5 is represented by the table titled “Caring abilities of the hospital staff” this further shows the total amount of variance explained by the factor 1 is (44.952%) which is the highest among the variance explained by the other factors under study. Further scrutiny of table no. shows that factor 1 is represented by variable labeled V04, V03, V06, V01, V27,

V36, V02, V22, V21, V26, V23, V25, V05, V24, V18, V07, V19, V08, V09, V20 respectively. The table further reveals that that variable no V04 is highly correlated with factor 1 as the factor loading of this variable has been found to be 0.858 the highest among the other variables followed by V03 (0.842) going upto V20 with factor loading of (0.449).

**Table No.6**

Factor Number	Statement Label	Name of the Factor (% of Variance)	Factor Loading
<b>Factor 2</b>		<b>Cleanness and Comfort in the Hospital (5.583%)</b>	
	V14	Garments and curtains are fresh and clean.	.816
	V15	Drinking water area is clean.	.742
	V10	Corridors are neat and clean.	.728
	V12	Waiting rooms are neat and clean.	.586
	V11	Bathrooms and toilets are clean and functioning.	.586
	V16	Ventilation and temperature of wards is excellent.	.471
	V17	Floors are regularly cleaned.	.465
	V13	Bedding etc. is regularly changed.	.434

Table No.6 is depicted by the table titled “Cleanness and comfort in the hospital” this table shows the variance explained by the factor 2 is (5.583%) which is less than the variance explained by the previous factor. Further analysis of the table no. clearly depicts that factor 2 is represented by

variable labeled as V14, V15, V10, V12, V11, V16, V17 and V13 respectively. And variable no V14 is significantly correlated with factor 2 as depicted by the factor loading of (0.816) followed by V15 with factor loading of (0.742) and so on up to V13 with factor loading of (0.434).

**Table No.7**

Factor Number	Statement Label	Name of the Factor (% of Variance)	Factor Loading
<b>Factor 3</b>		<b>Treatment Results in the Hospitals (5.079%)</b>	
	V29	The medical test facilities are adequately made available to patients.	.875
	V30	Result of tests comes quickly from the laboratory.	.699
	V28	The medicine's patients need is/are always adequately available	.687
	V32	Overall procedure of treatment is excellent.	.661
	V35	Information about patient's health progress is given regularly.	.525

Table No.7 represents the table titled “Treatment results in the hospital” this table shows that factor 3 is the combination of variable labeled V29, V30, V28, V32 and V35 respectively. The total variance explained by the factor 3 is (5.079%). Further inspection of the table no.7 depicts that variable labeled V29 has the strong relation with the factor 3

as depicted by the highest factor loading of (0.875) among other variables followed by variable V30 with factor loading of (0.699) and so on up to V35 representing the least factor loading of (0.525) as compared to other variables in the factor 3.

Table no.8

Factor Number	Statement Label	Name of the Factor (% of Variance)	Factor Loading
<b>Factor 4</b>		<b>Registration and Admission in the Hospital (4.032%)</b>	
	V39	Attendants act honestly when patients are in queue	<b>.792</b>
	V38	Employees at registration counter are polite and helpful.	<b>.765</b>
	V42	Patients don't have to wait for too long to be attended to.	<b>.571</b>

Table No.8 is represented by the title of “Registration and admission in the hospital” this table demonstrates that factor 4 has the significant relationship with the variables labeled V39, V38 and V42 respectively. The total amount of variance explained by the factor 4 is (4.032%), which is reasonably a good amount of variance explained. Further

inspection of the table no.8 also revealed that variable labeled V39 with factor loading of (0.792) represents the factor 4 the most followed by variable V38 with factor loading of (0.765) and the least factor loading has been depicted variable labeled V42 with the factor loading of (0.571).

Table no.9

Factor Number	Statement Label	Name of the Factor (% of Variance)	Factor Loading
<b>Factor 5</b>		<b>Behavior of People in the Hospitals working as a staff other than Doctors and Nurses (3.983%)</b>	
	V37	Behavior of gate keepers is excellent.	<b>.718</b>
	V40	Employees providing admission and consulting tickets act honestly.	<b>.696</b>

Table No.9 depicts the “Behavior of people in the hospitals working as a staff other than doctor and nurses” further it has been found that factor 5 has high relationship with the variables labeled V37 and V40 respectively. The total amount of variance explained by the factor 5 has been

(3.983%). Further analysis of the table no.9 revealed that variable labeled V37 with factor loading of (0.718) represents the factor 5 the most followed by variable V40 with factor loading of (0.696).

Table no.10

Factor 6		Miscellaneous Practices in the Hospitals (3.129%)	
	V34	Patients get attention from nursing regarding drips and wounding dressing.	<b>.788</b>
	V31	Blood bank services are excellent.	<b>.778</b>

Table No.10 shows “Miscellaneous practices in the Hospitals” further scrutiny of the table revealed that factor 6 is represented by variables labeled V34 and V31 respectively. The total amount of variance explained by the factor 6 has been (3.129%). Further analysis of the table no.10 depicted that variable labeled V34 with factor loading of (0.788) represents the factor 6 the most followed by variable V31 with factor loading of (0.778).

## Conclusion

While concluding the results of the factor analysis it has been found that the patients as the respondents have attached highest expectations to the factor elaborating the Caring Abilities of the Hospital Staff as it explained highest variance of 44.952% followed by the factor of Cleanliness and Comfort in the Hospital while explaining 5.583% of the total variance explained. While the respondents have attached the least expectations to the factor explaining the

Miscellaneous Practices in the Hospitals while explaining 3.129% of the total variance. As such it is suggested that more emphasis should be given in improving the Caring Abilities of the Hospital Staff.

### Limitations of the study

Though serious efforts have been taken to maintain validity and reliability of the study, yet it may include some limitations. Some of the limitations which may creep in are explained as below:

1. Sometimes respondents do not know their rights as customers/ patients because of their level of education. They prefer to suffer in silence rather raise their voice against poor services. Such patients cannot give a fair opinion about the quality of medical services.
2. Other services like parking, facility transportation services, entertainment services, which influence patients overall quality evaluation cannot be covered.
3. As the concentration of hospitals in urban areas is relatively high as compared to rural areas, opinion of rural patients with regard to quality of medical services cannot be taken.

### Significance of the study

In last one-decade private sector hospitals in the city of Amritsar have grown very rapidly and this has made unethical/unhealthy competition which has led to the expensive healthcare for common man. And the government sector is not providing the medical services as desired by the patients. This study will be helpful to policy makers at both private/ public sector to make plans keeping in mind the overall scenario.

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