

Identification of service quality attributes for healthcare services

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Abstract - The aim of this study is to identify the service quality attributes useful to measure the service quality of healthcare services. Healthcare services are complex in nature. Due to intangible nature of services it is difficult to measure the service quality. In this paper study was conducted to identify the attributes of service quality important to perceive the service quality of healthcare services. Total 67 healthcare service quality attributes were collected out of which 43 from review of literature, 24 attributes through interview with key stakeholder and personal observation by visiting all types of hospitals.

Keywords- Service quality, Healthcare, Hospitals, survey, Perception

I. INTRODUCTION

Healthcare services plays important role in the development of a nation. Healthy population is the indication of prosperity of nation. In today's competitive environment every hospital should have to provide good quality of services to their patients to remain in competition. Hence continuous improvement in service quality is needed. For continuous improvement it is important to identify the weak area of services and key service quality attributes which affect the perception of patients, patient's relatives and care taker. Bad quality of services results in bad image in market which directly affects the income of the hospital. hence the administrator of hospital must measure the service quality of healthcare services provided in their hospital. to measure the service quality of healthcare services number of instruments such as SERVQUAL , SERVPERF are available but these instruments are designed for other service sector and outside of Indian environment. It is observe from review of literature that perception of respondent affect by variety of reason such as culture, education, environment, affordability and many more. Hence it is a need of hour that to design a new survey instrument to measure the healthcare service quality in Indian context. Service quality is a multidimensional construct. the main objective of research study is to identify the attributes of service quality which are important to measure the

healthcare service quality. To achieve the objective number of steps was employed.

II. A BRIEF LITERATURE REVIEW

Measuring of service quality is always not an easy task. Products can be measured as they are tangible, homogeneous and separable. But services are totally different. The services are intangible, heterogeneous and inseparable (Parasuramn et al., 1985). When there is no object to measure then how far will anyone be successful in assessing and measuring service quality? This is the challenge before healthcare industry. The only way to do it is by measuring consumers' perceptions of quality. There is no yardstick to quantitatively measure the consumers' perceptions which are more subjective. The consumer's judgment on overall excellence of a service is the perceived quality. Perceived service quality is the degree of variations between consumers' perceptions and expectations (Parasuraman et al., 1985). Quality ought to be seen as manifested and felt as expected. Service quality can be expressed as technical quality and functional quality (Gronroos, 1984). Parasuramn et al. (1988) develops a service quality measurement scale SERVQUAL comprising of five dimensions-reliability, Responsiveness, Assurance, Empathy and tangibility. Customer evaluates the perceived service quality in terms of these five dimensions. These five dimensions are found consistently important for evaluation of various types of service setting by modifying the service quality attributes. According to Parasuraman et al. (1991) 'SERVQUAL is a generic instrument with good reliability and validity and broad applicability'. Many authors used modified SERVQUAL scale to find out service quality level of hospital. Reidenbach Eric et al.(1990) identifies seven health care service quality dimensions i)Patients confidence ii)Business competence iii)Treatment quality iv) Support services v) Physical appearance vi) Waiting time, vii) Empathy. Babacus and Mangold (1992) examined the usefulness of SERVQUAL scale for assessing the patients perceptions of service quality of hospital services. Two academicians and three management personal were involved in the process of building the

service quality attributes of hospital services. After review 15 service quality items representing five SERVQUAL dimensions- reliability, responsiveness, assurance, empathy and assurance were finalized. They pointed out the SERVQUAL is designed to measure the functional quality only and suitable for other services also.

It is observed that SERVQUAL five dimensions are not sufficient to measure the health care service quality. Several authors have made attempt to measure the service quality of health care sector but nobody founds the same dimensions as reported in previous studies. Every country has different number and types of dimensions useful for assessing service quality of health care sector. It is not easy to find the dimensions of health care service quality due to its complexity. Patients are unaware about the technical quality of health care services. This review of past studies resulted that every country has different with other country in respect of culture, environment ,awareness and many more factor which affect the perception of patient. The detailed about the studies used in this paper is represented in table 1.

TABLE I

SUMMARY OF VARIOUS RESEARCHES FOR COLLECTING SERVICE QUALITY DIMENSIONS

S.N.	Author	Initial attributes Identification through	Type of Respondent	Final Number of attributes	Final dimensions
1	Reidenbach Eric et al. (1990), USA	Not reported	Discharged patients	41	Seven Dimensions -Patients confidence, Business competence, Treatment quality, Support services, Physical appearance, Waiting time, Empathy
2	Emin Babacus and Glynn Mangold (1992), USA	Discussion with Academician (Two marketing faculty) and Management team (one marketing research director and two managers)	Discharged patients	15	Five Dimensions -Reliability, Responsiveness, Assurance, Empathy, Tangibles

3	James H. McAlexander et al.(1994), USA	Not reported	Patient	Expectation-15 Perception-15, Importance-15	Five Dimensions -Reliability, Responsiveness, Assurance, Empathy, Tangibility
4	Slim Haddad et al.(1994), Guinea	21 focus groups, 17 interviews with key informants, 6 exit interviews with health service users of 11 villages	Outpatients	20	Three dimensions -Healthcare Personnel, Health facility, Healthcare delivery
5	Hanjoom Lee et al. (2000), USA	Panel of Physician	Physician	43	Seven Dimensions -Reliability, Professionalism/skill, Empathy, Assurance, Core medical services, Responsiveness, Tangibles
6	Syed Saad Andaleeb (2001), Bangladesh	Interview with 20 patient recently discharged.	Discharged patients (Person / Family member used Health services in past 12 month.)	25	Five dimension s - Responsiveness, Assurance, Communication, Discipline, Baksheesh.
7	Victor Sower et al. (2001), USA	Multiple Focus group Interview of Administrator of 12 Hospitals, employees of over 100 Hospitals, 20recently discharged patient and 3 family members	Discharged Patients (Recently discharged Patient)	75	Eight Dimensions - Respect and caring, Effectiveness & Continuity, Appropriateness, Information, Efficiency, Meals, First Impression, Staff Diversity
8	RMPM Baltussen et al.(2002)	20 Focus groups in five villages	Visitors	20	Four dimension s - Health personnel practices and conduct, Adequacy of

					resources and services, health care delivery, Financial and physical accessibility of care
9	M. Sadiq Sohail(2003)	Evaluated by academicians and medical practitioner	Discharged patients (Patients discharged within last six months)	15	five dimensions- Reliability, Responsiveness, Assurance, Empathy, Tangibles
10	Dat Van Duong et al.(2004), Vietnam	qualitative study- 12 indepth interviews, 6 focus group discussion	Pregnant women, women who had given birth within the previous 3 months in community health centers and at home.	20	Four dimensions- Healthcare delivery, Health facility, Interpersonal aspects of care, Access to services
11	Col. Abhijit Chakravarty, India	SERVQUAL	outpatients	22	five dimensions- Reliability, Responsiveness, Assurance, Empathy, Tangibility
12	Mohamed M. Mostafa(2005), Egypt	Modification in SERVQUAL item wording according to service context	Discharged patients	22	Three dimensions- Human performance quality, Human reliability, Facility quality
13	Upul Senarath (2011) Srilanka	review of literature	Discharged patients	36	Eight dimensions- Interpersonal aspects, efficiency, competency, Comfort, Physical environment, Cleanliness, Personalized information, General instructions

14	Laith Alrubaiee and Feras Alkaaida (2011) Jordan	Modification in SERVQUAL item wording according to service context	In-patient	26	Five dimension - reliability, Responsiveness, assurance, Tangibles, Empathy
15	J.K.Sharma and Ritu Narang, India	Six focus group and Twelve in-depth interview	Inpatient and outpatient used services within last six months	23	Five dimensions- Healthcare delivery, Interpersonal and Diagnostic Aspect of care, Facility, Health personal conduct and drug availability, Financial and physical access to care
16	Dr. Mamata Brahmhatt et al. India	Review of literature	Patients	41	Five dimensions- Physical aspects, Reliability, Encounters, Process, Policy
17	Markanday Ahuja et al. India	SERVQUAL	In-Patient	22	five dimensions- Reliability, Responsiveness, Assurance, Empathy, Tangibility
18	Suleiman Abu-kharmeh (2012) Jordan	Not reported	In-patient (admitted patients)	31	Five dimensions- Reliability, Responsiveness, Assurance, Empathy, Tangibles
19	Asghar Zarei et al. (2012) Iran	Not reported	In-Patients	21	Three dimensions- Reliability/ Responsiveness, Empathy, Tangibles
20	Wathek Ramez (2012) Bahrain	servqual questionnaire item	Discharged patients (health service users who used service within	20	Two dimensions

			one year)		
21	Dinesh Amjeriya and Rakesh Malviya, India	SERVQUAL	Patients	42	Eleven dimension s- Reliability and Responsiveness, Assurance, Emaphathy, Tangibility , Competence, Access, Couresy, Communication, Credibility, Security, Understanding
22	Arun Kumar et al., India	SERVQUAL	Patients	not reported	five dimension s- Reliability, Responsiveness, Assurance, Emaphathy, Tangibility
23	Dr. R. Kavitha, India	Review of literature and discussion with patients and doctors	Inpatients	44	five dimension s- Reliability, Responsiveness, Assurance, Emaphathy, Tangibility
24	Dr. Sumathi Kumaraswamy, India	Discussion with Patients, academic and medical expert	Patients	34	Four dimension s- Physician behaviour, Supportive staff, Atmospherics , operational performance
25	Tri Rakhmawati et al (2013) Indonesia	Review on scientific literature, Government regulation, Documents currently used by PHC performance	Patients (PHC service users)	24	Four dimension s- The quality of healthcare delivery, The quality of healthcare personnel, The adequacy of healthcare resources, The quality of administration process.

26	N. Ratna Kishor and K. Hari Babu, India	SERVQUAL	Discharged Patients	22	five dimension s- Reliability , Responsiveness, Assurance , Empathy, Tangibility
27	Sharmila and Jayashree Krishnan, India	SERVQUAL	Employee working at officer level in service organisation who used healthcare services from private hospitals	22	five dimension s- Empathy, Tangibility , Responsiveness, Assurance, Timeliness
28	Ramaiah Itumalla, G.V.R.K. Acharyulu, B. Raja Shekhar ,India	20 indepth interview with patients, Literature review, discussion with expert from academia and industry	Inpatients	25	Seven Dimension s- Medical service, Nursing services, Supportive services, Administrative services, Patient safety, Patient Communications, Hospital Infrastructure

III. STAKEHOLDERS IN HEALTHCARE SERVICES

Every business enterprises realize that for survival and increase in profit, it is necessary to provide better quality services or products. In healthcare system better service quality results in highly satisfaction of customer, retention of customer, better image building which leads to increase in sales and profit of the organisation. It involve the expectation and perception of large number of stakeholders such as patients , relatives, administrators , doctors ,nurses and other technical and nontechnical staff, government and society. In healthcare system patients interact with number of persons such as doctor, nurses, office staff, housecleaning staff and administrators, in different environment in various processes. Among all stakeholder patient is the important stakeholder hence his perception about healthcare services are important. Most of the times patients relative keenly

observe the services provided by doctors, nurses and supporting staff. Patient relatives interact with the other staff such as registration bill payment, medicine, x-ray, blood bank counter. He is also important stakeholder to judge the services. For patient most of the time it is impossible the understand the diagnosis given by doctor and nurses hence opinion of doctor and nurses are also important for formulating the healthcare services attributes. In this research study opinion of all important stakeholders were taken to identify the key service quality attributes.

IV. IDENTIFICATION OF SERVICE QUALITY ATTRIBUTES

It is observed from review of literature that in many researches the service quality attributes were identified from different sources such as from discussion /interview with patients, professional, administrative of hospitals. In some researches the attributes are collected from literature, documents. Few researches have not mentioned the sources in their researches. Hence the survey instruments developed on the basis of these attributes are not totally reliable or generic for all types of hospitals. Hence to increase the reliability of research, in this research study, all important stakeholders are involved such as patients, patient’s relatives, administrators, expert, doctors and nurses. Total 67 service quality attributes were collected out of which 43 attributes are collected from review of research papers , 20 attributes from discussion and interview with patients and patients relatives, care taker, doctors, nurses, administrators and 4 attributes from direct observation through actual visit to hospitals. Some of. The details list of service quality attributes are given in table II.

TABLE II
IDENTIFIED HEALTHCARE SERVICE QUALITY ATTRIBUTES

S. N	Service Quality Attributes	Source / Researcher
1	Enough time should be given to patient to tell the doctor everything about health problem.	S. Andaleeb(2001)
2	Amenities such as uninterrupted electricity and water supply, housekeeping and sanitation facilities, comfortable conditions such as temperature, ventilation, noise and odour should be available.	Mayuri Duggirala et al.(2008)
3	Blood of desired blood group should be available in the blood bank of the hospital.	Mayuri Duggirala et al.(2008)
4	Detailed report about medical treatment, prescription should be provided at discharge.	Victor sower et al.(2001),Mayuri Duggirala et al.(2008)

5	Diagnostic facilities like CT scans, MRI scans, X-rays and ultrasound; telemedicine, patient information and billing, operation theatres, labs, etc. should be adequately and effectively available.	Mayuri Duggirala et al.(2008)
6	Doctors and nurses should be knowledgeable and skilful to perform their tasks.	Emin Babakus et al.(1991) ,Victor sower et al.(2001),S. Andaleeb(2001), Sohail S.M. (2003),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
7	Doctors and other staff should provide their services promptly at specified time.	Emin Babakus et al.(1991) ,Victor sower et al.(2001), Sohail S.M. (2003),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
8	Doctors and staff should tell exactly and when which services will be performed.	Emin Babakus et al.(1991) ,Victor sower et al.(2001),Hanjoon Lee (2000)
9	Doctors should advise necessary care to be taken at home after discharge from hospital	Victor sower et al.(2001),Mayuri Duggirala et al.(2008)
10	Doctors should keep in touch telephonically after patient return home for a week.	Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
11	Doctors should listen carefully to what patients have to say.	S. Andaleeb(2001)
12	Hospital should have well maintained ,up to date medical facility and modern equipment	Emin Babakus et al.(1991) , Sohail S.M. (2003),Hanjoon Lee (2000) ,Mayuri Duggirala et al.(2008)
13	Hospital staff behaviour should instil confidence in patient.	S. Andaleeb(2001),Hanjoon Lee (2000),Hanjoon Lee (2000)
14	Hospital staff should give personal attention to patient.	Emin Babakus et al.(1991) , Sohail S.M. (2003),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
15	Hospital staff should have knowledge to answer patient queries.	Emin Babakus et al.(1991) , Sohail S.M. (2003),Hanjoon Lee (2000)
16	Hospital staff should have patient’s best interest at heart.	Emin Babakus et al.(1991) , Sohail S.M. (2003)
17	Hospital staff should maintain patient’s confidentiality.	Victor sower et al.(2001),
18	Hospital staff should not expect any tips for providing proper service.	S. Andaleeb(2001)
19	Hospital staff should respect patients feeling.	Victor sower et al.(2001),
20	Hospital staff should treat	Victor sower et

	every patient equally.	al.(2001),
21	Hospitals operating hours should be convenient to patient.	Hanjoon Lee (2000)
22	Hospitals staff should keep patients record accurately.	Victor sower et al.(2001),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
23	Hygienic and good quality food should be provided.	Victor sower et al.(2001),
24	Nurses should tell politely about the rules and discipline of hospital.	Emin Babakus et al.(1991) , Sohail S.M. (2003)
25	Patient room / ward should be kept clean.	S. Andaleeb(2001),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
26	Patient should feel safe in hospital.	Emin Babakus et al.(1991) , Sohail S.M. (2003)
27	Patient should not be required to fill out too many forms at check-in.	Victor sower et al.(2001),
28	Skilled and experienced doctors should attend patient.	Victor sower et al.(2001),S. Andaleeb(2001),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
29	Skilled and experienced nurses should attend patient.	Victor sower et al.(2001),S. Andaleeb(2001),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
30	Skilled and experienced technician should perform the test.	Mayuri Duggirala et al.(2008)
31	Staff should strive to relieve patient from pain.	S. Andaleeb(2001)
32	The hospital billing should be accurate.	Emin Babakus et al.(1991) ,Victor sower et al.(2001), Sohail S.M. (2003),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
33	The hospital environment should be quiet.	Mayuri Duggirala et al.(2008)
34	The hospital staff appearance should be neat and clean with visible identity card.	Emin Babakus et al.(1991) ,S. Andaleeb(2001), Sohail S.M. (2003),Hanjoon Lee (2000),Mayuri Duggirala et al.(2008)
35	The hospital staff should always be willing to help.	Emin Babakus et al.(1991) ,Victor sower et al.(2001), Sohail S.M. (2003),Mayuri Duggirala et al.(2008)
36	The hospital staff should never avoid responding to patients medical request.	S. Andaleeb(2001)

37	The hospital staff should provide prompt services whenever patient ask for.	Emin Babakus et al.(1991) ,Victor sower et al.(2001), Sohail S.M. (2003),Mayuri Duggirala et al.(2008)
38	The hospital staff should provide psychological support to patient.	Victor sower et al.(2001),S. Andaleeb(2001),Hanjoon Lee (2000)
39	The hospital staff should understand patient's individual requirements.	Hanjoon Lee (2000)
40	The patient relatives should be kept informed about the patient's health condition.	Victor sower et al.(2001),Mayuri Duggirala et al.(2008)
41	Toilets and bathrooms should be well maintained and cleaned regularly.	S. Andaleeb(2001)
42	When patients has a problem, the hospital staff should show sincere interest in solving it.	Victor sower et al.(2001),
43	Hospital should provide all the required information and instructions regarding admission, treatment, and discharge clearly to patient or relatives at the time of admission.	Mayuri Duggirala et al.(2008)
44	Guidance and support should be provided in legal matters.	Experts
45	Hospital staff should provide emotional support to patient.	Staffs
46	The hospital should have every facility needed by patient.	Administrators
47	Treatment should be provided on the basis of health insurance , ESI card.	Patients
48	All drugs / medicines should be available in hospital at reasonable price.	Patients
49	Ambulance services should be made available to patients at minimum costs by hospital.	Patients
50	Financial support may be made available for expensive treatments through bank loan, NGO, Government schemes.	Patients
51	Hospital should have good Directional signs / boards for finding required room & ward/ Department.	actual visit
52	Hospital should have proper medical waste treatment system.	Experts
53	Hospital should have system to resolve patient's complaint.	actual visit
54	Hospital should make proper arrangement for avoiding entry of dogs and other dangerous animals inside the hospital premises.	staffs , Patients
55	Hospital should not allow any agent/ middle man of other hospital.	Patients
56	Hospital should provide proper fire safety and CCTV cameras for electronic surveillance.	actual visit
57	Hospital should provide required facility for patient's relatives staying with him/her.	patients Relatives,

58	Hospital should provide safety for patients belonging.	Patients , Staffs
59	Hospital should take immediate care of allergy or reaction of drug/medicine.	Patients Relatives
60	Information brochures about hospital services with rates should be available.	actual visit,
61	Information should be provided to patient about various alternative treatments for making a decision.	Patients
62	Necessary drugs / medicine should be available for 24 hours inside the hospital.	Patients, staffs
63	The charges for laboratory test / X-rays / CT scan should be affordable.	Patients
64	The charges for the medical services provided should be affordable.	Patients
65	The doctor should check patient properly.	Patients
66	The doctor should check patients with advanced diagnostic devices.	Administrators , Patients
67	The doctor should give adequate time for diagnosis.	Patients

V. DEVELOPMENT OF DRAFT QUESTIONNAIRE

Service quality is measured as the difference between expectation before consumption and perception after consumption of services. Hence After identification of service quality attributes a development of 67 expectation and 67 perception statements in the form of questionnaire is done. In order to validate the questionnaire a pilot study is conducted. A data was collected from 48 respondents out of which 31 completed and useful responses were selected to check the dimensionality of service quality construct and to measure the validity and reliability of the instrument. The respondent responses were recorded using 5 point Likert scale where 5 means strongly agree and 1 mean strongly disagree.

VI. VALIDATION OF SERVICE QUALITY ATTRIBUTES

When it comes to developing a survey measuring instrument then it is very important to perform content validity test before data collection. Content validity means the degree to which an assessment measures what it appears to measure. The draft questionnaire prepare from 67 healthcare service quality attributes validated by expert, professional and through pilot study. In this way a content validity is carried out.

VII. CONCLUSION

This study attempts to identify the healthcare service quality attributes which are useful to measure the healthcare service quality. In this research study past researches on healthcare service quality , opinion of stakeholder and actual visits to hospitals for

observation ,considered for collecting the attributes which defines the perception of stakeholders about quality of healthcare services. The 67 service quality attributes will be useful for developing a model for assessing healthcare service quality. by performing gap analysis administrators can identify the areas where improvement of quality is required for achieving the desired outcome of healthcare services.

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