A COMPARATIVE STUDY BETWEEN SERVQUAL AND SERVPERF MODEL IN DEPARTMENT OF EMERGENCY

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Abstract : In this paper we are trying to do a comparative study between the SERVQUAL and SERVPERF model in the department of emergency. Here weighted version of the SERVQUAL and SERVPERF are also taken into consideration. Total 20 hospitals are taken in the study. The 20 hospitals are again divided into three groups- accredited private hospitals, non accredited private hospitals and Government hospitals. from 20 hospitals total 300 patients are selected and from them 288 are taken into consideration as rest of them have given vague answer. A stratified random sampling method is used, and close ended questionnaire is formulated and the questionnaire is following likert scale and it was circulated to the patients. The question is formulated in such a way that the expectation, perception and the importance of each service of the hospitals can be understood. Apart from that a single question of overall satisfaction also included. The factor analysis is conducted and the analysis shows that the SERVPERF is more correlated with the overall satisfaction than the SERVQUAL and the weighted SERVPERF and the SERVQUAL has no significant relation with the overall satisfaction.

IndexTerms **– SERVPERF, SERVQUAL, Emergency, Hospital.**

The Department of Emergency

According to S.K. Garg (2002) the emergency is derived from a Latin word URGENS. That something is to done as soon as possible. According to the medical dictionary the ward emergency denotes a look for a sudden demand or immediate action to a sudden demand. In case of hospital the term emergency is different. The emergency department is such a department where patients need immediate care. The emergency patient's life is in danger or there is chance of health impairments and need immediate medical or psychological attention to prevent death or disability, *Dayakar Thota et. al.(2005).* According to *G. D. Kunders (2007)* In case of hospital it means a department which deals with the patient who are in life and death situation by sudden occurrence of life threatening illness, or threat for part of the body or the patient who needs immediate psychological care. The department of emergency is the department where different kinds of treatments are available starting from first aids, to surgical and medical emergency care, trauma care etc. According to *Syed Amin Tabish (2003)* the department of emergency is a department from where the patient needs high quality of care at reasonable cost. It is most important department as it serves as an informal walk in treatment or out of hour treatment when outdoor facilities are not available. The people now a day are very quality conscious about everything. Health is not an exception. They want first and effective treatment from nay hospital either small or big. The department of emergency works in round the clock basis. The department of emergency is such a department where fast and effective treatment or response is very much needed because emergency patients are in life threatening situation where every second is vital for patient's life. The service of the department of emergency has great impact on the peoples mind. So the image of the hospital is very much depending upon the success of the emergency department. According to *G. D. Kunders (2007)* the demand of the emergency department is increasing day by day as the incidence of trauma is increasing and the patient feels safe in the department of emergency. So the

hospital planner should look in to it properly, as the department is needed flexible design, enough space, proper location, enough number of efficient equipments and staff. Time is a crucial factor in case of emergency. S.K. Garg (2002) states that the emergency can be divided into three- first emergency i.e. where care is to be given within few minutes or hours; second emergency where care must be given within six hours; third emergency where care is given within 24 hours. The promptness of the action taken by the department of emergency is depending upon the extent of pathology of the patient. The success of the emergency care is depending upon several factors such as efficiency and availability of the emergency staff, location, available physical facilities, organization, equipments etc. The emergency medical care system can be divided into three- Anglo American System, Franco-German System and Informal System. The Anglo American System is implemented in UK, USA, Australia, Canada, Japan etc. In this system the patients are given immediate care on the site of the incidence and after stabilization the patient is transferred to the hospital as fast as possible. The emergency patients are treated by specially trained hospital based emergency doctor who are under independent professional association. The Franco- German System is implemented in Germany, France and other European Country and Russia. Skilled doctors are carried by a well equipped vehicle on the site of the incidence and the doctors are not specialist in emergency care but they are specialist in surgery, anesthesia, and medicine. The informal system is used in India and other countries of Asian and pacific region. Here there is no emergency service and no organized ambulance service. The patient is brought to the nearest hospital by the people by using any vehicle available, without giving first aid. The emergency care is given in the casualty department of hospital under the doctors who have no post graduate qualification. *Dayakar Thota et. al.(2005).*

Problem of emergency Service in India

India is a huge country. The healthcare system is feeling the pressure to handle the pressure as the numbers of patients are increasing day by day. Emergency department is one of the crucial departments. The image of the entire hospital is depending upon the performance of the emergency department; India has a huge scope to deal with that because nearly 4713061 People are presently directly working in the healthcare industry (Indian Brand Equity Foundation, 2017). As per a report published by Indian Brand Equity Foundation on 2017, the total medical college in India is about 404 and 196312 hospitals are there as per information of 2015, but in the reality the picture is not at all satisfactory. According to Imron Subhan et. al. (2010), a large number of hospitals are not admitting the emergency patient because they want to avoid the legal formalities of the medico legal cases. The judicial system of India mandated that every hospital have to give care to every patient irrespective of the MLC or in the case where the patient is not willing to pay. Nearly every government hospital, the situation of the emergency department is not at all up to the mark. There are lots of discrepancies in the emergency department in comparison to the standard set by the Society of Academic emergency medicine. In most of the cases the emergency department is running by the junior doctor whose responsibility is mainly to refer the patient. Most of the hospital's emergency department does not have triage system. In case of rural hospital, the situation is even worst, the basic requirements of the department such as obstratic equipments are lacking. There are scarcity of specialized training opportunities in this field in India can be observed. Medical college of India are always accentuate on the duty of minimum 2 weeks in the department of emergency during the internship training. Many institutions are giving specialized training with the collaboration with the foreign agencies. Apart from that emergency medicine for nursing and paramedics are also organized. The population of India is increasing day by day. Demand for health care service is increasing day by day too. Public hospitals are not able to provide all the medical care to the patients. That is why private hospitals are booming nowadays. Indian people including poor are now not able to relay fully on the public hospital as they are not able to provide good treatment to them. For that reason they are leaning towards private hospitals. According to a report published by NSS in the year 2010-11, total 10.4 lacks private hospitals are functioning in India.

The work load of the emergency department is increasing day by day. So to keep the quality of the emergency treatment is getting tougher and the image of the hospital is very much depending upon the emergency department. According to Rehana Khurshid et. al. (2014), the patient load will get doubled by

the year 2032 – 33. The increasing patient load is mainly due to the increasing incidence rate of some life style diseases such as diabetes, Hypertension, coronary heart diseases, asthma, Bronchitis etc and also psychiatric disorder and accident rate is also increasing tremendously. The prolog waiting in the emergency department is risky because it may causes hospital acquired infection, risk in treatment error, increase in cost of the treatment and of course increasing rate of dissatisfaction towards the whole hospital. Hospital is known to be a profitable business. According to a report published by "The Tribune" on February 21st 2018, the top hospitals are making profit up to 200% to 2000% on medicine, diagnosis and others. Large portions of Indian population are living below poverty line. According to a report published by The World Bank on 27th of May 2016, 62% of Indian populations are poor. That means at least one Indian is poor among five Indians. So a large portion of population is not able to get treatment due to financial constrains including emergency care. According to a statement Association of Physicians in India, every private hospital will have facility to give free health service including emergency care and the fees for testing are to be collected before start, but in some cases after stabilization process the private hospital may ask the patient relative whether they wish to continue the further treatment here or not because further treatment concerns money. So the families have to decide. The patient can leave the hospital as AMA, i.e. Against Medical Advice. According to Sassan Naderi et. al. (2014), the main reason of leaving the hospital against medical advice or AMA in short is financial reason. The advance payment for further treatment makes many patients leave the hospital without getting proper treatment. The study also shows that most of the AMA patients are the female and the bill of treatment is far beyond their ability. The emergency cares is given by specially trained personnel, but in Indian properly trained emergency staff are few in number in comparison with the demand. According to Elizabeth G Clark et. al. (2016), India needs vigorous emergency medicine service and proper educations on acute emergency care are needed. The department of emergency is lacking in the medical and paramedical staff and also in the PHC and the first referral system number of obstetricians, pediatrics, anesthesia and others are to be increased. *(Dayakar Thota et. al. 2005)* In the emergency department time is most important factor. Timely initial assessment is the most desired need from the department of emergency of any hospital. In most of the cases patient died due to poor time management in the emergency department. Every step in the emergency care is being conducted within the stipulated time frame. Starting from the receiving and shifting the patient to the emergency bed, to assessment by the nursing staff, followed by CMO assessment, followed by assessment by intensives, apart from that waiting for diagnostic procedure and shifting the patient to the ICU or OT. Every step is needed to be taken as fast as possible. (Khekale SN et. al., 2017). The emergency departments of the Indian hospitals are not showing the timeliness in the departmental activities. The level of satisfaction of patient is decreasing by prolong waiting time in the department of emergency. Many patients are complaining due to the unnecessary engagement of the emergency bed that leads to prolong wait. In most of the cases the intensivist takes a long time to come and start the initial assessment. Most of the patients are complaining on that matter. The patients are also dissatisfied due to prolong waiting time for the purpose of shifting the patient from the department of emergency to other department like ICU, ITU or ward etc (Khekale SN et. al., 2017). According to Sreekala P. et. al. (2015), the main cause of the delay in the emergency department is mainly due to – delay in the decision making, process of registration, unavailable vehicle as the patient is needed to be transferred from the hospital. The main cause of consultation delay is due to waiting time in the diagnostic process. According to C Taylor et. al. (2004), the satisfaction towards emergency service of the hospital is depending upon some factors such as waiting time, providing information or explanation, skill of the staff. According to Hall,Melvin F (1996), patients of emergency service are frighten as they are not familiar with the environment inside the emergency department or the triage system, it makes them feel that the situation of their patient is serious. Without knowing the health condition of their patient all of the patient relatives want their patient have the right to be treated first. Study shows that the confrontations are taking place between emergency staff and the patient relatives, where condition of the patient is not critical.

Some Positive Steps

Apart from the entire disadvantages, the government of India has taken few effective steps to improve the emergency service in Indian health care system. Under RCH program the Emergency obstratic and new

born care through the PHC and secondary healthcare system, are given emphasis (GOI, 2000, GoTN, 2005). Some government hospitals which are situated close to the national highway or in the area which are accident prone; are identified and have upgraded to provide emergency care for the accident patient. To fight against disaster the government of India has planned to deliver container based health care system. Those containers can be transferred from one place to another by air, railways or by road. They can be transformed and become 200 bedded hospital, including OT and diagnostic facilities (GOI, 2004). With the help of World Bank the first referral health care system is on the process of improvement in emergency care by ensuring 24 hours available staff and by providing telephone service in the PHC level. *(Dayakar Thota et. al. 2005).* Some private hospitals are also taken some steps by providing on spot treatment before transferring the patient to the hospital (GoD, 2001, Vijaya, 2003). Paying air ambulance facilities are also available in some areas (Mehra, 2001).

Understanding Patient Satisfaction

The patient satisfaction is giving the information about the healthcare providers. How much they have bale to satisfy the need of the patient are informed by the analysis of the patient satisfaction. (Donabedian. 1983). Every patient wants to be satisfied with the health care providers. Some researchers have shown that the there is a significant relation between the quality of life and the service satisfaction. (Dagger and Sweeney, 2006). The organization who is taken care of the patient need they are all able to get more patient satisfaction. (Oja et. al. 206). The patient satisfaction is one of the main concerns in today's medical world. The satisfaction of the patient is important for the health providers, patients, third party. (Ofili 2014). So the patient satisfaction is mainly concentrated on the quality improvement program, quality assurance program (Raftopoulos 2005). The way of fulfillment and understand the patient satisfaction, every organization should be concentrated on the time of service, a smart strategies, quality of care and many more. (Bleich et. al. 2009). The managerial function is the ultimate way to improve the patient satisfaction. (Lee and Yom 2007). There are so many way to measure the patient satisfaction suggested by by many researchers. So it is became a popular topic in the health care industry now a days. (Gill and White 2009). The quality assurance is the most important aspect of the patient satisfaction. The understanding the patient satisfaction is becoming the new way of public management. (Hood 1995) and satisfying the patient is became the prime target of the healthcare industry (Gill and White 2009). The developing courtiers are implementing the service quality to improve the patient satisfaction recently. (Rao et. al. 2006; Zineldin 2006). The way to improve the quality of care the organization should include the public participation and the patient satisfaction along with the clinical and economical goal (Kurk and Freedman, 2008). The patient satisfaction is regarded as one of the most important health indicator but systematic research has never conducted. (Reeves and Secombe 2007). Some researcher like hawthrone (2006) thinks that patient satisfaction is multidisciplinary concept, and there are not complete definitions of the patient satisfaction available up till now. The patient satisfaction is very much complicated things. It is very difficult to measure the patient satisfaction in respect of the quality of care. Vuori in the year 1999 have identified five causes of why the patient satisfaction is difficult to be seen as a valid tool of service quality. First cause is the patient have no technical knowledge about the quality of care, secondly in most of the time the patient is in such mental condition when they are not willing to express their opinion regarding the service, thirdly patient cannot be able to judge all the activities are happening around them, fourthly the objective of the patient and the healthcare objective and lastly the service quality is depending upon the person to person and job to job. Many theories are come into existence now a day. In the year 2009 Gill and White made a theory of patient satisfaction like in the year 1980 Donabedian shows that satisfaction of the patient is the indicator of the health outcome. If the organization is able to understand the patient need then the satisfaction will be ensured (Fox and Storm, 19981). The personal believe and values are the main factor of the patient satisfaction (Linder-Pelz, 1982). Another researcher named Pascoe in the year 1983 developed a model which tells the influence of expectation on the patient satisfaction. In the year 1993 Strasser et.al. Identified six factors which have great impact on the patient satisfaction. The factors are cognitive and affective perception formation, multidimensional construct, dynamic process, attitudinal response, iterative and decreased by individual differences. The preference of the patient is seen as the main factor of the patient

satisfaction by many researchers including (Ware et. al.1983). The expectation of the patient is mediated by the social influences (Fitzpatrick and Hopkins 1983). The main motive of the satisfaction survey is to find out the mentality of the consumer regarding the technical quality given by the health care sector. Many social and demographical factors are having significant influence on the patient satisfaction like in the year 2005 Raftopoulos shows that the old patient are more satisfied with the healthcare organization than the young generation. The health sectors are to be looked in to the need of the patient and the demand of the patient are also needed to be fulfilled (Freedman, 2005). The service quality and the patient satisfaction are very closely related with each other. Many policies and models, designing the services, are come into existence to improve the quality of the services. Some researchers have concluded that only fulfillment of the need is not enough instead of that organization should give enough concern on both the outcome and the need of the patient (Leplege and Hunt, 1997).

Service Quality

Today's world is more quality seeking, people are become choosy as many business firms are come into existence. All of them are providing for the fulfillment of the patient need. Health care industry specially the hospital industry is facing serious competitive environments. Everyone is always trying to give best service to attract more and more people towards them. The customer of the healthcare industry is the patient, like other service industry, the patient as they are the consumers in the health care industry; they are taking the decision to choice the best healthcare organization to fulfill their need. (Wadhwa 2002). The quality measurement and the patient satisfaction are the main output of the healthcare industry. (Yogge et.al. 2001). The patient satisfaction is the main indicator of the good quality of care. (Garner et.al. 1990). If any health care organization is willing to increase the quality of the service, they must be looking for the assessment of the need of the patient. (Ramachandran et. al. 2005). Some of the researcher is seeing the patient as the healthcare quality agenda (Badri et. al. 2007). Perceived quality is one of the important aspects of the patient satisfaction. The patient satisfaction is the key tools for the monitoring the quality of the health care delivery system is running currently. (Ravi et.al. 2004).

Measurement of patient satisfaction

There are many researchers have suggested different way of measurement of the patient satisfaction. Patient satisfaction is depending upon the dignity, respect, speed and efficiency of the service, comfort, emotional support and the communication and way of giving information to the patient and the relatives. (Safavi 2006). Scott et. al in the year 2007 identified some of the High Performance Work System, finds the relation with the patient satisfaction with it. Applied Kano model was proposed by Yu Cheng et. al. in the year 2007, it considers three antecedent of satisfaction. The characteristics of the organization should be attractive for the patient and it should be related with the quality of care. Daud- Marrakch et.al. (2008), identifies some variable to measure the patient satisfaction reception, care of nursing, information, hygiene, comfort in the organization, quality of the food. The scale is known as Tunisian Measurement scale. In the year 2010 HU et. al. brought Applied Taiwan Customer Satisfaction Index, in this tool the patient satisfaction is measured on the basis of perceived quality, customer expectation, perceived value, image, overall satisfaction and loyalty. The patient satisfaction are measured on the dignity basis/ apart from the dignity respect, promptness of the work, efficiency, comfort, information and supportive staffs are other things which are taken into the consideration in the way to measure the patient satisfaction. (Safavi, 2006). Some chains of activities are identified by Scotti et.al. 2008. The researcher has found a relationship between the High Performance Work System and the patient satisfaction. Kano model was proposed by Yu Cheng et.al. in the year 2007. This model is to measure the patient satisfaction. The model is concentrated on the quality of the service. Daoud- Marrakchi et al. in the year 2008 suggested that another measurement scale known as Tunisian Measurement skill which is containing seven variables which are latent. The variables are reception, care of nursing, education on the concept of hygiene; comfort, food, and he invoice service. The Taiwan Customer Satisfaction Index is the modified way of the measurement of the patient

satisfaction. The tool is depending upon the few factors like recognize quality by the patient, customer expectation, overall satisfaction and the loyalty of the patient.

Measurement of Service Quality

In the year 1988 Parasuraman et. al. came with the new model named SERVQUAL, which has five dimensions like Tangibles, reliability, responsiveness, assurance and empathy. The term Tangible means all the physical facilities, equipments of the hospitals along with the appearance of the staff. The term reliability denotes the skills of doing things accurately and by which dependency can be assure. The Responsiveness denotes the provision of quick service to the patient and the willingness to help the patient. Assurance comes with the knowledge level and the courtesy of the staff and the ability to inspire the trust and confidence, credibility, communication confidence and security. Lastly the empathy denotes the mentality of caring attitude towards the patient and understands the need of the patient. Sajid et. al. in the year 2001 identifies two independent variables which are depending upon several other independent variables. Acceptability is the one dependent variable which is depending upon two independent variables like hospital's infrastructure and competencies. The patient centeredness is other dependent variables which are depending upon two independent variables like the appropriateness and timeliness. Also they have identified patient satisfaction as dependent variables which are depending upon acceptability and patient centeredness. In this model detail of the hospitals infrastructures, ways of competencies etc details are mentioned. They are all the latent structure and the variables which are related to it are Appropriateness, Timeliness, Staff competencies, Hospital structures and physical structure. In the year 2007, Yu Cheng et. al. came with Kano model which has three variables like one comfort, convenience, capacity, modernized system of treatment, medical ethics and commitment to the patient. Hospital should have quality of drugs, doctors. The hospital should have professional attitude, the organization must have professional environment. The hospital should be in close relation with the community. Doud- Marrakchi et. al. in the year 2008pointed out that the patient satisfaction is related with seven types of variables like reception, information, nursing care, comfort, food, hygiene and invoice service. Reception is the behavior of hospital staff including doctor, administrative staff, nursing staff. Waiting time and the condition of the waiting time. The nursing care is depending upon the competencies, availability, follow-up care etc. Information includes booklet, room equipments, information of care. Hygiene includes cleanliness of the hospital area. Comfort includes function of the equipments, health facilities, and other necessity. Food includes the test, quantity, temperature, variety timing etc. Invoice service includes clarity of the invoice, waiting time. The quality of the healthcare is depending upon some factors which decide the patient satisfaction. They are- health care delivery i.e. adequacy of number of doctor, good diagnosis, quality of drugs, cure and recovery, cost of the treatment; interpersonal and diagnostic aspect of care i.e. reception, monitoring, adequate equipments; availabilities of the facilities such as room, staff, cleanliness, waste management; health personnel conduct and drug availability i.e. availabilities of the drugs and the seriousness on the patient need and give support for the patient; and lastly the financial and physical aspect of care (Sharma and Narang, 2011). In the year 2012 Itumalla mentions some factors which decide the service quality of hospital they are ten in number. They are – reliability of the service, knowledge of the service staff, promptness of the service staff, communication of service staff, attitude of service staff, availability of service staff, safety when using service, consistency of the service, trustworthy of the equipments, service and the physical facilities. Safavi in the year 2006 mentioned that the experience of the hospital is depending upon the dignity, respect, promptness and efficiency, comfort, information, communication and the emotional support they get. According to a survey report done by Centers for Medicare and Medicaid Service (CMS)- the patient are concerning on the communication skill of the doctors and nursing staff, the responsiveness of the hospitals staff, neat and clean environment of the hospitals. According to Safavi the health service quality depends more upon the respect and compassion than the technical skills. The quality of the health care is depending upon the degree of involvement in the organization. Scotti in the year 2007 proposes HPWS model, it means High Performance Work System. The consumer orientation is strictly depending upon this; also it has good influences on the customer perception of service quality. HPWS denotes the internal characteristics of an organization in terms of involvement, trust, goal, alignment, training, communication. According to the Yu

Cheng et. al. patient satisfaction is depending upon the comfort, convenience, capacity, modernization in the treatment process, ethics, commitments of the patient, quality of medicine, doctors, machineries. The Tunisian Measurement scale was introduced by Doud-Marrakchi in the year 2008 to measure the patient satisfaction. The scale has seven variables like reception, nursing care, information, hygiene, comfort, and food and invoice service. They also identify some indicators which help to measure the patient satisfaction. The indicators are having five point scales, staring from very satisfied to very dissatisfied. The factor analysis has done and its shows except the hygiene the rest of the six factors are positively correlated with the patient satisfaction. In the year 2009 Agency for Healthcare Research and Quality has launched a new measurement tools for the patient satisfaction named the Consumer Assessment of healthcare Providers and System (CAHPS). It is very useful tools for the purpose of measurement of patient satisfaction. It focuses on the assessment of the actual experience of the patient. Some predefined services are mentioned and the patients are asked whether they have received the service or not. The Taiwan Customer Satisfaction Index is founded by Hu et. al. in the year 2010 and it is the measurement tools for the patient satisfaction and it is the modified form of American Customer Satisfaction index which was founded in the year 2010. The Taiwan Customer Satisfaction Index is deals with some make up perceived quality, customer expectation, perceived value, image, overall satisfaction and loyalty. Path analysis has conducted to know the effect of the variables on each other. The perceived quality is having a significant relation with the customer satisfaction, the customer loyalty and the value of perceived quality of service.

Importance of the SERVQUAL model

In the year 2008, Mangkolrat identifies seven kinds of benefits of SERVQUAL model in their study in respect to the measurement of the patient satisfaction. They have identified that the SERVQUAL model is concentrating on the patient need and patient expectation and verification. The SERVQUAL model is considering both the administration and the customer or the patient. SERVQUAL model is able to point out the strength and weakness of the organization. The benchmarking is possible by the implication of the SERVQUAL model. The need of the customer, expectation of the customer can be identified by the SERVQUAL model.

Disadvantages

Some researchers have argued that the SERVQUAL model is not able to cater the health care industry fully (Ramsaran-Fowder, 2005). The dimension of SERVQUAL is not enough to describe fully the healthcare industry. In the year 2005, Mostafa has shown that five dimensions are not relevant with the health care industry. In the year 2005 Gonzalez- Valentin et. al. while doing a research on SERVQUAL model in the hospital at Southern Spain and extract the factors which effects the patient satisfaction. Only three factors are identifies having relation with the patient satisfaction, but two factors are rejected. In the year 2010 Yesilada and Direktor have measured the patient satisfaction of Government and private hospital at Cyprus and factor analysis did not able to show relation between the patient satisfaction and the five dimension of SERVQUAL model. Paul III in the year 2003 mentions that an expectation of the customer is very difficult to find from the SERVQUAL.

Some Positive Steps

Johnstone in the year 1995 modified SERVQUAL model and its five dimensions. They updated SERVQUAL up to 18 dimensions i.e. cleanliness aesthetics, comfort, functionality, reliability, responsiveness, flexibility, communication, integrity, commitment, security, competence, courtesy, friendliness, attentiveness. Care access and availability. Then in the year 2000 Lim and Tang updated the SERVQUAL model into six dimensions i.e. tangibles, reliability, assurance, responsiveness, empathy, accessibility and affordability. The researchers have put more emphasis on affordability. In the year 2001 five dimension's SERVQUAL model is modified into three dimensions model by Andaleeb. The three

dimensions are empathy, tangibles and reliability. Also discipline pays a pivotal role in the patient satisfaction. In the year 2005 Ramsuran- Fowder added two extra dimensions with the SERVQUAL model i.e. core medical out come and professionalism skills. Some extra items are added in each dimension of the previous SERVQUAL model.

Indian Context

In the year 2010 Narang conducted a study in the in Government and Missionary Hospitals at UP, and applied a newly invented scale by Haddad et. al. in the year 1998 to measure the patient satisfaction. Narang mentioned that the health care service should look in to the improvement of the accessibility of the hospital. In the year 2010 Health care service Quality or HCSQ has developed by Chahal and Kumari, the aim of the scale is to measure the Indian patient satisfaction. The study has conducted to measure the satisfaction towards the function of the IPD, concern the patient participation, supporting staff, doctors etc. The study also should look in to the patient loyalty, trust, price effectiveness, etc. In the year 2002 Verma and Sobti states that the patients of India are more dissatisfied toward the government hospital than that of Private hospital. According to Anand and Sinha in the year 2010, the availabilities of the doctor, waiting time, cleanliness, and privacy has significant impact on the patient satisfaction. In the year 2006 Rohini and Mahadevappa used SERVQUAL model. He measures the gap between the perception of the service and the expectation of the service of the patient. The relationship between the patient and the hospital is very important issue. The Consumer Perceived Value scale is developed by Chahal and Kumari in the year 2012. The construction value, aesthetic value, social interaction has significant impact on the patient satisfaction in context of India.

Service Quality of the Indian Health care sectors

India Government has taken several steps to promote the health care service so that every Indian can get the quality of care from the private sectors. (Shah and Mohanty 2010), the demand for the private sector is increasing day by day so the continuous quality improvement is become necessary. (Kabhita, 2012). For that reason the government of India has launched several accreditation body for the enhancement of the quality of the Indian health care system. NABH is among them. The full form of NABH is National Accreditation Board for Hospitals and Healthcare Providers. (Shah 2010, John 2010).

Quality in Indian Perspective

According to the description of planning commission of eleventh five year plan (2005), quality of health care service in both the private and public sector in India is not satisfactory for improving effectiveness, liability, governance in hospitals. The private sector hospitals which has most important role in Indian healthcare service, has remained unorganized and uncontrolled and have serious insufficiency in terms of quality care viz. insufficient and unsuitable treatment, excessive use of higher technology, wasting of inadequate resources, medical malpractices and carelessness. India needs to improve quality of healthcare service considering the contribution of government, professional associations, private healthcare providers and agencies financing healthcare. Planning Commission (2010) reports that, continuous improvement of the quality of healthcare service along with the development of healthcare infrastructure, human resources, equipment, drugs and other supplies are very important. The public hospitals should provide not only reasonable health services, but also should provide friendly environment to the patient in a hospital by adopting some positive actions. Patients should be satisfied in relation to dignity, treatment and all the basic facilities which are provided by the united funds. During this plan, the widest approach in relation to quality is to form a “Quality assurance committee” which will take responsibility to monitor the service quality to find any gap in health care service. But inadequate professionals in the quality assurance cell become a barrier to the long life and satisfactory service by the monitoring authority to find any gap. So during the

12th five year plan it is necessary to increase the strength of "Quality assurance Cell", both in district and state level by the issuance of "quality certification" of the Public Hospitals There are two types of Quality certification. (1) Quality of care on input standard viz. human infrastructure resource, drugs and equipment beside output in terms of a Package emphasis of health service according to IPHS (Indian Public Health Standard). (2) Another form of certification put on the provision of ethical, efficient and effective quality care. The second type of quality certification is related to certifying the quality management system which ensures the best quality as a replacement for outputs for the level of currently available inputs. In present situation, emphasize comprehensive in house quality assurance for both infrastructural and service delivery is most important. The twelfth five year plan predicts the Five year strategic plan is predicted for each district so that health system would assure the universal access to the quality Reproductive Child Health (RCH) service, emergency care, infectious disease management and chronic disease management (Planning Commission, 2010).

Planning commission of eleventh five year plan (2006) reports, that in India there is a growing demand of quality health care service. This leads the healthcare organizations towards the need for accreditation of the hospitals. Accreditation refers to an open recognition of quality standard of a healthcare organization all the way through an assessment of an Organization's performance level in respect of the standard made by self-determining external body. Ministry of Health and Family Welfare (MOHFW) in 2001 has taken some initiatives to prepare a draft of organizational framework for developing a hospital accreditation system in India. The World Trade Organization (WTO) and MOHFW under Government of India (GOI) and World Health Organization (WHO) biennium (2004-2005) took a joint initiative to consider all the stakeholders to organize workshops on the issues related to accreditation of the health facilities. The World Health Organization, Indian chapter with a view to improve the quality of healthcare provided by both the public and private sectors , organized a workshop to discuss the planning of accreditation of healthcare facilities and appraise the present situation of healthcare service India, engage the key stakeholders to find out way for developing an accreditation system. In the workshop, some options have been identified in the workshop as the role of MOHFW and the state governments. The major role of MOHFW was to narrow down the whole policy decisions and develop of standards for healthcare facilities and to devise a plan for states to put into service of an accreditation system The role of state government was to implement and start operation of an accreditation system. It is a fact that in different states in India a number of hospitals have been availing accreditation and certification from different accreditation body viz. National Accreditation Board of Hospitals and Healthcare Providers (NABH) (Planning Commission, 2010). Accreditation of hospitals can ensure the quality of healthcare and ultimately will attract the foreign tourists for their treatment in cheaper rate and also attract the foreign insurer to tie up with Indian hospitals. Up gradation of "Risk Management Practices" in health Care can be provided by Accreditation which will minimize the risk. According to Prasad and Satish 2010, International accreditation will help to evaluate the essentials of Compensation. Following the report of planning commission of eleventh five year plan (2006), National Accreditation Board for Hospitals and Healthcare Providers (NABH) was formed with an identical standard for the hospitals all through the country in India. NABH is a component board of Quality Council of India (QCI). QCI is an authority which is responsible for promoting the standardization of healthcare services in order to ensure the improvement of quality of healthcare (Vashist and Jain, 2013).It is an autonomous body developed by Government of India declared the NABH as a not-for-profit organization so that to provide accreditation standards at lower cost (Prashad and Satish, 2010). NABH is an authority which accredits hospitals irrespective of their ownership legal status, size and degree of independence (Hittinahall and Golia , 2013). NABH had been launched in 2006, which has adopted the standards in consonance with worldwide accreditation. Formally it was launched as an institutional member of International Society for Quality of Healthcare (ISQH), an international accrediting authority. Another authority to approve other accreditation bodies is ISQua in the area of healthcare as mark of equality in accreditation programme of member

countries (Report of Planning Commission, 2006, Hittinahall and Golia, 2013, Rao et.al., 2013). The organization structure of NABH comprises of three committees viz. Accreditation Committee, Technical Committee and Appeals Committee. There are different functions of the Accreditation committee viz. 1. Endorse allowances, 2. Evaluation of the Assessment reports, 3. Evaluation of other relevant reports. These are to support the required major changes to accredited hospitals as a recommendation issued to the Board, about introduction of such new initiatives. Technical Committee will enlist the accreditation standards and guiding documents besides providing periodic assessment of standards. Appeal Committee has functions are to look into the matters related to the appeals made by the hospitals against any adverse decision relating to dismissal of application, denial to pursue an assessment, requesting corrective actions, changes in accreditation scope, exclusion of accreditation etc. (Hittinahall and Golia , 2013, www. nabh.co). NABH has reported (2011) that out of 600 applications for accreditation, 100 hospitals including some Govt. hospitals had been successfully completed the accreditation process. Till June 2011, seventy three hospitals are accredited by the NABH (Rao-2012). NABH, through their accreditation process takes successful programme towards betterment of Indian Hospitals and push out of stagnation so that those may join the International Platform with equal status (Dastur-2012).

Indian Healthcare Quality Parameters

The patient satisfaction is depended on their observation towards service quality provided by hospitals and clinics. In the year 1988, Parasuraman et.al.(1988) introduced SERVQUAL model which is considered to be one important source for identifying service quality parameters in this study. Besides all these, NABH (National Accreditation Board of Hospitals) has also described quality features of health care service in India as per the Govt. Policies.

Comparison between SERVQUAL and SERVPERF

In the year 2004 Sanjay Khan and Grima Gupta measured the service quality of the SERVQUAL and SERPERF. Based on the research by Parasuraman et. al. The researcher have identified 22 elements which covers the five dimension of SERVQUAL mode, also they used seven point Likert scale methods to calculate the customer satisfaction. Each question has three components service performance, service expectation and weighted of the service. The satisfaction can be retrieved by subtracting the perception and expectation. Total 44 items are chosen 22 for expected service and 22 for perception of the service. Higher score denoted the more satisfaction and the lower or the negative score denotes low satisfaction or the dissatisfaction. Though many researchers have argued and pointed out many flows around the scoring system (Teas, 1994; Babakus and Boller, 1992; Iacobucci, Grayson and Ostrom, 1994). Also many researchers have doubted on the concept expectation of the service. The expectation of the customer varies in many ways. (Babakus and Inhofe, 1991; Brown and Swartz, 1989; Dabholkar *et al*., 2000; Gronroos, 1990; Teas, 1993, 1994). The customers do not know what to expect from a service firm before consuming the service. (Gurbuz et al., 2008) Then in the year 1992 Cronin and Taylor came with a new model i.e. SERVPERF. Actually the SERVPERF is based on the SERQUAL model but the expectation part is deleted as this is very confusing. In the SERVPERF model the performance is taken into consideration. In this model only 22 items are considered as only performance is included. As the quality attributes differ from industry to industry (service industry) so a weighted component is added. (Cronin and Taylor, 1992; Parasuraman, Zeithaml and Berry, 1995, 1998; Parasuraman, Berry and Zeithaml, 1991; Zeithaml, Parasuraman and Berry, 1990). The weighted version of the SERVQUAL is appreciated by many researchers (Bolton and Drew, 1991). In this study the questionnaire has got total 15 items which are covering the five dimensions of the SERVQUAL model. The five dimensions are tangibility, reliability, responsiveness, assurance, empathy. The questionnaire above are also coving these five dimensions like items number 13, 14 and15 cover the tangible part; item number 7, 8, 11, 12 cover the reliability; 2, 3, 4, 5

and 6 cover the responsiveness and 1, 9,10 covers the assurance dimension. Like to Sanjay K jain et. al. did in their study in the year 2004, each item is associated with 3 component service expectations, service perception and the importance or the weighted of the particular service.

Objective of the Study

The main objective of the study is to compare the SERVQUAL and SERVPERF model in respect of department of emergency. The overall service quality of the emergency department is significantly correlated with SERVQUAL or SERVPERF.

Methodology

Study Population

Stratified random sampling method is used. The hospitals are divided into three stratum- Private accredited, Private non accredited and Government hospitals. Then by the process of the simple random sampling method 20 hospitals are selected from them. Five hospitals from accredited and non accredited; 10 from the government hospitals. Total 300 patients from 20 hospitals are included in the study. Among them 288 are selected in the study because rests of them have given vague answer. Total 65 patients are selected from the five accredited private hospital in the study, total 81 number of patients are selected form the five non accredited private hospitals whereas total 142 patients are selected from the Government Hospital.

Ethical consideration

All the patients are informed about the purpose of the interview; only the agreed and volunteered patients are included in the survey methods. Some time the patient relatives are included in the survey as some of them are not in a position to talk. The survey has decided some of the inclusion criteria for the patient like- the patient those who are mentally stabled, who are aged more than 18, who are willing to give answer, who knows the local language and have some knowledge on English. Some patients are not included in the study those who are not mentally healthy, whose conditions are not stable and need immediate care, patient who gave vague and incomplete answer. Close ended questionnaires are circulated to the patients. The questioner is concentrated on the details of every activities of the emergency department and by that the patient can give their opinion regarding that. The questioner is given below

1. The emergency doctors are having wide spectrum of knowledge and competence
2. The emergency doctors understanding of specific need of patients
3. The emergency doctor's sincere effort to solve patients‟ problems
4. The emergency doctors thorough explanation regarding patients‟ medical condition
5. Provision for individualized attention for each patient
6. Patients treated with dignity and respect
7. Patients‟ security and safety in receiving medical care
8. Willingness of hospital staff to help patients
9. Friendly and courteous behavior of doctors and staff
10. Attitude of doctors and staff instilling confidence in patients
11. 24 hours service to patients
12. Providing services right at the first time
13. Maintenance of hospital's equipment
14. Maintenance of high standard of hygiene
15. Accessibility of the hospital (e.g. Parking facility, signage etc.)

Each question has three components - expectation, perception and importance. The first two i.e. service perception and the expectation is obtained on a five scale Likert scale starting from 1 to 5. 1 denotes strongly disagreed and whereas the 5 denotes fully agreed. The third component is following ranking scale because it deals with the importance of the particular service. It started from 1 to 5. 1 denotes the very low and the 5 denotes very high. The SERVQUAL can be calculated by subtracting the expectation and the perception value. SERVPERF is the value of service performance. The weighted SERVPERF can be calculated by multiplying the importance score with the performance score, whereas the weighted SERVQUAL can be measured by multiplying the importance score with the SERVQUAL score. The formulas are given below

P-E=SERVQUAL
P=SERVPERF
Weighted SERVPERF= IXP
Weighted SERVQUAL=I X (P-E) or IX SERVQUAL

Apart from the 15 question one more question is asked, i.e. overall quality of the hospital. This question is also following the Likert scale methods. Here the regression analysis by SPSS 17 has been used Factor analysis will be done to see which of the parameter is more correlated with the overall quality, is it SERVQUAL or SERVPERF; or is it weighted SERVQUAL or weighted SERVPERF.

Analysis

Table 1: Descriptive analysis

	Mean	Std. Deviation	N
SERVPERF	3.6628	.90462	288
SERVQUAL	-.6533	.85155	288
W_SERVQUAL	-2.2363	3.28373	288
W_SERVPERF	16.4417	4.70682	288

From the above descriptive analysis it is found that total 288 respondents were selected in the research. The mean and standard deviations of SERVPERF, SERVQUAL, W_SERVQUAL, W_SERVPERF are given.

Table 2: Correlation Matrix

	Overall Satisfaction	W_SERVQUAL	W_SERVPERF	SERVPERF	SERVQUAL
SERVQUAL	.796	.801	.726	.830	1
SERVPERF	.921	.544	.953	1	.830
W_SERVPERF	.878	.445	1	.953	.726
W_SERVQUAL	.506	1	.445	.544	.801
Overall Satisfaction	1	**.506**	**.878**	**.921**	**.796**

From the above correlation matrix it is clear that the overall satisfaction is mostly correlated with the SERVPERF than SERVQUAL. Also the weighted SERVPERF is more correlated with the overall satisfaction than weighted SERVQUAL, whereas the SERVPERF is more correlated with the overall satisfaction than the W_SERVPERF. So it can be concluded that the SERVPERF is more convergent and discriminate valid explanation of the overall quality of the service.

Table 3: Model Summary

R	R square	Adjusted R square	Standard error of estimates	F value	Significance
.925	.855	.853	.34980	418.216	.001

a. Predictor W_SERVPERF, W_SERVQUAL, SERVQUAL, SERVPERF

b. dependent variable: overall satisfaction

Table 4: Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	T Value	Significance
	B	Std Error	Beta		
(Constant)	.781	.207		3.773	.001
SERVPERF	.707	.101	.700	6.974	.000
SERVQUAL	.247	.068	.231	3.658	.000
W_SERVQUAL	-.027	.011	-.099	-2.438	.015
W_SERVPERF	.017	.016	.088	1.087	.278

Multiple Linear Regression model is specified below

Y (Overall Satisfaction) = .781+.707x (SERVPERF) +.247x (SERVQUAL)

Weighted SERVQUAL is negatively correlated with overall satisfaction and the weighted SERVPERF is not significantly correlated with overall satisfaction.

Table 5: Comparison

Independent Variable	**R^2**	**Adjusted R^2**
SERVQUAL	.634	.632
SERVPERF	.848	.848
W_SERVPERF	.771	.770
W_SERVQUAL	.256	.254

The above regression result shows that the SERVPERF is able to explain overall service quality more than any other. The value of R^2 and adjusted R^2 is .848. The chart above has also explained that the Weighted SERVPERF and Weighted SERVQUAL are not able to explain the overall quality of service.

Finding

The above analysis states clearly that the overall satisfaction is positively correlated with service quality and service performance, but the service performance is more correlated with the overall satisfaction. The study also reveals that the weighted version of the SERVQUAL and SERVPERF has either negatively correlated or insignificantly correlated with the overall satisfaction.

Conclusion

The SERVQUAL and SERVPERF models are disused in many research papers. Some are claiming the SERVQUAL is better than the SERVPERF, but many researchers have found the SERVPERF are more

useful than the SERVQUAL. Some researchers have suggested the weighted version of the SERVPERF and SERVQUAL but there are many researchers rejected the idea. This paper has also shown that the weighted version of those two models have no significant or negligible correlation with the overall satisfaction of the patient. The research is only concentrated on the overall patient satisfaction of the hospital but the satisfaction toward different kinds of service provided by the hospitals are not considered. Also the overall satisfaction is correlated with other factors like demography, level or standard of living and many more. Those influences are different from each other. So the research paper could be helpful for the researchers to look into it and explore other area of health care industry.

Reference

1. https://www.researchgate.net/publication/290447383_Historical_Development_of_Health_Care_in_India
2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5144115/
3. http://healthopine.com/history-of-healthcare-in-india-the-golden-age-of-medicine-in-pre-independent-india/
4. http://shodhganga.inflibnet.ac.in/bitstream/10603/59913/6/06_chapter%202.pdf
5. https://web.iima.ac.in/assets/snippets/workingpaperpdf/2005-07-03ramani.pdf
6. https://www.gita.org.in/Attachments/Reports/AHPI-Healthcare-India.pdf
7. http://umdcipe.org/conferences/policy_exchanges/conf_papers/Papers/1551.pdf
8. Rao, Sujatha K.; Selvaraju, S.; Nagpal, Somil; and Sakthivel, S. (2005). Financing of Health in India. *Financing and Delivery of Health Care Services in India*. New Delhi: National Commission on Macroeconomics and Health, Ministry of Health & Family Welfare, Government of India. August.
9. Saha, Shelley and Ravindran, T.K. Sundari. (2002). *Gender Gaps in Research on Health Services in India: A Critical Review of Selected Studies (1990-2000)*. New Delhi: Creating Resources for Empowerment in Action (CREA), p.3.
10. Garg S, Nath A. (2007). Current Status of National Rural Health Mission. *Indian Journal of Community Medicine* (Vol. 32, No. 3, pp. 171-172). Retrieved December 5, 2008, from: http://www.ijcm.org.in/text.asp?2007/32/3/171/36818.
11. Ghuman, B.S. and Mehta, Akshat. (2006). Health Care for the Poor in India with Special Reference to Punjab State. In Raza Ahmad (ed.), *The Role of Public Administration in Building a Harmonious Society*. Network of Asia-Pacific Schools and Institutes of Public Administration and Governance (NAPSIPAG), Asian Development Bank.
12. http://www.ijsrp.org/research-paper-0812/ijsrp-p0891.pdf
13. http://www.iosrjournals.org/iosr-jbm/papers/Vol9-issue2/I0927482.pdf
14. https://www.researchgate.net/publication/315676882_Scope_of_mobile_health_in_Indian_health_care_system_-_the_way_forward
15. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2784627/
16. http://www.india-opportunities.es/archivos/publicaciones/Healthcare-January-2016.pdf
17. https://www.wbhealth.gov.in/other_files/ce_act.pdf
18. http://shodhganga.inflibnet.ac.in/bitstream/10603/21437/7/07_chapter%201.pdf
19. http://www.technofunc.com/index.php/domain-knowledge-2/healthcare-industry
20. http://sk.sagepub.com/books/managing-a-modern-hospital-2e/n3.xml
21. https://www.weforum.org/agenda/2015/11/19-charts-that-explain-indias-economic-challenge/
22. http://www.travma.org.tr/TravmaData/Document/24102014112054-cxmFDRfdg9RK.pdf
23. http://www.anilaggrawal.com/ij/vol_008_no_001/others/pg/pg001.html

24. https://www.ibef.org/download/Healthcare-January-2017.pdf
25. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3047870/
26. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3975965/
27. https://www.tribuneindia.com/news/nation/top-hospitals-made-200-2000-profits-report/547380.html
28. http://www.worldbank.org/en/news/infographic/2016/05/27/india-s-poverty-profile
29. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4988108/
30. https://innovareacademics.in/journals/index.php/ajpcr/article/viewFile/9616/9549
31. http://www.ijsrp.org/research-paper-0515/ijsrp-p41112.pdf
32. http://saspublisher.com/wp-content/uploads/2014/07/SJAMS-24C1325-1329.pdf
33. https://www.ihs.org.in/Publications/wp60.pdf
34. Government of India (GOI). Morbidity and Treatment of Ailments, NSS Fifty Second Round. National Sample Survey Organization, Department of Statistics, Government of India, 1998.
35. Government of Delhi (GoD).Report of evaluation study on CATS, February 2001. Evaluation Unit, Planning Department, Government of Delhi.
36. Government of India (GOI). A new deal for the health sector. Press Information Bureau, Government of India, 26th September, 2003.
37. Government of India (GOI). Population Policy, Ministry of Health and Family Welfare, Government of India, 2000.
38. Government of Tamil Nadu (GoTN). Budget Speech 2005-06. Government of Tamil Nadu, 2005.
39. Government of India (GOI). National Health Policy, 2002. Ministry of Health and Family Welfare, Government of India, New Delhi.
40. GOI (2001). Family Welfare Programme in India, Year Book 2001. Ministry of Health and Family Welfare, Government of India, 2001.
41. GOI. Health Information of India. Central Bureau of Health Intelligence, Ministry of Health and Family Welfare, Directorate General of Health Services, Government of India, New Delhi, 2002.
42. Mehra A. Air ambulance services in India. J Postgrad Med 2000; 46: 314-7
43. https://emj.bmj.com/content/21/5/528.short
44. https://search.proquest.com/openview/88283e042ecd1c7ffe393d3a8dbc650e/1?pq-origsite=gscholar&cbl=7080
45. https://www.annemergmed.com/article/S0196-0644(04)01461-1/pdf (ACEP)
46. http://www.nhm.gov.in/nhm/nrhm/guidelines/indian-public-health-standards.html
47. http://www.nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/sub-district-sub-divisional-hospital.pdf
48. http://www.nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/district-hospital.pdf
49. http://www.nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/sub-district-sub-divisional-hospital.pdf
50. http://www.nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/community-health-centres.pdf
51. http://www.nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/primay-health-centres.pdf
52. http://www.nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidlines-2012/sub-centers.pdf

Annexure:1

Patient Satisfaction

Questions	Expected Service					Perceived Service					Weighted				
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
The emergency doctors are having wide spectrum of knowledge and competence															
The emergency doctors understanding of specific need of patients															
The emergency doctor's sincere effort to solve patients" problems															
The emergency doctors thorough explanation regarding patients" medical condition															
Provision for individualized attention for each patient															
Patients treated with dignity and respect															
Patients" security and safety in receiving medical care															
Willingness of hospital staff to help patients															
Friendly and courteous behavior of doctors and staff															
Attitude of doctors and staff instilling confidence in patients															
24 hours service to patients															
Providing services right at the first time															
Maintenance of hospital's equipment															
Maintenance of high standard of hygiene															
Accessibility of the hospital (e.g. Parking facility, signage etc.)															