# A Theoretical Study: Service Quality of Health Care Centers and its Consequences

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# Abstract

The study on service quality may be focused by core, value added, critical and innovative service quality in Health Care Centers industry at near future. The present study treats the patients satisfaction as only mediator variables in between service quality and patient loyalty. It may extended to patient value and patients faith on the health care centers in future research work. There may be scope of the study on comparative analysis on Health Care Centers service quality in corporate health care centers and poly clinics.

# Keywords: Service Quality, Health Centre, Study

# 1. Introduction

The service sector is increasing at a faster rate and becoming more competitive today (Akter, et al., 2008). The health care consumers in developing countries are becoming more aware on the facilities at health care industries at the international level (Nketiah – Amponsah and Hiemenz, 2009). As the standard of living of the consumer, urbanization and increase in information and technology, there is a demand for better medical care to improve the life style of consumers (Alhashem, et al., 2011). The role of service quality at health care centers is widely recognized as being a critical determinant for the success and survival of the health care centers in the competitive environment. (Zain, et al., 2010). Many stakeholders in health care sectors are now emphasising service quality delivery (Lepsley, 2000) as a mechanism to meet consumer demand and value of money (Smith et al., 2006). Patient satisfaction has emerged as an important measure of the quality services offered by the health care centers (Noor, 2010). The understanding of patients' satisfaction on the Health Care Centers service quality will improve the outcome of healthcare system and enhance better service quality. (Arasli et al., 2008). In addition, patients' satisfaction are more likely to generate patent loyalty towards their Health Care Centers (Kessler and Mylod, 2011). Hence it is essential to study the patients view on the service quality of health care centers and its consequences for future policy implications.

### 1.1 Health Care Services Industry in India

In India, health is recognized as the responsibility of the state (Gyan and Singh, 2007). The health service is delivered both public and private health care systems. The government allocation of funds to public health care is system is equalent to meet the increase in demand for health care services by the population in India (Suchitra, 2003). The private sector investment in the health care industry has been increasing especially after liberalization of the Indian economy. There are lot of innovations, modern equipments, infra structural facilities and updation are visible in the health care industry in India (Bhupesh et al., 2013). Eventhough the health care industry is one of the India's largest sector in terms of revenue and employment (Venkatesh, 2007), the health care reformation in India (NHP, 2002). The main issue focused in the health care sector is the patient satisfaction (Ellis, et al., 2010). It is essential to examine whether the health care reformation has done a good thing in the India health care system or not. Hence the present study focuses on the aspects of service quality in health care centers, patient satisfaction and patient loyalty.

### 2. Literature Review

# i) Health Care Centers Service Quality

The Health Care Centers service quality have examined with the help of seven dimensions namely personnel quality, infrastructure, administrative process, process of clinical care, safety, overall medical care and social responsibility (Duggirala et al., 2008). Lani and Kunz (2004) examined the admission process, physician care, nursing care and discharging process to measure Health Care Centers service quality. Butt and Cyril (2010) and Sohail (2003) tested the basic servqual measures to measure the service quality in Health Care Centers. Chahal and Kumari (2010) analysed physical environment, interaction quality and outcome quality regarding the Health Care Centers service quality. Suki et al., (2011) focused on the interaction between patient and doctors and the confidence of the patients in the quality of medical services at Health Care Centers regarding this aspect.

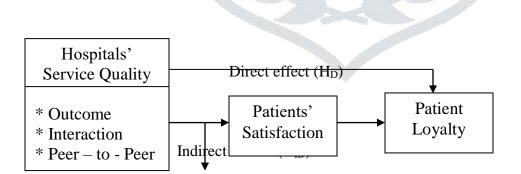
#### ii) Patient Satisfaction

The patient are satisfied if their perceived performance matches their expectations of services from the health care centers (Witlz, and Lee, 2003). Wirtz and Mattila (2001) measured the patient satisfaction by disconfirmation model. Patient's satisfaction is mediated by a patients' personal belief and values about a Health Care Centers (Kim et al., 2008). Grogan et al., (2000) identified the important role of patients' satisfaction in the measurement of quality care in Health Care Centers industry. Alhashem et al., (2011) revealed that there is a direct impact of relationship between patients and doctors on the patients' satisfaction. Esch et al., (2008) correlated the technical and interpersonal care with the patient satisfaction.

#### iii) Patient Loyalty

Zithaml et al., (1996) mentioned that the patient loyalty as a signal the customers will remain in with the service provider. Ladhari (2009) measured the patients loyalty by positive word of mouth and repurchase intention Finkalstein et al., (1999) measured the patient loyalty by the recommendation of the treatment to others. Kessler and Mylod (2011) measured by higher satisfaction and revisit of the Health Care Centers. Amin et al., (2011) revealed that he patient loyalty was developed by the previous experience in the Health Care Centers. Gaur et al., (2011) found a significant relationship between the patient satisfaction and patient loyalty.

Eventhough, there are so many studies related with the service quality, patient satisfaction and patient loyalty in health care industry, there is no exclusive study in the Dindigul district. Hence the present study has made an attempt to fill up the research gap with the help of proposed research model.



Based on the proposed research model, the present study confine its objectives to (i) to test the validity and reliability of variables in each measurement scale; (ii) to examine the direct and indirect impact of Health Care Centers' service quality on patient loyalty.

#### 3. Hypotheses

The formulated hypotheses of the present study are:

i) There is no significant direct effect of Health Care Centers' service quality on the patient loyalty;

ii) There is no significant mediator role of patient satisfaction in between Health Care Centers' service quality and patient loyalty.

# 4. Research Methodology

# 4.1 Sample

The sample size of the study was determined as 532 patients with the help of formula of  $n = \left[\frac{Z\sigma}{D}\right]^2$ .

The 532 patients were equally distributed to public and private health care centers in Dindigul district, Tamilnadu. Out 532 patients, only 296 patients were responded the schedule at the reusable level. Hence, these 296 schedules were taken for further analysis.

# 4.2 The Instrument

The interview schedule was used as an instrument to collect the relevant data from patients. Three dimensions of Health Care Centers service quality, patient satisfaction and patient loyalty along with their profile were incorporated in the interview schedule as per the recommendation of Aagja and Garg (2010); Choi and Kim (2012). A scale ranging from '1' very low to '5' very high was used to measure Health Care Centers service quality, patient satisfaction and patient loyalty. To avoid the issues of conceptual and psychometric property raised by Cronin and Jaylor (1992), the researchers used only perception of quality (Yavas et al., 2004).

# 5. Conceptual Frame Work of the Study

# 5.1 Service Quality in Health Care Centers

The service quality in health care centers represents the quality of service offered by the health care centers to the patients (Muslem 2008). It is based on the original service quality factors carried by Parasuraman et al., (1988). These are reliability, responsiveness, assurance, empathy and tangibles. Lynch and Schuler (1990), Sadig (2003) and Zim et al., (2004) also supported the core service quality factors to measure the Health Care Centers service quality. It was extended to value added service quality by Studer (2003), Massaro (2003) and Deman et al., (2002). Hariharan et al., (2004) supplemented the core service quality factors long with the previous two to measure the health care centers service quality.

The service quality in health care centers are classified into outcome quality, (Kang and James, 2004), interaction quality (Jap, 2001) and Peer-to-peer quality (Payne et al., 2008). The outcome quality is the quality of the outcome of service act and what the patient is left with after service delivery is complete (Groonroos, 1984). It reflects the patient's perception of the superiority of service experience (Brady and Cronin, 2001). Interaction quality is related to patient's perception of the interactions with service providers (Bitner et al., 1994). It shows the manner in which the service is delivered doing service encounters (Lemke et al., 2011). Peer-to-peer quality has been defined as a perceived judgement about an entity's excellence and superiority (Verhoef et al., 2009). In the present study, the above said three service qualities are measured with the help of relevant variables.

Patient's satisfaction shows the overall attitude of the patients on the Health Care Centers services (Boyer et al., 2006). It includes the performance of Physician, Nurses, para medical staffs, administrative staffs and also their process (Crowe, 2002). Patient's Loyalty is the positive attitudes based on cumulatively satisfying usage occasions (Oliver, 1999). It is defied as "an intention to perform a diverse set of behaviour that signal a motivation to maintain a relationship with the focal firm, including allocating a higher share of the category wallet to the specific service provider, engaging in positive words of mouth, and repeat purchasing (Sirdeshmukh et al., 2002).

The collected data were processed with the help of confirmatory factory analysis (Sureshkumar et al., 2002) and Structural equation model (Alrubaiee, L. and Alkaa'ida, 2011) in order to justify the validity of and reliability of measurement scale and the role of patient satisfaction as a mediator role in between Health Care Centers service quality and patient loyalty.

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#### 6. Results

### 6.1 Descriptive Statistics

Majority of patients are belonging to private Health Care Centers. The dominant gender among the patients is female. The important level of education among the patients are at the school level and under graduation. The important nativity among the patients is semi-urban whereas the dominant family size among them is four members. The dominant family income per month among the patients is Rs.10,000 to 20,000 whereas the important years of experience in this present Health Care Centers is 5 to 7 years.

## 6.2 Reliability and Validity of variables in the Construction

The constructs developed to test the hypotheses in the present study are outcome quality, interaction quality, peer-to-peer quality, patients' satisfaction and patients' loyalty. The variables in the constructs are varying from 3 to 5. The present study has made an attempt to examine the reliability and validity of variables in each construct with the help of confirmatory factor analysis (Anderson and Gerbing, 1998) and the Cronbach alpha (Nunnally, 1978).

The standardised factor loading of the variables in each construct is greater than 0.60 which reveals the content validity (Byrne, 2001). The significance of 't' statistics of the standardised factor loading of the variables in each construct reveal the convergent validity (Arun, 2012). It is also supported by the composite reliability and average variance extracted since these are greater than its minimum threshold of 0.50 and 50.00 per cent respectively (Carmines and Zeller, 1988). The Cronbach alpha of each construct exceeded the minimum standard of 0.70 (Nunnally and Bernstein, 1994). All these results indicate the reliability and validity of the constructs developed in the study.

## 6.3 Discriminant Validity among the Constructs

The discriminant validity among the five constructs have been tested with the help of the mean of AVE and square of correlation coefficient between all possible pair of the constructs developed in the present study. If the mean of AVEs is greater than its square of correlation coefficient between the pair, its discriminant validity will be assured (Fornell and Larcker, 1981).

The mean of AVEs of all pair of the constructs are greater than its respective square of correlation coefficient. It shows the discriminant validity among the constructs. For example, the mean of AVEs between outcome quality and interaction quality (0.5357) is higher than its square of correlation coefficient (0.5041). The sample types of results are seen in all possible pair of the constructs.

# 6.4 Patient's Perception on HCCSQ and its Consequences

The patent's perception on health care centers' service quality and its consequences namely patient satisfaction and patient loyalty have been measured by the mean score of the variables in each construct. The mean of each construct among the patients in private and public health care centers have been computed separately. The 't' test has been administered to findout the significant difference among the two group of health care centers regarding their patient's view on HCCSQ and its consequences.

The highly perceived HCCSQ by the patients in private health care centers is outcome quality since its mean score is 3.9097. It is followed by interaction quality since it's mean score is 3.6118. Among the patients in public health care centers, these are outcome quality and Peer-to-peer quality since it's mean scores are 2.3417 and 2.2784 respectively. The patients satisfaction and loyalty are higher among the patients in private health care centers compound to patients in public Health Care Centers. The patient loyalty is very poor on public Health Care Centers. Regarding the view on HCCSQ factors and it's consequences, there is a significant difference among the patients in private and public health care centers since then respective 't' statistics at five per cent level.

# 6.5 Direct and Indirect effect of HCCSQ factors on Patient's Loyalty

The Health Care Centers service quality may have some significant direct effect on Patient Loyalty. But, the insignificant direct effect of HCCSQ on patients loyalty may involve some indirect effect through the mediator variable namely patient satisfaction. The present study has made an attempt to examine the direct,

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indirect and total effect of HCCSQ factors on patients loyalty with the help of structural equation modeling (Bagozzi and Yi, 1988; Amderson and Gerbing, 1988).

Initially, the fitness of data in the measurement model was justified since the chi-square is significant at Zero per cent level, the Root Mean Square Residual (0.0174), Goodness-of-fit-Index (GFI), Adjusted Goodness-of-fit-Index (AGFI) and comparative Fit index (CFI) are better than it respective standard minimum level (Gerbing et al., 1987). The significant direct effect of HCCSQ on patients loyalty is made by outcome quality alone since its path coefficients (0.1344) is significant at five per cent level. But all the three HCCSQ factors are having a significant indirect impact on patient loyalty since their path coefficients through patient satisfaction are significant at five per cent level. The higher indirect effect is made by interaction quality. The higher total effect of HCCSQ on patient loyalty is noticed in the case of interaction quality since its coefficient is 0.3866. The analysis reveals the importance of patient satisfaction as a mediator variable in between HCCSQ and patient loyalty.

#### 7. Research Implications

The Health Care Centers' service quality measured by the three dimensions namely outcome, interaction and Peer-to-peer quality reveal the findings of Beom and Kim, (2012); Peyrot et al., (1993) and Amin and Siti (2013). The patient satisfaction and loyalty in public health care centers are lesser than that in private health care centers recall the findings of Arasli et al., (2008); Lim and Tang (2000) and Angelo Ponlon et al., (1998). The patient loyalty on health care centers' services among the patients is lesser than the patient satisfaction on Health Care Centers services is similar with the findings of Ambori et al., (2010) and Srideshmukh et al., (2002). The significant indirect effect of service quality on patient loyalty i.e. through the patient's satisfaction indicates the result of previous findings of Abuosi and Atinga, (2012) and; Hussein and Amal, (2013).

#### 7.1 Managerial Implications

Own empirical findings should focus important managerial implications. First the health care centers authorities are advised to design their Health Care Centers' service quality in order to satisfy their patients. The important health care centers' service quality factors to be focused are outcome and interaction quality. The outcome quality reveals the recovery of the patient whereas the interaction quality create a faith among the patients. Even though the interaction quality and Peer-to-peer quality have no significant direct impact on patient's loyalty, these factor have a significant indirect impact on patient's loyalty. Hence, the Health Care Centers administrators are advised to provide an conductive environment to their employees which motivate them to offer a high quality services to patients. Even though the patient satisfaction. It implies that the Health Care Centers authorities should facilitate the interaction among the patients to improve patients satisfaction and then patients loyalty. Since the patients satisfaction is a key mediator, the Health Care Centers administrators may need to choose a proper combination of Health Care Centers' service qualities to ensure patient satisfaction.

#### 8. Conclusion

Since the present study limited its scope to health care centers only at Dindigul district, in future research, the scope may be extended. The study on service quality may be focused by core, value added, critical and innovative service quality in Health Care Centers industry at near future. The present study treats the patients satisfaction as only mediator variables in between service quality and patient loyalty. It may extended to patient value and patients faith on the health care centers in future research work. There may be scope of the study on comparative analysis on Health Care Centers service quality in corporate health care centers and poly clinics. The role of demographic profile in Health Care Centers service quality gaps may be analysed in future research work.

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