

Role of healthcare consumerism in public and private hospitals in India

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Abstract

Purpose

Hospital service quality is important amidst the raise of healthcare consumerism. It is of prime concern in telemedicine, medical tourism and appointment booking. More over a good hospital service quality enhances the brand image of the hospital by which the hospital is able to attract more patients and in turn lead to increase hospital revenues. Healthcare consumerism offers more choices in healthcare to patients and helps patients to make informed choices. The digital world helps healthcare consumerism by allowing patients to research health issues online, share information and participate in their healthcare decisions. Healthcare information technology is also enhancing the growth of healthcare consumerism for it arranges the platform for information exchange. The two broad categories of hospitals in India are public and private hospitals. They differ in service quality perception of patients, hospital infrastructure and the socio economic profile of the patients. This study aims to arrive at the relationship of hospital service quality and healthcare consumerism in both public and private hospitals.

Design/methodology/approach

A structured questionnaire is administered to out-patients for collecting data. Then using exploratory factor analysis the constructs are formed and using regression analysis the relationship is established.

Findings

The study concludes that healthcare consumerism has a significant relationship with hospital service quality for both public and private hospitals. The coefficient of regression line equation in public hospital for healthcare consumerism is negative and in private hospital it is positive

Originality

The data collection for the study is done in the beginning of COVID 19 pandemic. This study brings out the role of healthcare consumerism on hospital service quality in India.

Research limitations/implications

This study is limited to out-patients in India. Only regression analysis is used in this study to establish the relationship between healthcare consumerism and healthcare service quality.

Practical implications

Academics and people in healthcare industry should keep paying attention to rise in healthcare consumerism and its influence on healthcare service quality in public and private hospitals when formulating strategies.

Keywords— Hospital service quality, healthcare consumerism, public hospitals, private hospitals, healthcare industry

Introduction

Indian health care system consists of public and private sector hospitals. Private hospital are more in number than public hospitals. There are 25,778 public hospitals and 43,487 private hospitals in India (Kapoor et al., 2020). The potential for Indian healthcare industry is attractive. It is proved by the fact that the healthcare industry is growing at an accelerated rate Indian healthcare market is expected to grow by a rate of 15% in the coming 5 years (Sarma, 2020). Private hospitals provides majority of secondary, tertiary, and quaternary care institutions with major presence in cities (India Brand Equity Foundation, 2017).

Socio economic profile of the out patients is important consideration for both private and public sector hospitals. Public hospitals provide low cost healthcare whereas private hospitals provide high cost healthcare. Thus public hospital caters the low to middle income groups and private hospital caters to high income groups (AR, 2019). On comparison between private and public hospitals in India, private hospital offer better service quality (Swain, 2019). Public hospital showed average on patient satisfaction with service quality (Ajoud & Jouili, 2021).

Indian Healthcare industry is attracting medical tourism. By medical tourism foreign nationals travel to India and utilize the healthcare offered in India. Indian medical tourism market is growing at 18 per cent year on year (India Brand Equity Foundation, 2017). This is an important revenue source for hospitals in India. One of the driving factors for medical tourism is the healthcare service quality and cost. For medical tourism the healthcare service quality should be better than the other countries and the cost of treatment should be low (Garg et al., 2020). Here the important factor is the healthcare service quality. India ranks 145 among 195 countries in terms of quality and accessibility of healthcare, (India Brand Equity Foundation, 2017). People prefer India as a destination for medical tourism for ayurvedic

treatment and treatment from natural resources (Jindal & Yashika, 2019). Healthcare consumerism enables medical tourism (Sobo et al., 2011).

Public and private hospitals have started to offer health care service to people living in both to the urban and rural areas. This is possible through the adoption of telemedicine which makes the digital out-patient department (OPD) a reality. Here again hospital service quality is important (Dash et al., 2019).

Healthcare consumerism provides more choices in healthcare (Bellieni, 2019). It plays a role in answering how patients perceive healthcare, how patients select hospitals, and how patients make their healthcare decisions (Cordina et al., 2015). The key element healthcare consumerism is the informed choice of the patients (Excellence, 2005)

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Healthcare Service quality

Healthcare service quality is of concern to healthcare industry across the world. Patient-centered care is becoming a prime concern in healthcare industry (Upadhyai et al., 2019). Healthcare service quality is measured using “SERVQUAL” five dimensions, namely, reliability, responsiveness, supporting skills, empathy and tangibles (Endeshaw, 2021). It is commonly used in the healthcare service quality measurement (Pekkaya et al., 2019). SERVQUAL is being used as the basic model in both developed and developing countries (Fatima et al., 2019). One of the hospital service quality factors is the provision of clean environment and the communication regarding hospital services (Samal et al., 2017).

Healthcare consumerism

Healthcare consumerism is active in the current healthcare environment. Healthcare leaders are now importance to patient experience (Wolf, 2017). With healthcare consumerism patients are demanding more active role in their medical care decisions: they are choosing their medical

insurance and their physicians. (Shrank, 2017). They are equipped with the care information, which are available to them in the form of internet. To be precise the information comes from digital world - patients research health issues online, share information and participate in self-management of their health. (Shetty et al., 2018). One of the major players in digital world is the healthcare information technology. It includes mobile monitoring app, wearable fitness tracking and electronic health record (EHR) (Paper, 2015). Healthcare consumerism lays emphasis on patient service view, this has led to emerging of services as healthcare assistant which plays a key role in providing a patient centered services (Meek, 1998). The healthcare IT in form of Enterprise Resource Planning Systems enabled hospital to provide better service quality (Fiaz et al., 2018). Healthcare consumerism is measured through better insurance options that facilitate higher deductibles, copayments and greater transparency in hospital performance and costs (Carrus et al., 2015); outcomes (Björnberg & Phang, 2018). Healthcare consumerism is exhibited by freedom of choice, individual rights and autonomy, responsiveness to consumer needs and preferences, and patient empowerment (Excellence, 2005).

Socio economic parameters

Factors that influence Healthcare service quality is Patient related factors (Patient socio-demographic variables) and provider related factors (Provider socio-demographic variables) (Mosadeghrad, 2014).

Objective of study

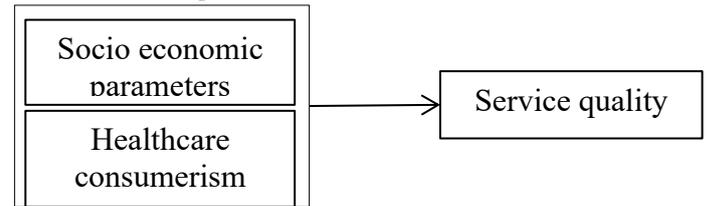
1. To study the influence of socio economic parameters on service quality perception
2. To study the relationship between healthcare consumerism and service quality perception

Research Model

Literature survey describes the three variables socio economic criterion, healthcare consumerism criterion and service quality criterion. Research model based on the

literature survey is presented in Fig 1 Research model

Fig 1 Research model



Influence of socio economic parameters on service quality

Patients differentiate healthcare service quality in terms of age, income and education levels (Pekkaya et al., 2019). Some studies indicate no relationship exists between age and hospital service quality (Meesala & Paul, 2018). Hence the following hypothesis is formed:

H₁: There is a difference in service quality perception based on various levels of socio-economic parameters in public hospitals

H₂: There is a difference in service quality perception based on various levels of socio-economic parameters in private hospitals

Influence of healthcare consumerism on service quality

Patients or healthcare consumer are rating healthcare quality to make informed healthcare decisions which is part of healthcare consumerism. They look keenly at trust in physician and health related communication. Suggesting positive relationship between healthcare consumerism and service quality perception (Shrank, 2017). That means healthcare consumerism helps in improving healthcare service quality (Jerofke-Owen et al., 2020). Digital ecosystems allowed hospitals to create and capture new value through data analytics and delivery models improving healthcare quality. (Shetty et al., 2018). Thus the following hypothesis is formed:

H₃: There is relationship between the healthcare consumerism and the service quality perception in public hospitals

H₄: There is relationship between the healthcare consumerism and the service quality perception in private hospitals

RESERCH METHODOLOGY

Research instruments and Data Collection

Research instrument used in this study is a structured questionnaire. It is administered to 530 out-patients who completed their doctor appointment. The questionnaire consists of three sections. First section includes the socio economic criterion, second section includes the healthcare consumerism criterion and third section includes the hospital service quality criterion. Likert seven scale is used in the questionnaire to collect responses where 1= strongly disagree to 7 = strongly agree. The questionnaire is in ANNEXURE I Questionnaire.

Statistical tools and methods

IBM SPSS software is used for data analysis. The statistical techniques used in this study include exploratory factor analysis, reliability of the constructs, descriptive statistics, effect size, ANOVA and regression analysis to explore the relationship.

Results and Discussion

1. Exploratory factor analysis
 - a. KMO Measure of Sampling Adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.757 shown in Table 1 KMO and Bartlett's test result. It is above the allowable limit of 0.6 (Kaiser 1974, Hair et al., 2013).

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .757 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2360.379 |
| | df | 36 |
| | Sig. | 0.000 |

Table 1 KMO and Bartlett's test result

- b. Total variance explained

The total variance explained by the two components is 64.262. It is above the

recommended value of 0.5. Total variance explained is shown in Table 2 Total variance explained

| | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3.582 | 39.799 | 39.799 | 3.582 | 39.799 | 39.799 | 3.525 | 39.169 | 39.169 |
| 2 | 2.202 | 24.463 | 64.262 | 2.202 | 24.463 | 64.262 | 2.258 | 25.093 | 64.262 |
| 3 | 1.106 | 12.291 | 76.553 | | | | | | |
| 4 | .522 | 5.803 | 82.357 | | | | | | |
| 5 | .465 | 5.170 | 87.527 | | | | | | |
| 6 | .388 | 4.309 | 91.836 | | | | | | |
| 7 | .313 | 3.474 | 95.310 | | | | | | |
| 8 | .244 | 2.712 | 98.022 | | | | | | |
| 9 | .178 | 1.978 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.

Table 2 Total variance explained

- c. Rotated components matrix

Each of the nine factors is heavily loaded. Rotated component matrix is shown in the Table 3 Rotated component matrix. Here SQ = service quality and HC = healthcare consumerism. SQ criteria on the rotated component matrix include feedback on the patient visit, feedback on the hospital services; OP reception is friendly, good medical equipment and good canteen. HC criteria include on rotated component matrix are choice to select software application, choice to choose doctor for appointment, choice to select healthcare insurance company and all healthcare insurance policies are accepted by the hospital.

| | Component | |
|---|-----------|------|
| | SQ | HC |
| SQ5 | .882 | |
| SQ6 | .865 | |
| SQ4 | .859 | |
| SQ1 | .791 | |
| SQ3 | .774 | |
| HC1 | | .814 |
| HC3 | | .793 |
| HC2 | | .722 |
| HC4 | | .631 |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. | | |

Table 3 Rotated Component matrix

d. Reliability of the constructs

Cronbach’s alpha is a test reliability technique. George and Mallery (2003) provide the following: “_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor and _ < .5 – Unacceptable”. Cronbach’s alpha of service quality (SQ) construct is 0.891, >0.8 so it is good. Cronbach’s alpha of healthcare consumerism (HC) construct is 0.726, >0.7 so it is acceptable. These are

| Age | | | Income | | | Education | | |
|---------------|----|-----|-----------|----|------|--------------|----|-----|
| | # | % | | # | % | | # | % |
| 1 - 20 years | 9 | 4.4 | < 1 lac | 16 | 7.8 | No education | 10 | 4.9 |
| 21 - 30 years | 17 | 8.3 | 1 - 3 lac | 28 | 13.6 | 10 pass | 4 | 1.9 |

subjected to further analysis. Cronbach's Alpha is shown in Table 4 Reliability of the constructs.

| Construct | Cronbach's Alpha | # |
|-----------|------------------|---|
| SQ | .891 | 5 |
| HC | .726 | 4 |

Table 4 Reliability of the constructs

2. Descriptive statistics

2.1 Questionnaire respondents

The result of the descriptive statistics of the questionnaire respondents shows that there are more respondents from private hospital 61.1 % than the respondents from public hospital 38.9 %. These are shown in the Table 5 Questionnaire respondents.

| | # | % |
|---------|-----|-------|
| Public | 206 | 38.9 |
| Private | 324 | 61.1 |
| Total | 530 | 100.0 |

Table 5 Questionnaire respondents

2.2 Public hospital

The result of the public hospital descriptive statistics is given below.

Age of the respondents

The age group 51 - 60 years has the highest percentage 33.5 % of the respondents followed by age group 41 - 50 years with 30.6 % of respondents and age group 31 - 40 years with 13.6 % respondents.

Income of the respondents

The income group 9 - 11 lac has the highest percentage 43.2 % of the respondents followed by income group 7 - 9 lac years with 16.5 % of respondents and income group 1 - 3 lac with 13.6 % respondents.

Education qualification of the respondents

The education qualification of Graduate has the highest percentage 48.1% of the respondents followed by education qualification of diploma with 39.8% of respondents and education qualification of no education with 4.9 % respondents.

| | | | | | | | | |
|---------------|----|------|------------|----|------|---------------|----|------|
| 31 - 40 years | 28 | 13.6 | 3 - 5 lac | 20 | 9.7 | 12 pass | 5 | 2.4 |
| 41 - 50 years | 63 | 30.6 | 5 - 7 lac | 11 | 5.3 | Diploma | 82 | 39.8 |
| 51 - 60 years | 69 | 33.5 | 7 - 9 lac | 34 | 16.5 | Graduate | 99 | 48.1 |
| 61 - 70 years | 20 | 9.7 | 9 - 11 lac | 89 | 43.2 | Post Graduate | 4 | 1.9 |
| 70 + years | 0 | 0.0 | 11 + lac | 8 | 3.9 | PhD | 2 | 1.0 |

Table 6 Public hospital descriptive statistics

2.3 Private hospitals

The result of the private hospital descriptive statistics is given below.

Age of the respondents

The age group 41 - 50 years has the highest percentage 33.3 % of the respondents followed by age group 51 - 60 years with 32.7 % of respondents and age group 31 - 40 years with 17.9% respondents.

Income of the respondents

The income group 9 - 11 lac has the highest percentage 31.5% of the respondents followed

by income group 7 - 9 lac years with 24.1 % of respondents and income group 5 - 7 lac with 16.4% respondents.

Education qualification of the respondents

The education qualification of Graduate has the highest percentage 43.5% of the respondents followed by education qualification of diploma with 39.5% of respondents and education qualification of post Graduate with 9.9 % respondents.

| Age | | | Income | | | Education | | |
|---------------|-----|------|------------|-----|------|---------------|-----|------|
| | # | % | | # | % | | # | % |
| 1 - 20 years | 6 | 1.9 | < 1 lac | 24 | 7.4 | No education | 2 | .6 |
| 21 - 30 years | 27 | 8.3 | 1 - 3 lac | 18 | 5.6 | 10 pass | 5 | 1.5 |
| 31 - 40 years | 58 | 17.9 | 3 - 5 lac | 38 | 11.7 | 12 pass | 13 | 4.0 |
| 41 - 50 years | 108 | 33.3 | 5 - 7 lac | 53 | 16.4 | Diploma | 128 | 39.5 |
| 51 - 60 years | 106 | 32.7 | 7 - 9 lac | 78 | 24.1 | Graduate | 141 | 43.5 |
| 61 - 70 years | 18 | 5.6 | 9 - 11 lac | 102 | 31.5 | Post Graduate | 32 | 9.9 |
| 70 + years | 1 | .3 | 11 + lac | 11 | 3.4 | PhD | 3 | .9 |

Table 7 Public hospital descriptive statistics

3. Hypothesis testing

1.1 H₁: There is a difference in service quality perception based on various levels of socio-economic parameters in public hospitals

Age of the respondents

The ANOVA result indicate $F(5,200) = 3.918$ and $p = 0.002$. Since $p < 0.05$ it is significant. There is significant difference in service quality perception based on various levels of age socio-economic parameters in public hospitals. Age explains approximately 9 % of the variance in service quality since $\eta_p^2 = 0.09$. H₁ accepted for age.

Income of the respondents

The ANOVA result indicate $F(6,199) = 13.580$ and $p < 0.001$. Since $p < 0.05$ it is significant. There is significant difference in service quality perception based on various levels of income

socio-economic parameters in public hospitals. Income explains approximately 29 % of the variance in service quality since $\eta_p^2 = 0.29$. H₁ accepted for income.

Education of the respondents

The ANOVA result indicate $F(6,199) = 6.857$ and $p < 0.001$. Since $p < 0.05$ it is significant. There is significant difference in service quality perception based on various levels of education socio-economic parameters in public hospitals. Income explains approximately 17 % of the variance in service quality since $\eta_p^2 = 0.17$. H₁ accepted for education.

The study findings of H₁ agree with the earlier literature : Patients differentiate healthcare service quality in terms of various levels of age, income and education levels (Pekkaya et al., 2019).

| | | SS | df | F | p | η_p^2 |
|-----------|----------------|---------|-----|--------|---------|------------|
| Age | Between Groups | 17.476 | 5 | 3.918 | .002 | 0.09 |
| | Within Groups | 178.419 | 200 | | | |
| Income | Between Groups | 56.908 | 6 | 13.580 | < 0.001 | 0.29 |
| | Within Groups | 138.987 | 199 | | | |
| Education | Between Groups | 33.562 | 6 | 6.857 | < 0.001 | 0.17 |
| | Within Groups | 162.333 | 199 | | | |

Table 8 Public hospital difference in service quality perception on various levels of socio economic parameters

1.2 H₂: There is a difference in service quality perception based on various levels of socio-economic parameters in private hospitals

Age of the respondents

The ANOVA result indicate F (6,317) = 3.264 and p=0.004. Since p < 0.05 it is significant. There is significant difference in service quality perception based on various levels of age socio-economic parameters in private hospitals. Age explains approximately 6 % of the variance in service quality since $\eta_p^2= 0.06$. H₂ accepted for age.

Income of the respondents

The ANOVA result indicate F (6,317) = 5.168 and p < 0.001. Since p < 0.05 it is significant. There is significant difference in service quality perception based on various levels of income socio-economic parameters in private hospitals.

Income explains approximately 9 % of the variance in service quality since $\eta_p^2= 0.09$. H₂ accepted for income.

Education of the respondents

The ANOVA result indicate F (6,317) = 6.605 and p < 0.001. Since p < 0.05 it is significant. There is significant difference in service quality perception based on various levels of education socio-economic parameters in private hospitals. Income explains approximately 11 % of the variance in service quality since $\eta_p^2= 0.11$. H₂ accepted for education.

The study findings of H₂ agree with the earlier literature : Patients differentiate healthcare service quality in terms of various levels of age, income and education levels (Pekkaya et al., 2019).

| | | SS | df | F | p | η_p^2 |
|--------|----------------|---------|-----|-------|---------|------------|
| Age | Between Groups | 15.845 | 6 | 3.264 | .004 | 0.06 |
| | Within Groups | 256.477 | 317 | | | |
| Income | Between Groups | 24.263 | 6 | 5.168 | < 0.001 | 0.09 |
| | Within Groups | 248.060 | 317 | | | |

| | | | | | | |
|-----------|----------------|---------|-----|-------|---------|------|
| Education | Between Groups | 30.261 | 6 | 6.605 | < 0.001 | 0.11 |
| | Within Groups | 242.062 | 317 | | | |

Table 9 Private Hospital difference in service quality perception on various levels of socio economic parameters

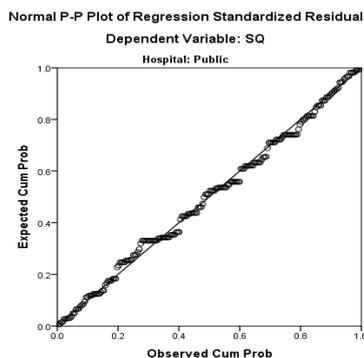
1.3 H₃: There is relationship between the healthcare consumerism and the service quality perception in public hospitals

Regression assumptions test

a. Normality

Normality is tested by Q-Q scatter plot. Here normality assumption is met since the quartiles of the residuals do not strongly deviate from the theoretical quartiles. The result is shown in Fig 2 Public hospital normality test result.

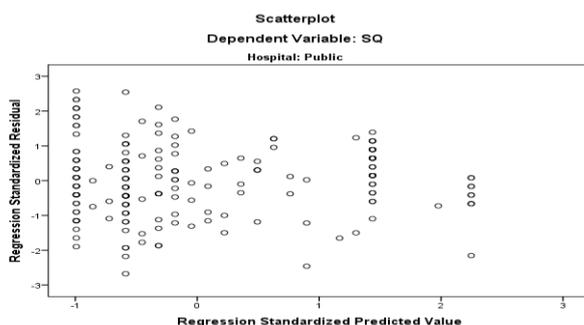
Fig 2 Public hospital normality test result



b. Homoscedasticity

Plot between residuals and the predicted values used to test for homoscedasticity. Here Homoscedasticity assumption is met as points appear randomly distributed with a mean of zero and no apparent curvature. The result is shown on Fig 3 Public hospital homoscedasticity test result.

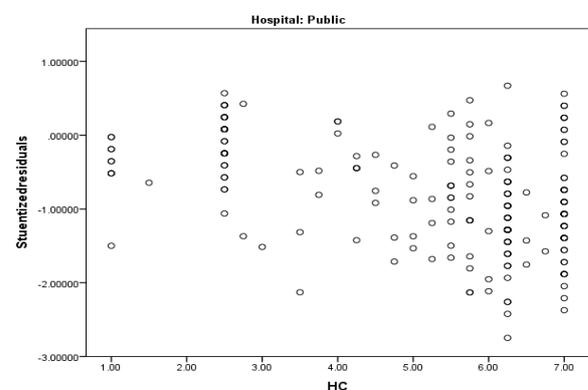
Fig 3 Public hospital homoscedasticity test result



c. Outliers

Plot between studentized residuals against independent variable healthcare consumerism used to test outliers. Here the assumption is met, since few of the point's lies above 2 and below -2 studentized residual values. The result is shown in Fig 4 Public hospitals outliers test result.

Fig 4 Public hospitals outliers test result



d. Multicollinearity

VIF value is used to test multicollinearity. Here the assumption is met since VIF value is 1 which is less than 10. The result is shown in Table 12 Regression coefficients.

Here since all the regression assumptions are met, regression analysis is performed.

The result of the regression model shows R = 0.571 indicating that the dependent variable healthcare consumerism is correlated with independent variable healthcare service quality. The result also shows R² = 0.326 indicating that 32.6 % of total variance in healthcare service quality is explained by healthcare consumerism in public hospitals.

The result of the ANOVA shows F (1, 204) = 98.542 and p < 0.001 indicating that there is significant relationship between healthcare consumerism and healthcare service quality in public hospitals.

The result of the regression coefficient shows B (constant) = 5.035 healthcare consumerism = -0.301, $p < 0.001$ indicating regression model is statistically significantly. So independent variable healthcare consumerism predicts the dependent variable healthcare service quality in public hospitals.

Regression line equation

$$\text{Healthcare service quality} = 5.035 + (-0.301) \text{ healthcare consumerism}$$

The line equation indicates that as the value of healthcare consumerism decreases the value of healthcare service quality increases. Hence H_3 is accepted

The study findings of regression model for public hospitals agree with the relationship of healthcare consumerism and healthcare service quality found in earlier studies : healthcare consumerism helps in improving healthcare service quality (Jerofke-Owen et al., 2020). The study findings regression line equation does not agree with the relationship of healthcare consumerism and healthcare service quality found in earlier studies: positive relationship between healthcare consumerism and service quality perception (Shrank, 2017).

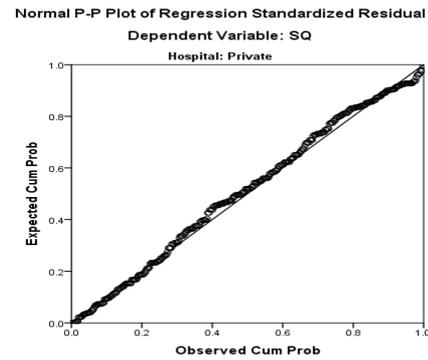
1.4 H4: There is relationship between the healthcare consumerism and the service quality perception in private hospitals

Regression assumptions test

a. Normality

Normality is tested by Q-Q scatter plot. Here normality assumption is met since the quartiles of the residuals do not strongly deviate from the theoretical quartiles. The result is shown in Fig 5 Public hospital normality test result.

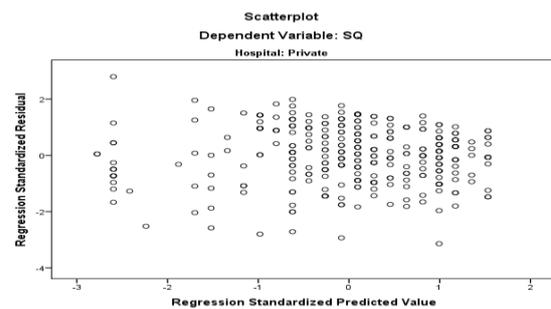
Fig 5 Private Hospital normality test result



b. Homoscedasticity

Plot between residuals and the predicted values used to test for homoscedasticity. Here Homoscedasticity assumption is met as points appear randomly distributed with a mean of zero and no apparent curvature. The result is shown on Fig 6 Public hospital homoscedasticity test result.

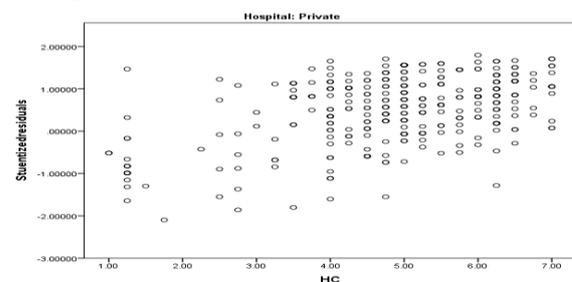
Fig 6 Private Hospital homoscedasticity test result



c. Outliers

Plot between studentized residuals against independent variable healthcare consumerism used to test outliers. Here the assumption is met, since few of the point's lies above 2 and below -2 studentized residual values. The result is shown in Fig 7 Public hospitals outliers test result.

Fig 7 Private Hospital outlier test result



d. Multicollinearity

VIF value is used to test multicollinearity. Here the assumption is met since VIF value is 1

which is less than 10. The result is shown in Table 12 Regression coefficients.

Here since all the regression assumptions are met, regression analysis is performed.

The result of the regression model shows $R = 0.380$ indicating that the dependent variable healthcare consumerism is correlated with independent variable healthcare service quality. The result also shows $R^2 = 0.144$ indicating that 14.4 % of total variance in healthcare service quality is explained by healthcare consumerism in private hospitals.

The result of the ANOVA shows $F(1, 322) = 54.191$ and $p < 0.001$ indicating that there is significant relationship between healthcare consumerism and healthcare service quality in private hospitals

The result of the regression coefficient shows $B(\text{constant}) = 3.907$ healthcare consumerism = 0.250 , $p < 0.001$ indicating regression model is statistically significantly. So independent variable healthcare consumerism predicts the

dependent variable healthcare service quality in private hospitals.

Regression line equation

Healthcare service quality = $3.907 + (0.250)$ healthcare consumerism

The line equation indicates that as the value of healthcare consumerism increases the value of healthcare service quality increases. Hence H_4 is accepted.

The study findings of regression model for private hospitals agree with the relationship of healthcare consumerism and healthcare service quality found in earlier studies : healthcare consumerism helps in improving healthcare service quality (Jerofke-Owen et al., 2020). The study findings regression line equation agree with the relationship of healthcare consumerism and healthcare service quality found in earlier studies :positive relationship between healthcare consumerism and service quality perception (Shrank, 2017).

| | R | R ² | Adjusted R Square | Std. Error of the Estimate |
|------------------|------|----------------|-------------------|----------------------------|
| Public hospital | .571 | .326 | .322 | .80467 |
| Private hospital | .380 | .144 | .141 | .85082 |

Table 10 Regression model summary

| Model | | SS | df | F | p |
|------------------|------------|---------|-----|--------|---------|
| Public hospital | Regression | 63.805 | 1 | 98.542 | < 0.001 |
| | Residual | 132.089 | 204 | | |
| | Total | 195.894 | 205 | | |
| Private hospital | Regression | 39.229 | 1 | 54.191 | < 0.001 |
| | Residual | 233.094 | 322 | | |
| | Total | 272.322 | 323 | | |

Table 11 ANOVA results

| Coefficients | | | | | | |
|-----------------|------------|-----------------------------|------------|--------|---------|-------|
| Model | | Unstandardized Coefficients | | t | p | VIF |
| | | B | Std. Error | | | |
| Public hospital | Constant | 5.035 | .166 | 30.259 | < 0.001 | |
| | Healthcare | -.301 | .030 | -9.927 | < 0.001 | 1.000 |

| | consumerism | | | | | |
|------------------|------------------------|-------|------|--------|---------|-------|
| Private hospital | Constant | 3.907 | .172 | 22.714 | < 0.001 | |
| | Healthcare consumerism | .250 | .034 | 7.361 | < 0.001 | 1.000 |

Table 12 Regression coefficients

consumerism is positive. Suggesting that as healthcare consumerism increases the healthcare service quality increases.

CONCLUSIONS AND SUGGESTIONS

Conclusions

The questionnaire is administered to 530 out-patients. 61.1 % of respondents are from private hospitals. In public hospitals age group 51 – 60 years, income group 9 – 11 lac and respondents with graduate qualification has the highest percentage of respondents in that group. In private hospitals age group 41 – 50 years, income group 9 – 11 lac and respondents with graduate qualification has the highest percentage of respondents in that group.

There is significant difference in service quality perception based on various levels of age, education and income socio-economic parameters in public hospitals. H_1 is accepted. There is a significant difference in service quality perception based on various levels of socio-economic parameters in private hospitals. H_2 is accepted.

The study concludes that there is a significant relationship between healthcare consumerism and healthcare service quality in public hospital. H_3 is accepted. However the coefficient of the regression line equation for healthcare consumerism is negative. Suggesting that as healthcare consumerism increases the healthcare service quality decreases.

The study concludes that there is a significant relationship between healthcare consumerism and healthcare service quality in private hospital. H_4 is accepted. The coefficient of the regression line equation for healthcare

Suggestion

1. It is suggested academicians and people in healthcare industry should note that different levels of socio-economic parameters namely age; education and income have different influence on healthcare service quality in public and private hospitals when formulating strategies for the hospital.
2. Healthcare consumerism affects healthcare service quality in both public and private hospitals. It is suggested academicians and people in healthcare industry should keep paying attention to healthcare consumerism.
3. A coefficient of regression equation for healthcare consumerism in public hospitals is negative. It is suggested academicians and people in healthcare industry should note this in developing strategies for public hospitals.
4. A coefficient of regression equation for healthcare consumerism in private hospitals is positive. It is suggested academicians and people in healthcare industry should note this in developing strategies for private hospitals.

Limitation of study

1. This study is limited to out-patients in India
2. Only two variables healthcare consumerism and healthcare service quality are considered for this study.
3. Only regression analysis is used in this study to establish the relationship between healthcare consumerism and healthcare service quality.

Future direction for research

1. Further research can be conducted with more variables like hospital brand, technology, specific disease etc
2. Further research can use more statistical tools like moderation, mediation etc

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