Research Paper Economics

Satisfaction From Primary Health Care Services: A Comparative Study of Two Taluks in Mysore District

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ABSTRACT

The utilisation of any social services including health services have never been equitably distributed throughout society is proved by many studies (Ray SK et al., 2011). Along with utilisation, it is also important to check the satisfaction associated with access to social services especially health services and its association with other variables. It would be interesting to examine the relationship between utilisation and satisfaction. Because the utilisation rates itself does not disclose whether the users are satisfied with public health services delivered through Primary Health Centres (PHCs) or not. In this context the present paper made an attempt to study the utilisation of public health services along with satisfaction through a comparative study. The results indicated that higher utilisation is not a sign of higher satisfaction in the context of Primary Health Centres. Further the study identified some variables like Doctor's availability, Quality of Service, Cleanliness etc., influencing satisfaction in study area so that right decisions are taken in order to increase the satisfaction rates associated with PHCs.

Keywords : Mysore district, Primary Health Centres, Satisfaction, Utilisation, Chi-square, Logit.

Introduction

The utilisation of any social services including health services have never been equitably distributed throughout society (Ray SK, Basu SS, & Basu Ak 2011). The Government of India introduced the concept of Primary Health Centre with the intention to provide accessible, affordable and available primary health care to the common people at their door step, with specific focus on the rural and vulnerable sections. But the studies by Ray & Mukhopadhyay (1984), Ray SK et al., (2011), Ghosh & Mukherjee (1989) and Ram & Datta (1976) indicate lesser utilisation (i.e., less than 50 percent) of Government health services especially Primary Health Centre (PHC) services in different states of India.

An analysis of health services coverage of PHCs in west Bengal indicated that PHC services declined significantly with distance from the primary health centre and it further reported that utilisation of PHC services is higher in lower income group than the higher income groups (Ray, 2011). Different research works have dealt with utilisation of public health care services and have come out with several factors influencing utilisation such as distance, income, transport cost, age, health condition and so on.

Along with utilisation, it is also important to check the satisfaction associated with access to social services especially health services and its association with other variables. It would be interesting to examine the relationship between utilisation and satisfaction. Because the utilisation rates itself does not disclose whether the users are satisfied with public health services delivered through Primary Health Centres or not.

Very few research works have thrown light on utilisation as well as satisfaction associated with PHCs. In this background the present paper made an attempt to study utilisation of PHC services along with satisfaction from PHC services through comparative study.

Objectives

- To explore the utilisation rates of PHC services in the study area.
- To compare the utilisation rates of PHC services between two taluks[1].
- To explain the possible determinants of satisfaction with respect to PHC services in the study area.

Hypotheses

- Utilisation of PHC services significantly differ between two taluks.
- There is a significant association between satisfaction from utilisation of PHC services and it's determinants like Quality services, Doctors availability, Locality, Response from medical personnel and staff , Cleanliness, Infrastructure, Drugs availability, Waiting time.

Methodology

Study area

Two taluks in the Mysore district were selected for field work based on Health Infrastructure Index[2], Mysore taluk as developed taluk and H.D Kote taluk as underdeveloped or backward taluk. In each taluk two PHCs were selected such that they are located in hobli [3] head quarters (HQ). But in H.D Kote (Kote) taluk, N. Belthur PHC was selected for field work though it is not located in Hobli but it includes Antharsante hobli in its coverage area. Thus Varuna, Yelawala PHCs in Mysore taluk and Hampapura, N.Belthur PHC in H.D Kote taluk were finally selected for field work.

Sample size and sampling

Sixty respondents living in the coverage areas of each PHC were selected randomly for interview, where 20 respondents

were taken based on each distance group such as <4 km, =>4km <8km, =>8km from each PHC. Thus a total of 240 responses were collected, where 120 are from Mysore taluk and 120 from Kote taluk.

Questionnaire
A well structured questionnaire was used for data collection. The questionnaire was self administered, consisting of both close ended and open ended question.

Study variables and measurement
The variables included in this study were as follows: respondents socioeconomic characteristics - Age, Sex, Education (Primary and below, High school, PU, Degree and above) , Employment status as employed or not employed (students, retired, house wife and unemployed), Monthly Income (from all sources), Family Type(joint or nuclear), Distance to PHC(near<4km, little far=>4km <8km, too far=>8km), Health status of the Respondent (Good, average, poor), Health Insurance(Yes or No), Utilised PHC services in the last 12 months(Yes or No), Respondents self reported number of visits to PHC in last one year, Awareness about Government Health programmes(Yes or No) and so on.

The variable Satisfaction from PHC Services and it's determinants namely Doctors Availability, Drugs Availability, Locality, Infrastructure, Response of Medical Personnel, Cleanliness, Waiting Time and Quality of Service (curable treatment) were measured using the following five point Likert Scale[4] : 5=Highly Satisfied, 4=Satisfied, 3= Moderate, 2= Dissatisfied, 1= Highly Dissatisfied.

Statistical analysis
Descriptive statistics and frequencies were computed for each item in the questionnaire. The study includes ordinal variables (Likert scale), nominal variables (sex, education, accessing PHC) as well as continuous variables (income, age, number of visits).

Initially all 240 responses were taken for the analysis, later for satisfaction from PHC services only 89 responses were considered (out of 91 users of PHC services 2 were dropped due to non responsiveness to some items). Satisfaction from PHC services was determined as a dependent variable. T- statistic was used to compare the mean values of independent variables observed in likert scale in two groups: respondents who were satisfied with PHC services and those who were not satisfied. After the preliminary analysis of data, the items measured in likert scale were dichotomised from the original five levels into two categories 1=satisfied, 0= not satisfied (1= highly satisfied and satisfied, 0= moderate, dissatisfied and highly dissatisfied).

Cross tabs were performed along with Chi-square test to check the association between satisfaction from PHC services and other independent variables. The determinants of satisfaction from PHC services were calculated using binary logistic regression. The effect of independent variables on people's satisfaction from PHC services was expressed as odds ratios with 95% confidence intervals. The data was analysed using SPSS 16.0 and STATA 10.0 statistical software.

Results and discussion
Socio-economic profile of the respondents
Out of 240 respondents (Table 1), 74 percent were females and 26 percent were males. In both the taluks number of female respondents were greater than the males. The age of the respondents ranged from 18 to 87 years. 26.25 percent of the respondents were reported in 27-37 age group. 89 percent of the families reported as nuclear and the remaining 11 percent as joint family. Less than half of the respondents (40 percent) were employed and 60 percent were unemployed. 30 percent of the respondents were in the income group <=3000. More than half of the respondents (62.5 percent) were literate and 37.5 percent were illiterate, where 36 percent had higher primary education and above (secondary school education).

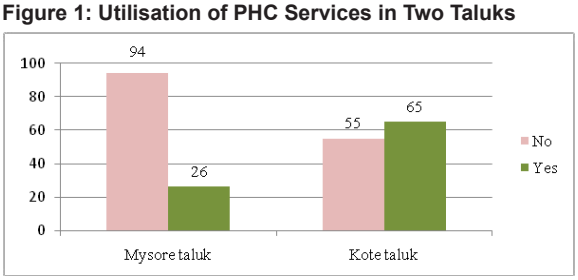
Overall 90 percent of the respondents reported as having no health insurance coverage. This group holds majority in both the areas, but the number of people having health insurance in Mysore taluk were 13 where as in Kote taluk it was 10.

Utilisation of Primary Health Centre Services
Out of 240 respondents only 91(38percent) reported as the users of PHC services in the last one year, with 26 (22 percent) in Mysore taluk and 65 (54 percent) in Kote taluk. Thus, a significant difference was found (chi-square value 26.92 significant at 0.001 level) in the utilisation of primary health centre services between Mysore taluk and Kote taluk.

H.D Kote being underdeveloped with lesser Health Infrastructure Index (HII) of 1.17[5] in whole of Mysore district reported significant utilisation of PHC services. In particular, PHC located in hobli HQ i.e., Hampapura PHC in Kote taluk reported highest utilisation rate i.e., 36 (60 percent) among the four PHCs. On the other hand, Yelawala and Varuna PHC in Mysore taluk reported only 25percent and 18percent utilisation rate respectively even with a good HII of 2.35[5] The N.Belthur PHC which is interior (remote) compared to other PHCs reported a good utilisation rate i.e., 48percent even with worst road connectivity, lack of transport facility, bad infrastructure and long distance. The major hurdle in the utilisation of this PHC is reported as long distance and lack of transport facility. As it too far from the hobli HQ i.e., Antharsante, many of the respondents in HQ find it difficult to access the PHC services and due to this many of them switch to local clinics to fulfill their health care needs in recent years. In other case, even though the two PHCs in Mysore taluk were just located beside the highways and have good transport facility they reported lesser utilisation rates when compared to Kote PHCs.

The utilisation rates of PHC services, in all four PHCs showed a sharp decline with increase in distance to the PHC. Thus, distance was found to be the major determinant of utilisation of PHC services.

Figure 1: Utilisation of PHC Services in Two Taluks



Satisfaction from PHC Services

Table 2: Descriptive Statistics

Variables	Minimum	Maximum	Mean	Std. Deviation
Satisfaction with PHC Service	1	5	3.56	.768
Drugs Availability	2	5	3.15	.791
Doctor Availability	1	5	3.56	.783
Waiting timings	1	5	3.33	.823
Locality	2	5	3.39	.861
Quality of Service	1	5	3.54	.867
Response from medical personnel and staff	1	5	3.64	.787
Cleanliness	2	5	3.88	.394
Infrastructure	2	5	3.71	.625

Table 2 indicates the maximum, minimum scores, mean scores along with Standard Deviation and variance of each item (independent variables), the highest and the lowest mean score are taken by cleanliness (3.88) and drugs availability (3.15) respectively.

Table 3: Mean difference between two groups

	sat	N	Mean score	t-statistic	Sig
Drugs Availability	1	58	3.31	2.779	0.007**
	0	31	2.84	2.752	0.008**
Doctor Availability	1	58	3.78	3.787	0.000***
	0	31	3.16	3.399	0.001***
Waiting timings	1	58	3.41	1.387	0.169
	0	31	3.16	1.354	0.181
Locality	1	58	3.40	0.049	0.961
	0	31	3.39	0.051	0.960
Quality of Service	1	58	3.74	3.158	0.002**
	0	31	3.16	3.031	0.004**
Response from medical personnel and staff	1	58	3.79	2.583	0.011**
	0	31	3.35	2.527	0.014**
Cleanliness	1	58	3.95	2.420	0.018*
	0	31	3.74	2.064	0.045*
Infrastructure	1	58	3.72	0.334	0.739
	0	31	3.68	0.341	0.734

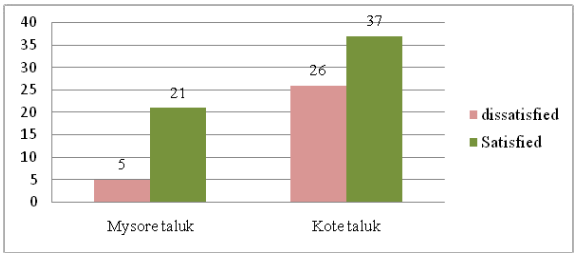
Note: Bold values in t-statistic and sig. column represents equal variance assumed results.
*****Significant at the 0.001 level (2-tailed), ***
***Significant at the 0.01 level (2-tailed).**
***Significant at the 0.05 level (2-tailed).**

As per figure 2 and table 2, out of 89 users 65 percent (58) reported as satisfied from PHC services, with 81percent (21) in Mysore taluk and 59 percent (37) in Kote taluk. Remaining 35 percent (31) reported as not satisfied with access to PHC service, out of which 19 percent (5) were from Mysore and 41percent (26) in Kote taluk. Thus a significant difference is found (chi-square value 3.938 significant at 0.05 level) between two taluks in satisfaction from PHC services.

Moreover, significant difference was found in the mean scores of Drugs Availability, Doctor Availability, Quality of Services, Response from Medical Personnel and Staff, Cleanliness between two groups i.e., Group 1=satisfied from PHC services and Group 2= not satisfied from PHC services.

The study observed that though the utilisation rates were low in Mysore taluk the satisfaction from PHC health care services is high compared to H.D Kote taluk due to good transport facility, road connectivity and good services.

Figure 2: Taluk wise Satisfaction from PHC services



Determinants of Satisfaction from PHC Services

None of the independent variables namely Doctors Availability, Drugs Availability, Locality, Infrastructure, Response of Medical Personnel, Cleanliness, Waiting Time and Quality of Service (curable treatment) was found to be significant in explaining satisfaction in Mysore taluk, due to lesser number of users of PHC services. But, in Kote taluk a significant positive correlation and association was found between satisfaction from PHC services and four variables namely Doctors Availability, Response of Medical Personnel, Cleanliness and Quality of Service (table 4). Here none of the socioeconomic variables of the respondents was associated independently with their satisfaction from PHC services. The results indicated that satisfaction from PHC services in Kote taluk was associated with Doctor's Availability, Quality of service (Curable treatment), Response from medical personnel and staff and Cleanliness. If the people are satisfied with above independent variables, then the overall satisfaction from PHC services increases.

Satisfaction with PHC Service	Pearson Correlation	Chi-square value
Doctor Availability	.309*	5.999*
Quality of Service	.309*	5.999*
Response from medical personnel and staff	.326**	6.706**
Cleanliness	.319*	6.418*

****Significant at the 0.01 level (2-tailed).**
*** Significant at the 0.05 level (2-tailed).**

Logit model

In order to identify the significant determinants of satisfaction from PHC services, all those variables that were found to be significantly associated with the dependent variable were included in the logit model along with other variables.

Logit Model for Kote taluk:

Satisfaction from PHC services= (Pi/1-Pi) =b1 +b2 Sex - b3 Locality +b3 QoS +b4 Doc - b5 inc + b6 Resp - b7 Age + b8 Clean - b9 Infra + b10 Drug - b11 Wait - b12 Insurance - b13 Quali - b14 occup ---------- (1)

Table 5: Logit model results

Predictors	Overall			Mysore taluk			Kote taluk		
	Coef.	Odds ratio	P>|z|	Coef.	Odds ratio	P>|z|	Coef.	Odds ratio	P>|z|
Sex	3.92	50.49	0.002	---	---	---	5.69	298.20	0.000
Locality	-1.59	0.20	0.017	---	---	---	-3.49	0.030	0.000
QOS	2.82	16.77	0.001	3.81	45.17	0.002	3.02	20.6	0.002
Docavailability	---	---	---	-4.23	0.01	0.010	---	---	---
Income	---	---	---	0.01	1.02	0.057	---	---	---
Response	---	---	---	4.14	62.90	0.034	---	---	---
Age	---	---	---	---	---	---	-.067	0.934	0.029
Cleanliness	---	---	---	---	---	---	7.71	2249.6	0.004
Infrastructure	---	---	---	---	---	---	-5.35	0.004	0.013
Wald chi2(14)	26.20*			21.96			47.97**		
Pseudo R2	0.3355			0.4617			0.5106		

From the logit model a significant difference was identified in the list of determinants between two taluks and also three socio-economic variables found as determinants of satisfaction from PHC services namely Age, Sex and Income.

Due to less observation (i.e., out of 120 respondents only 26 of them reported as the users of PHC services) the model of Mysore taluk was not found significant. But other than that the independent variables like QOS, Doctor Availability and Income of the respondent family and Response of the medical staff were found as significant predictors of satisfaction from PHC services in Mysore taluk. The income coefficient indicated that a unit(100 Rs) increase in weighted income, the weighted log of the odds in favour of satisfy from PHC services goes up by about 0.01 units suggesting a positive effect. This means that for a unit increase in weighted income, the weighted odds in favour of satisfy from PHC services increases by 1.02 or about 2%.An unexpected negative sign was observed in the case of Doctors availability.

On the other hand the model of Kote taluk was found significant at 0.01 level indicating that all the regressors have a significant impact on the satisfaction from PHC services. Six variables namely Sex, Locality, QoS, Age, Cleanliness and Infrastructure were found as significant predictors of satisfaction from PHC services. Where Sex, Cleanliness and QoS regressors have a positive effect on the logit and the other 3 regressors namely Locality, Age and Infrastructure have a negative effect. Thus it showed that satisfaction from PHC services in Kote taluk depended on Quality of services, Cleanliness in the centre, Age, Sex, Locality and Infrastructure. Results indicated that lesser age group people are satisfied from PHC services than the higher age group. This means that for a year increase in age, the weighted odds in favour of satisfy from PHC services decreases by 0.934 or about 6.6%. It indicates that expectation of aged people from PHC services is high than the younger one.

Results further indicated that if QoS is good and cleanliness is maintained in health centre the users will be satisfied from PHC services. The QoS odd indicates that the people who satisfied with QoS are 20 times likely to satisfy from PHC services than the people who have not satisfied with QoS. The satisfaction rates are better by 5 times if males are the users.

Conclusion

The intention of establishing PHC in rural areas was found untaken, because in the study area not only a lower utilisation of health services was found but also a significant difference was found in the utilisation of PHC services between two taluks which are different in development, economic condition and HII.

Not only a significant difference was found in the mean scorings of the independent variables but also a significant difference was found in the mean score of Drugs Availability, Doctor Availability, Quality of Services, Response from Medical Personnel and Staff and Cleanliness between two groups - satisfied with services and not satisfied with services.

H.D Kote taluk which is comparatively underdeveloped taluk with least Health Infrastructure Index of 1.17 in Mysore district reported higher utilisation rate (54 percent) of PHC services compared to Mysore taluk. But the interesting fact is, Kote taluk having lesser satisfaction rate (59 percent) compared to Mysore taluk. The satisfaction from PHC services in Kote taluk was found associated independently with Doctor's Availability, Quality of service (Curable treatment), Response from medical personnel and staff and Cleanliness.

The logit models also gave different results for both the taluks. In H.D Kote taluk, the variables Sex, Cleanliness and QoS have positive effect on the dependent variable Satisfaction; the other three namely Locality, Age and Infrastructure had negative effect. The logit model for Mysore Taluk was found to be insignificant because of few users.

It can be inferred that the people in less developed taluk depend more on Public health Services because of poor income levels, lack of connectivity and transportation facilities and non affordability of private health care services and so on. Since the utilisation rates are better in H.D.Kote taluk, the findings from this study area would be more helpful towards betterment of public health care service delivery through PHCs. As satisfaction is found to be significantly associated with Doctor's Availability, Quality of service (Curable treatment), Response from medical personnel and staff and Cleanliness, importance should be given to them so as to improve satisfaction levels of the users availing PHC services.

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