

**Research Article****Patient Satisfaction Regarding Quality of Primary Health Care Services in an Urban Community: A Medical Outcome Survey**Avinash P<sup>1\*</sup>, Mayur S S<sup>2</sup>, Chowti J V<sup>3</sup><sup>1</sup>Post Graduate student, Department of Community Medicine, SDM College of Medical Sciences and Hospital, Sattur, Dharwad, Karnataka-580009, India<sup>2</sup>Professor & Head of the Department, Department of Community Medicine, SDM College of Medical Sciences and Hospital, Sattur, Dharwad, Karnataka-580009, India<sup>3</sup>Professor, Department of Community Medicine, SDM College of Medical Sciences and Hospital, Sattur, Dharwad, Karnataka-580009, India**\*Corresponding author**

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**Abstract:** Patient satisfaction is an indicator of health care quality and is considered as essential criteria for its evaluation. In addition to improving health status of the individual it will also reduce financial burden on his/her family. To the health administrator it will reduce the burden on secondary and tertiary levels of care. Quality is an abstraction defining the margin between patient's desirability (expectations) and reality (actual experiences). Thus measurement of patient satisfaction stands poised to play an increasingly important role in the growing push towards accountability among health care providers. Studies on quality of care can provide useful inputs to the health planners about lacunae in the existing health care services. The objectives of the study were to ascertain the client satisfaction for health care services and to assess the factors influencing quality of primary health care. A community based cross sectional survey was carried out for three months in urban field practice area of Community Medicine Department, SDMCMSH. Adult population ranging from 18-60 years and those who have recently visited the out-patient department of urban health centre were included. Data was collected using a well designed questionnaire, Patient Satisfaction Questionnaire –18 (PSQ–18), developed by RAND health publication. Statistical analysis was done using descriptive statistics and non parametric tests like Mann Whitney and Kruskal Wallis tests were applied. The median age was 31 years (IQR=18.00). More than half of respondents (53.07%) were between ages of 18-32 years, only 16.53% were between 47-60 years. Patient satisfaction was good, as indicated by overall score of PSQ-18. Patients were less satisfied with the technical quality and accessibility and convenience scale of health care quality. The patient satisfaction with other scales like communication, interpersonal manner, financial aspect and the time spent by the doctor with patient was good. Provision of quality primary health care services can result in better utilization of services at primary level by the common man and helps not only to cure his illness but will also improve his quality of life. It will also reduce the financial burden of secondary and tertiary care.

**Keywords:** Health care quality, Quality of life, Patient satisfaction, PSQ.

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**INTRODUCTION**

Even though comprehensive health care concept was introduced long back about seven decades ago, by sir Joseph Bhore it has not come into reality. Health care delivery system that we have today is not equally distributed throughout the country. Most of health care is concentrated on secondary and tertiary health services. Today because of the introduction consumer protection act 1986, health is considered as basic human right and people have become more aware of the health regulations and doctors are expected to exhibit a standard of care. So the 'quality of care' has become an important issue for the health care providers.

There exists a long gap (chasm) in the health care we have today and the one desired by the community [1].

Health care industry is one of India's largest sectors in terms of revenue and employment. Health care expenditure includes expenditure towards hospitals, pharmaceuticals, diagnostics, medical equipment and supplies and medical insurance [2]. Of the total health care revenues in the country: hospitals account for 71 percent, pharmaceuticals 13 percent and medical equipment and supplies for 9 percent. With increasing urbanization and problems related to modern day living in urban settings, 50 percent of spending on

in-patient beds currently is for lifestyle related diseases [3].

As per the institute of medicine (IOM) reports quality of care is defined as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” [1].

A good quality health care should be based on the best scientific knowledge and there are six principles to be followed in health care delivery. They are (1) safe – avoiding injuries to patients, either physical or psychological, (2) Effective – providing services based on scientific knowledge (evidence based medicine), (3) Patient-centered – individual preferences and needs, values should be taken into consideration, (4) Timely – reducing waits and delays in providing care, (5) Efficient – avoiding wasteful expenditure on resources, time and energy, (6) Equitable –no variation in quality of care because of personal characteristics such as gender, ethnicity, geographic location and socioeconomic status [1].

There should be provision for patient feedback so that necessary action can be taken in time to improve quality of care. Studies on health care quality can provide useful input to health planners about lacunae in the existing health services and an effective primary care will reduce the burden on secondary and tertiary institutes. Studies to assess these parameters are limited in this region so this study was conducted to ascertain the satisfaction of clients with the services provided and to assess the factors influencing the quality of primary health care.

## **MATERIAL AND METHODS**

### **Study design and settings**

A community based cross sectional survey was carried out for a period of 3 months from January 2013 to March 2013. Study group consist of adult population in the age group 18-60 years and living in the urban slums which come under the field practice area of Urban Health Centre, of community medicine department of SDMCMSH, tertiary care centre. This urban health centre caters primary health care services to a population of 50,000. Most of the patient group consists of people coming from these slums. For the study three slums from the available list of 7 were taken at random.

There are 3 general out-patient clinics in Urban Health Centre, which provide gynecology, antenatal, immunization, diabetes, hypertension, geriatric, minor surgical services. It also conducts various health camps like dental, ophthalmology, general health and diabetic in the community. The health centre is equipped with basic hematology and biochemistry laboratory services. There is an inbuilt pharmacy and separate injection room available for the patients.

### **Sampling method**

Sample size for the survey was calculated using online survey software; sample size was estimated to be 381 at a confidence level of 95% with a precision of 5% allowable error [4].

### **Sampling procedure**

Name and address of the patients who have visited the health centre in the last two weeks was taken and house to house survey was carried out. Systematic stratified random sampling was done and every 10<sup>th</sup> house was selected for the interview; if in a house patient did not sought the treatment in last two weeks or the house was locked, then the next house was selected.

### **Inclusion and exclusion criteria**

After explaining the purpose of the study, patient in the age group of 18 to 60 years who has recently (in the last two weeks) visited the outpatient department was included. Patient working in the health care facility and those with serious physical or mental pathologies, such as terminal disease and psychosis, were excluded from the study. Patients aged less than 18 years were excluded because they were not much aware of their health issues. Elder people aged beyond 60 years were excluded from the study because they are adjusted to their health condition and do not have much expectations.

### **Data collection**

Ethical clearance was obtained from the institution’s ethics committee. Data was collected with the help of community medicine interns who were trained before conducting the interview. After obtaining informed oral consent from the interviewee, the questionnaire was administered and information was gathered. The questionnaire had two parts; first part of the questionnaire consisted of socio-demographic details and the second part was PSQ-18. PSQ-18 is a brief version of PSQ-III and can be used in various settings [5]. Questions were asked in patients vernacular languages that are either Kannada or Hindi. On an average it takes 9 to 10 minutes to complete the questionnaire for each individual.

The PSQ-18 yields separate scores for each of seven different subscales: General satisfaction (2 items), Technical quality (4 items), Interpersonal manner (2 items), Communication (2 items), Financial aspects (2items), Time spent with doctor (2 items), Accessibility and convenience (4 items). Five point Likerts scale with the corresponding scores was used for each item [6].

Patient rated each item by choosing one of the possible responses of a five point likert scale of strongly agree, agree, uncertain, disagree and strongly disagree.

Some PSQ-18 items are awarded so that agreement reflects satisfaction with medical care,

whereas other items are worded so that agreement reflects dissatisfaction with care received. After item scoring, items within each scale are averaged together to create 7 subscale scores. Missing data were ignored: scale scores represent the average for all items in the scale that were answered. The level of patient satisfaction with each of seven subscales of medical care was represented as a score, the median and interquartile range (IQR) was computed. The overall score of satisfaction with the seven aspects of medical care (18 items) were calculated.

#### Data processing and analysis

Data were coded and entered in Epi data (version 3.1) and then imported to SPSS (version 17.0). Descriptive statistics was applied to get median score and interquartile range. As they data were based on Likert scale non parametric tests like Mann Whitney test and Kruskal Wallis test were used to see association between socio-demographic features and subscales.

Multiple comparisons were done using one group as control group (reference group) based on highest satisfaction in overall score and compare all other groups against it. p value, i.e significance level was set at 5 percent.

#### RESULTS

The present study included 381 respondents; the mean age of study subjects was 31 years. More than half of respondents (53.07%) were between the ages of 18-32 years and only 16.53% were between 47-60 years of age. In the study most of the respondents were females (83.46%) and were Hindu by religion (54.23%). As regards education, majorities had primary or high school level (53.84%) of education and were housewives (60.76%) by occupation. Majorities (57.68%) of the respondents were from class III and class IV socioeconomic status as per modified B G Prasad's classification (Table 1).

Table 2 shows the median scores of the 7 subscales measuring patient satisfaction where the patients' satisfaction was good with Overall quality of care (median = 3.80 with an IQR of 0.43). But less satisfied with Technical quality (median score = 3.75) and Accessibility and convenience of health services (median score = 3.75). The average scores for Interpersonal manner, Communication and Time spent by the Doctor with patient was 4.00 with an IQR of

0.50. The patients were slightly dissatisfied with Financial aspect of health services as indicated by an increased Inter Quartile Range (IQR = 1.00).

Marital status had significant impact on the level of satisfaction as the people who are married had better Overall score (median = 3.83 & IQR = 0.38) compared to unmarried and widow/widowers at P = 0.000. Both male and female respondents were equally satisfied with the health care. Respondents/patients in the age group of 33 to 46 years were had better Overall score (median = 3.88) compared to other two groups but the difference was not statistically significant (p=0.920) also there was no significant difference in Overall score between Muslim and other religious groups like Hindu and Christian. People who are Graduated had better overall score (median = 3.88 & IQR = 0.43 compared to others. People occupied in commercial business had low Overall score (median = 3.80 with IQR = 0.88) compared to others, but the difference was not statistically significant (p= 0.121). Patients coming from good socioeconomic condition had better Overall score (median = 3.88 & IQR = 0.31) compared to others (Table 3).

Table 4 shows that the respondents who had graduate and post graduate degree gave less score for Technical quality of health care (median = 3.75 & 3.50 with IQR = 0.75 & 1.25 respectively). People who were doing manual laborers found to be more satisfied with Technical quality of care (median = 4.00 with IQR = 0.25) compared to others and the difference was found to be significant at p=0.018. Similarly people belonging to Class III socioeconomic status were found to be more satisfied with Technical quality of health care (median = 3.75 with IQR = 0.25) compared to others groups and the difference was statistically significant at p= 0.001.

Table 5 shows patient satisfaction as regard to the Accessibility & convenience scale with the services. In this scale people in 18-32 years age group were found to be more satisfied compared to other two age groups (median = 4.00 with IQR = 0.75) at p= 0.000. Similarly, people employed in different private and government services were found to be more satisfied with this scale of health care compared to people in other occupations (median = 3.75 & IQR = 0.50) at p = 0.03. There was also significant difference in satisfaction in patients with different marital status (p= 0.035).

**Table 1: Distribution of out-patient attendees by their socio-demographic features (N = 381)**

Features	Frequency/ Number	Percentage (%)
<b>Sex</b>		
Male	63	16.54
Female	318	83.46
<b>Age</b>		
18-32years	202	53.07
33-46years	116	30.38
47-60years	63	16.53
<b>Median (IQR)</b>	31.0 (18.00)	
<b>Religion</b>		
Hindu	207	54.23
Muslim	168	44.23
Christian	12	01.15
Others	04	0.38
<b>Education</b>		
Illiterate	70	18.46
Primary	105	27.69
High school	100	26.15
Secondary	45	11.92
Graduate	50	13.07
Post graduate	11	02.69
<b>Occupation</b>		
Unemployed	11	02.69
Agriculturist	07	01.92
Laborer	73	19.23
Housewife	231	60.76
Businessman	18	04.61
Student	18	04.61
Employee in service	23	6.15
<b>Marital status</b>		
Married	340	89.23
Unmarried	23	06.15
Widow	18	04.61
<b>Socio-economic status</b>		
Class I	44	11.53
Class II	47	12.30
Class III	101	26.53
Class IV	119	31.15
Class V	70	18.46

**Table 2: The scores of the different subscales measuring patient satisfaction of out-patient attendees**

Sub scale	Median (IQR)
General satisfaction	4.00(1.00)
Technical quality	3.75(0.44)
Interpersonal manner	4.00(0.50)
Communication	4.00(0.50)
Financial aspect	4.00(1.00)
Time spent with doctor	4.00(0.50)
Accessibility and convenience	3.75(1.00)
Overall score	3.80(0.43)

**Table 3: Overall score scale of out-patient attendees by their socio-demographic features**

Features	Median	IQR	Significance	Multiple comparison
<b>Sex(#)</b>				
Male	3.72	0.61	p=0.088	
Female	3.83	0.38		
<b>Age(**)</b>				
18-32years	3.77	0.30	p=0.920 df=2	
33-46years	3.88	0.55		
47-60years	3.77	0.44		
<b>Religion(**)</b>				
Hindu	3.77	0.44	p=0.286 df=3	
Muslim	3.88	0.38		
Christian	3.77	0.41		
Others	3.76	0.43		
<b>Education(**)</b>				
Illiterate	3.88	0.54	p=0.938 df=5	
Primary	3.82	0.38		
High school secondary	3.77	0.33		
Graduate	3.77	0.50		
Post graduate	3.88	0.43		
<b>Occupation(**)</b>				
Unemployed	4.00	0.61	p=0.121 df=6	
Agriculturist	3.88	0.38		
Laborer	3.77	0.51		
Housewife	3.83	0.33		
Businessman	3.80	0.88		
Student	3.63	0.36		
Employee in service	3.80	0.47		
<b>Marital status(**)</b>				
Married®	3.83	0.38	p=0.000 df=2	0.003*
unmarried	3.58	0.31		
widow	4.16	0.73		
<b>Socio-economic status(**)</b>				
Class I			p=0.783 df=4	
Class II	3.88	0.31		
Class III	3.80	0.65		
Class IV	3.77	0.33		
Class V	3.77	0.41		
	3.83	0.56		

# Mann-Whitney test; \*\*Kruskal-Wallis test; \* Significant compared to reference group®

**Table 4: Technical quality of out-patient attendees by their socio-demographic features**

Features	Median	IQR	Significance	Multiple comparison
<b>Sex (#)</b>				
Male	4.00	0.50	p=0.392	
Female	3.75	0.25		
<b>Age(**)</b>				
18-32years	3.75	0.25	p=0.532 df=2	
33-46years	4.00	0.75		
47-60years	4.00	0.50		
<b>Religion(**)</b>				
Hindu	3.75	0.37	p=0.082 df=3	
Muslim	4.00	0.50		
Christian	3.50	0.00		
Others	3.67	0.43		
<b>Education(**)</b>				
Illiterate	4.00	0.68	p=0.003 df=5	0.999
Primary	4.00	0.50		0.873
High school®	4.00	0.25		
Secondary	3.75	0.25		0.990
Graduate	3.75	0.75		0.081
Post graduate	3.50	1.25		0.044
<b>Occupation(**)</b>				
Unemployed	3.75	0.75	p=0.018 df=6	0.453
Agriculturist	3.50	0.75		0.971
Laborer®	4.00	0.25		
Housewife	3.75	0.50		0.999
Businessman	4.00	1.12		0.714
Student	3.75	0.68		0.622
Employee in service	3.50	0.43		0.154
<b>Marital status(**)</b>				
Married	3.75	0.25	p=0.149 df=2	
Unmarried	3.75	0.50		
Widow	4.25	0.50		
<b>Socio-economic status(**)</b>				
Class I	3.50	1.06	P=0.001 df=4	0.001*
Class II	3.75	0.68		1.000
Class III®	3.75	0.25		
Class IV	4.00	0.50		0.980
Class V	4.00	0.50		0.999

# Mann-Whitney test; \*\*Kruskal-Wallis test; \* Significant compared to reference group®

**Table V: Accessibility and convenience scale of out-patient attendees by their socio-demographic features**

Features	Median	IQR	Significance	Multiple comparison
<b>Sex(#)</b>				
Male	3.50	1.25	p=0.302	
female	3.75	1.00		
<b>Age(**)</b>				
18-32years®	4.00	0.75	p=0.000 df=2	0.035*
33-46years	3.50	1.25		
47-60years	3.50	1.00		
<b>Religion(**)</b>				
Hindu	3.75	1.00	p=0.846 df=3	
Muslim	3.75	1.00		
Christian	4.50	0.89		
Others	3.50	0.91		
<b>Education(**)</b>				
Illiterate	3.50	1.50	P=0.691 df=5	
Primary	3.75	1.25		
High school	3.75	0.75		
Secondary	3.75	1.00		
Graduate	3.87	1.00		
Post graduate	4.00	0.75		
<b>Occupation(**)</b>				
Unemployed	3.75	0.75	p=0.03 df=6	1.00
Agriculturist	4.00	1.25		1.00
Laborer	3.50	1.06		0.787
Housewife	3.75	0.81		1.000
Businessman	3.00	1.00		0.377
Student	3.25	1.06		0.596
Employee in service®	3.75	0.50		
<b>Marital status(**)</b>				
Married	3.75	1.00	p=0.035 df=2	0.040
Unmarried®	3.25	0.87		
Widow	3.75	1.06		0.281
<b>Socio-economic status(**)</b>				
Class I	4.00	0.75	P=0.146 df=4	
Class II	3.75	0.93		
Class III	4.00	1.00		
Class IV	3.50	1.00		
Class V	3.75	1.43		

# Mann-Whitney test; \*\*Kruskal-Wallis test; \* Significant compared to reference group®

## DISCUSSION

There are various measures of patient satisfaction like outcome measures, process measures and structure measures. The present study is an example of Medical Outcome Survey (MOS). There is a long history of using outcomes to assess health care quality. The use of outcome data to evaluate health care dates back more than 150 years. In the 1830s, Pierre-Charles-Alexandre Louis started a group in Paris that discussed the use of statistics for examining the patterns of medical care and outcomes. To use medical outcomes as a quality measure, one must usually calculate rates of certain outcomes for a group of patients, since outcomes are determined by different factors and thus one usually assesses whether the probability of death, for example is higher or lower for one group compared to another group. Physicians providing clinical care routinely ask their patients about outcomes to guide

their therapy. In clinical research, patients' outcomes provide a measure of the effectiveness of different medical interventions. Outcome measures have been used in health care organizations and systems to assess quality and guide efforts to improve it [7].

This study aimed at assessing patient satisfaction in medical care received in out-patients clinics of Urban Health Training Centre of SDMCMS&H. The study revealed better quality of health care and hence good satisfaction.

The health centre of this study is staffed with a lady medical officer who attends the pregnant females and post natal mothers; there is also a public health nurse and ANM who provide necessary obstetric care which is the reason for maximum attendance of the female patients in the present study. Most of patients belong to 18 to 32 years age group which is common

period during which females conceive. As the patients belong to poor socioeconomic condition they are either illiterate or had primary to high school level of education.

The relative low score of patient satisfaction in Accessibility and convenience scale could be attributed to lack of awareness and knowledge about the illness, still many patients in this locality believe in myths, witchcrafts and social taboos. Many of the people think that curse of the god or black magic is the reason for their suffering and go to religious leaders, which unnecessarily cause delay in diagnosis. Because of the poverty and unemployment people are still not able pay the nominal registration fees and access the medical care. One more reason for lack of access to specialist care when needed could be not having any medical insurance scheme. Low satisfaction for Technical quality of health care in the present study could be due to lack of material resources like x ray machines, laboratory equipments like auto analyzers, good quality microscopes, ECG machine and Ultrasonography for which patients are referred to the tertiary care centre.

In the present survey married people were more satisfied with overall quality of health care compared to unmarried and widow/widowers. This could be because of the availability of reproductive and child health care facilities along with advice on the contraceptive measures.

In this study, patients who were educated upto graduate and above were found to be less satisfied with technical quality of health care, this could be because these groups of patients are more aware of the advancement in technology used in diagnosing the diseases and who could question the accuracy of Doctors diagnosis. Similarly employees in service were less satisfied with Technical quality of health care.

Patients in the age group of 18 to 32 years were found to be more accessible with health facility as it is the nearest health centre available to antenatal and post natal mothers. Similarly people engaged in manual labour were found to be more satisfied with the Accessibility and convenience scale of patient satisfaction, this is because the outpatient clinic is open upto 7 'o' clock in the evening and these people seek health care after coming back from their work in the evening.

A community based cross sectional study conducted by Unadkat S *et al.* on beneficiaries of RCH services rendered by public health functionaries in Jamnagar, Gujarat showed similar results; 52 percent had primary level of education and 66.67 percent of beneficiaries were satisfied with health care services [8].

Another study conducted by Rasheed N *et al.*

to ascertain the client satisfaction and perceptions of quality of health care at primary health centre, Delhi also showed similar results, where 70.3% were in the age group of 20-39 years, 70% of the beneficiaries were females, 87.3% were married, majority were illiterate and belong to poor socioeconomic conditions [9].

Studies conducted in tertiary care centers of Gujarat, Srinagar and Alexandria University Hospital, Egypt also showed the findings which are consistent with the present study [10-12].

## CONCLUSION

The study showed that patients were well satisfied with the quality of health care services in general. However, the Technical quality was poor compared to other scales. There was also lack of Accessibility and inconvenience for patients in seeking specialist care when needed. So such type of Medical Outcome Surveys (MOS) needs to be carried out to identify the shortcomings in existing health care set-up.

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## REFERENCES

1. Crossing the Quality Chasm: A new health system for the 21<sup>st</sup> century. Shaping the future for health, Institute of Medicine, March 2001.
2. Health care industry in India, March 2013. Available from [www.ibef.org](http://www.ibef.org)
3. National Institute of Health and Family Welfare; Reproductive and child health module for medical officers. Primary Health Center, New Delhi, NIHFV, 2002; XVIII
4. Google search: Sample Size Calculator – The Survey System. Available from [www.surveysystem.com/html](http://www.surveysystem.com/html)
5. Thayaparan AJ, Emon M; The Patient Satisfaction Questionnaire Short Form (PSQ-18) as an adaptable, reliable, and validated tool for use in various settings. Med Educ Online, 2013; 18: 10.
6. Marshall GN, Hays RD; Patient Satisfaction Questionnaire – 18 (PSQ-18). Available from <http://www.prgs.edu/content/dam/rand/pubs/papers/2006/P7865.pdf>
7. Evaluating the Quality of Health Care. E-Source, Behavioural and Social Sciences Research. Available from <http://www.esourceresearch.org/eSourceBook/EvaluatingtheQualityofHealthCare/3DefiningQualityofCare/tabid/797/Default.aspx>
8. Unadkat S, Yadav S, Vadera B, Parmar D; A study on perceptions of women delivered in last

- one year on RCH services rendered by public health functionaries in Jamnagar District, Gujarat, India. *International Journal of Medical Science and Public Health*, 2013; 2(2): 344-349.
9. Rasheed N, Arya S, Acharya A, Khandekar J; Client satisfaction and perceptions about quality of health care at a primary health center of Delhi, India. *Indian Journal of Community Health*, 2012; 24(3): 237-243.
  10. Joshi K, Sochaliya K, Purani S, Kartha G; Patient satisfaction about health care services: a cross sectional study of patients who visit the outpatient department of a civil hospital at Surendranagar, Gujarat. *IJMSPH*, 2013; 2(3): 659-664.
  11. Arshad AS, Shamila H, Jabeen R, Fazli A; Measuring patient satisfaction: a cross sectional study to improve quality of care at a tertiary care hospital. *Healthline*, 2012; 3(1): 59-62.
  12. Moemen MM; Patient satisfaction among attendance of out-patient clinics of different clinical departments at Alexandria main university hospital. *Bull Alex Fac Med.*, 2008; 44(1): 229-240.