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Inpatient satisfaction at different public sector hospitals of a metropolitan city in Pakistan: A comparative cross-sectional study

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Running Head: Inpatient satisfaction in public hospitals of Pakistan

Abstract:

Objective: To observe inpatient satisfaction at different public sector hospitals of Karachi, Pakistan.

Methods: A cross sectional study was carried out during 2010-2012 in four major public sector hospitals of Karachi. A total of 710 patients completed the study. Responses were gathered in a self-structured questionnaire that ~~was~~ comprised of four dimensions of satisfaction with doctor, staff, administration and treatment. Average Score of each dimension was taken and compared using one way analysis of variance.

Result: Patients admitted in hospitals under federal and provincials systems reported similar satisfaction score with doctor, staff, administration and overall satisfaction too. However, satisfaction with treatment ~~mean~~ significantly differed~~ent~~ in all 4 hospitals. Highest satisfaction with treatment was observed among inpatients of hospital running by medical institute. Comparison with respect to different departments revealed significant difference for treatment satisfaction of medicine and surgery units. Patients who were admitted from emergency mode ~~were~~ acquired lowest satisfaction in all aspects.

Conclusion: Satisfaction of inpatients from public sector hospitals showed satisfaction with healthcare personnel and related administration. However, treatment dimension need~~s~~ to be improved to get more satisfaction.

Keywords: Inpatient satisfaction, public sector hospitals, doctor, staff, administration, treatment, Pakistan

Comment [Office1]: Are you saying that satisfaction was similar or it differed?

Introduction:

The existing competitive environment in health care organizations has enhanced the importance of patient satisfaction as an approach to increase and maintain patient care quantity and quality. Patient satisfaction is important since it affects clinical outcomes, patient retention, and reduces medical malpractice claims. It hence improvises timely, efficient, and patient-centered delivery of quality health care [1]. Patient satisfaction is meant to assess success of doctors, hospitals and efficacy of health care delivery system [1].

Due to lack of resources, public sector hospitals of developing countries like Pakistan struggle to establish good quality of care in various aspects [2]. Since the ultimate aim of medical care is to produce better medical health outcomes, provision of genuine drugs and good prescription skills is required with improvement of interpersonal skills in all hospitals especially which have greater turn over [3]. The more are the patients satisfied, less will be the complaints by the patients and their attendants [4].

During the past decade researchers have been interested to know patient satisfaction with the doctors, management and the environment. Nevertheless, good quality patients health based surveys are still lacking from the patient perspective [5]. Patient Satisfaction remains the major outcome to deduce quality of a healthcare setup. Due to lack of resources, public sector hospitals of developing countries surmise to establish good quality of care in various aspects. The rationale of the study was to know about "inpatient satisfaction" and recommend measures to improve their satisfaction. The objective was to observe inpatient satisfaction at different public sector hospitals of Karachi, Pakistan by comparison of four tertiary hospitals on the basis of dealing of doctors with the patients, behavior of staff with the patient and availability of facilities with access and work environment.

Comment [Office2]: What do you mean by quantity?

Comment [Office3]: What do you mean by this?

Methods:

Study design and participants:

A cross sectional study was carried out during December 2010 to February 2012. Convenience sampling method was employed to include patients in our study. Patients who were conscious, between age group of 18 years to 60 years and admitted for at-least three days in the hospital for current treatment were included in the study. Excluded patients included ~~were~~ those unable to respond to the answers, refused to participa~~n~~t~~s~~, admitted in emergency departments and intensive care units or cardiac care units. A total of 770 patients were interviewed during the study period.

Study Setting:

Study was conducted in Karachi which is a metropolitan city of Pakistan capturing the 5% of total population of the country. The city also bears representative residents from all provinces of Pakistan. Besides, people from different regions especially from rural areas come to avail health facilities in this city [6]. Hospitals in Karachi are run by six different administration systems; federal government system, provincial government system, local (city-based) government system, not-for profit institutional system, military system and private system. Due to strict permission issues in latter two systems, we collected the data from majorly representative hospital of each 4 formerly defined systems.

Data collection procedure:

Data were collected from 4 public sector hospitals of Karachi. All the four hospitals were distinct as one was running under academic institute (AIH), one under city government (CGH), one under provincial government (PGH) and one under federal government (FGH). Sample size was calculated using proportion of dissatisfaction by doctors in another city of the country equals 60% [7] with 99% confidence interval and 5% margin of error; the computed sample size was 637. We added 20% non-response rate which increased the sample size to 765. After taking ethical approval from the institute of the study and permission from head of department, a total of 770 patients were approached and invited ~~them~~ to participate in the study.

Research Instrument:

Patients' satisfaction about treatment and hospital care provided as well as~~nd~~ attitude of health care professionals was assessed via interviewer administered questionnaire which was designed after going through the researches done previously in this regard [8, 9, 10, 11].

Questions other than demographic characteristics of patients follow 5 point Likert items format (1: Strongly satisfied to 5 strongly dissatisfied). These questions covered the satisfaction levels of certain parameters including doctor-patient communication; hospital care; attitudes of health care professionals; outcome of patients' illness; behavior of paramedics and environmental, sanitary and nutritional status in the hospitals. These questions were included after prior observation by the investigators in these hospitals.

Interviewer visited the wards in the above mentioned institutes and patients were interviewed. Questions in the questionnaire were translated into local Urdu language and it was administered by interviewer.

Ethical Consideration:

Ethical approval of the study was taken from Dow University of Health Sciences which is a leading public sector health institute in Karachi. Permission from other institutes and departments were asked by the investigators of the study. Verbal informed consent was obtained from the patients to participate in the study. Confidentiality of findings was also granted.

Statistical Measures:

A total of 76 questions were included at initial stage. Three questions were pertaining to general satisfaction with doctors, staff and hospital environment. Next segment consisted of 30 questions related to satisfaction with doctors. Satisfaction with staff comprised of~~was asked with~~ 16 questions while satisfaction with hospital environment had~~was asked with~~ 19 questions. The last segment comprised of 7 questions asking satisfaction with treatment. The composition of all the questions with details is already described in our previous publication [2]. The responses of all the questions in each segment were averaged and 4 composite mean scores were constructed. The higher score indicated dissatisfaction of respondents of the study.

Statistical Analysis:

Data were entered in EpiData v. 3.1 and analyzed in Statistical Package for Social Sciences (SPSS) v. 21.0. The scores were expressed with mean and standard deviation. One way analysis of variance (ANOVA) followed by Tukey's test was applied to compare the scores of satisfaction. Multivariate analysis of variance (MANOVA) was also performed to compare satisfaction of score with respect to type of hospitals while holding the effect of other selected variables which showed significance in one way ANOVA. P value of 0.05 was kept as threshold for reporting significance of difference in scores.

Results:

Descriptive characteristics:

Out of 770 approached participants, 710 patients completed the study. The response rate was hence 92.2%. Among the respondent more than half were females (n=384), one-sixth married (n=462) and 227 (32.2%) had no education. More than one-third (n=256) were referred from out-patient department (OPD) while 56.6% (n=388) were referred from emergency. Nearly one-quarter of the patients (n=184) had length of stay for more than 10 days whereas 45% (n=315) were on stay for 5 to 10 days. Highest participation was obtained from PGH (40.1%, n=285) followed by CGH (31.3%, n=222) and FGH (21.3%, n=151). More than half were from medicine department (n=400) while 103 (14.5%) were from surgery department.

The average satisfaction score for doctors was 2.3±0.5 while for the staff it was 2.4±0.6. Environment and treatment dimensions acquired average scores of 2.7±0.5 and 2.0±0.5 respectively. Satisfaction from all aspects of healthcare personnel and settings was 2.4±0.5.

Comparative analysis:

With hospitals: Satisfaction with doctors was observed significantly higher in AIH (2.1±0.4) followed by PGH (2.3±0.5). The worst satisfaction with the doctors was reported by patients from CGH (2.5±0.4) which was non-significantly differentee from FGH (2.4±0.2). Satisfaction with staff was significantly lowest in AIH (3.0±0.5). This satisfaction was significantly lowest from other hospitals but statistically non-significantly difference in PGH (2.4±0.6) and FGH (2.4±0.3). Highest satisfaction with hospital environment was delineated by the patients from

AIH (2.3±0.2) while the lowest was from CGH (3.0±0.5). No statistically significant difference was found in hospital environment of PGH (2.7±0.5) and FGH (2.8±0.3). Satisfaction with treatment in the hospitals was highest in AIH (1.5±0.5) followed by PGH (2.0±0.7) and FGH (2.4±0.4). The overall satisfaction was significantly highest in AIH (2.3±0.3) while lowest was in CGH (2.7±0.4). Patients from PGH and FGH imparted statistically non-significant satisfaction with overall aspects (Table 1).

With department: Patients from medicine, surgery and gynecology ward revealed least satisfaction with the doctors while patients from pulmonology department had statistically significant highest satisfaction with doctors. On the contrary, satisfaction with staff in pulmonology department was least (2.9±0.6). Satisfaction with the environment was worst in medicine department (2.9±0.5). Treatment from pulmonology and ophthalmology departments was found most satisfactory from our data ($P<0.0001$). Medicine and gynecology department acquired least score of satisfaction by their patients. Overall satisfaction from these two departments was also significantly lowest while again pulmonology and ophthalmology were achieved highest satisfaction by their patients (Table 2).

With mode of admission: Patients referred from OPD were statistically highly satisfied with doctors, environment, treatment and overall (Table 3). Satisfaction with staff was fount non-significantly different by the patients referred from any mode ($P = 0.351$).

With length of stay: Length of stay did not significantly alter satisfactions scores for doctor, staff

and overall (Table 4). Though, with the environment, patients who stayed for less than 5 days did not show significantly high satisfaction in this area (2.8±0.5). Albeit, longer stay significantly increased the feeling of satisfaction with the environment (P=0.033) and so did with the treatment too (P=0.006). Shorter stay reduced the satisfaction level with the treatment.

Multivariate: The multivariate analysis of variance depicted that hospital type induced significant difference in the all means of four types of satisfactions under study (P<0.0001) after adjusting the effect of mode of admission and length of stay. Between subjects analysis also revealed that holding the effect of mode of admission and length of stay, hospital type elicited significantly different mean scores of satisfaction by doctors, staff, environment and treatment. However, length of stay and mode of admission did not play significant role in producing difference in all the satisfactions scores.

Discussion:

Enhancing quality public health care is a key prerequisite to increase utilization and sustainability of health care services in developing countries. The focus of health care delivery system has thus moved from the healthcare workers to the healthcare clients. Now patient satisfaction is the measure of the quality service offered by healthcare institutions with "patient's perception of care " as the central point . [12].

Discriminations in health care provisions has been reported all over the world [13].In the preceding study done by the authors, lack of patients satisfaction was noticed predominantly in the public sector hospitals of Pakistan [2]. It has been reported that insufficient communication with the doctors was recognized as a major cause of disappointment with the management given to patients [14]. Lack of satisfaction in CGH in our study, precisely emphasize the need of organization of service excellence around doctor, patient, as well as organization.

In the last decade overcrowding of patients in Emergency Department has confronted with a number of problems on account of extensive waiting, uncomfortable waiting room conditions and delay in the referrals [15]. In our study, patients referred from OPD were more satisfied with doctors, environment and treatment in comparison to referrals from other modes. The results are consistent with higher expectations and less satisfaction in all aspects of nursing care reported by patients who were admitted through emergency [12]. Muntlin et al observed that lack of relevant information about self-care, medical care and the attending physicians added to patient's dissatisfaction admitted through emergency [16].

Literature review shows that variability of recruited staff has important implication on the quality of health care delivered to patients [17, 18]. Poor communication between care team,

clinical staff, doctors and patients can lead to loss of productivity, poor satisfaction report from the patients. In our study the appropriate, effective and quality health care delivery as measured by patient satisfaction was reported from pulmonology department in comparison with patients from medicine, surgery and gynecology ward. The satisfaction can thus be improved in other departments by physician's communication, interpersonal skills and spending quality time with the patients instead of being writing prescriptions only [1].

Length of stay did not significantly alter satisfactions scores for doctor, staff and overall however longer stay significantly increased acclimatization and acceptability to treatment. In a similar study, better appreciation of caring attitude was observed with longer duration of stay [12].

The physician has twin responsibilities of giving the best health care to the patient by writing relevant prescription assorted with; kind gesture, polite words, courteous attitude, caring behavior and full attention with confidentiality and privacy. Results of the study show satisfaction with the doctors was considerably good except in CGH and FGH. Though, patients referred from emergency department deemed not much satisfaction with the doctors. The satisfaction factor helps to build the confidence to seek medical help, conforms with the presented treatment with a persistent and close relationship with a physician [19, 20]. The net result of patient satisfaction is consistent with the trend towards holding health professionals responsible to maintain quality practice. The outcome will certainly allied with better-quality medical practice, decreased consumption of hospital resources, speedy recovery and better reputation of the hospital. The hospitals can help all employees become engaged and dedicated to providing the best patient experience.

Limitations and Strength:

Few caveats need to be taken prior to generalizing findings from this study. First, the responses were obtained from patients only. Therefore, we had to rely on their self-reporting. Second, all the patients belonged to low socioeconomic status and were selected using non-random sampling. Though, there are certain strengths of the study which helped good generalization to the target population. The study captured comparatively large sampled population. Such a large sample size is deemed not found for primary data from our setup. Another strength was that patients admitted in our hospital came from different regions due to free availability of care, hence they might only represent the low-resourced but diverse population groups in the region. Lastly, but not the least this aspect was study from different researchers using standard questionnaire. This caused missing different aspects which are experienced by the inpatients of public sector hospitals. We devised our own questionnaire and found good reliability too.

Conclusion:

Response of inpatients from public sector hospitals showed satisfaction with healthcare personnel and related administration. However, improving work environments can improve many dimensions of hospital performance related with patient's satisfaction.

Recommendations:

Patient satisfaction can be improved by developing a compassionate attitude of physicians and paramedical staff, providing the verbal and written information to patients ,reducing the

perceived waiting time and collecting feedback so as to improve the network of the patient, physician, place, and the hospital system.

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Table 1: Comparison of IPS scores among different public hospitals of Karachi

	Hospital				
Satisfaction with	PGH (n=285)	AIH (n=56)	CGH (n=222)	FGH (n=151)	P Value
Doctors	2.3±0.5b	2.1±0.4a	2.5±0.4c	2.4±0.2bc	<0.0001
Staff	2.4±0.6a	3.0±0.5c	2.6±0.5b	2.4±0.3a	<0.0001
Environment	2.7±0.5b	2.3±0.2a	3.0±0.5c	2.8±0.3b	<0.0001
Treatment	2.0±0.7b	1.5±0.5a	2.6±0.6d	2.4±0.4c	<0.0001
Overall	2.4±0.5b	2.3±0.3a	2.7±0.4c	2.5±0.2b	<0.0001

Table 2: Comparison of IPS scores among different departments in hospitals

	Department							
Satisfaction with	Medicine (n=400)	Surgery (n=103)	Pulmonology (n=57)	Orthopedic (n=51)	Ophthalmology (n=31)	Gynecology (n=22)	Other (n=46)	P Value
Doctors	2.5±0.4c	2.4±0.4bc	2.1±0.4a	2.3±0.3abc	2.2±0.3ab	2.5±0.2c	2.4±0.3bc	<0.0001
Staff	2.6±0.6a	2.4±0.6a	2.9±0.6b	2.5±0.4a	2.4±0.4a	2.4±0.4a	2.4±0.4a	<0.0001
Environment	2.9±0.5c	2.8±0.5bc	2.3±0.2a	2.8±0.5bc	2.5±0.3ab	2.7±0.5bc	2.7±0.4bc	<0.0001
Treatment	2.4±0.6c	2.0±0.8b	1.6±0.6a	2.1±0.5bc	1.9±0.5ab	2.3±0.4bc	2.2±0.5bc	<0.0001
Overall	2.6±0.4b	2.4±0.5ab	2.3±0.3a	2.5±0.3ab	2.3±0.2a	2.5±0.3ab	2.4±0.3ab	<0.0001

Table 3: Comparison of IPS scores for different mode of admission experienced by inpatients

Satisfaction with	Mode of Admission OPD (n=256)	Emergency (n=388)	Other Mode (n=66)	P Value
Doctors	2.3±0.3a	2.4±0.4ab	2.5±0.4c	0.005
Staff	2.5±0.5	2.6±0.6	2.4±0.5	0.351
Environment	2.7±0.5a	2.8±0.5b	2.8±0.4ab	0.001
Treatment	2.1±0.6a	2.3±0.7b	2.3±0.6sb	<0.0001
Overall	2.4±0.3a	2.6±0.4b	2.5±0.4ab	0.005

Table 4: Comparison of IPS scores at different length of stay in hospitals

Satisfaction with	Length of Stay (days) <5 (n=211)	5 – 10 (n=315)	>10 (n=184)	P Value
Doctors	2.4±0.3	2.4±0.4	2.4±0.4	0.107
Staff	2.5±0.5	2.5±0.6	2.6±0.6	0.058
Environment	2.8±0.5b	2.8±0.5ab	2.7±0.5a	0.033
Treatment	2.3±0.6b	2.3±0.7b	2.1±0.6a	0.006
Overall	2.6±0.4	2.5±0.4	2.5±0.4	0.284