

ORIGINAL ARTICLE

IN-PATIENTS' SATISFACTION IN THE MEDICAL AND SURGICAL WARDS – A COMPARISON BETWEEN ACCREDITED AND NON ACCREDITATED HOSPITAL IN THE STATE OF SELANGOR

*I Nor Hayati, **Azimatun N A, **Rozita H, **W.A Sh Ezat, **A. M Rizal

* Ministry of Health

** Department of Community Health, Universiti Kebangsaan Malaysia Medical Centre.

ABSTRACT

Background : Two of the most common indicators of institutional healthcare quality are Hospital Accreditation Status and Patient Satisfaction. However, the relationship between them is not well understood. In Malaysia, only 20.48% hospitals have been accredited. This is very much less compared to hospitals in America, Europe, Australia and certain Asian countries whereby 90% of their hospitals have already been accredited.

Objective : The objective of this study was to compare the extent to which a patient's satisfaction is related to hospital accreditation status, to examine the relationship between patient satisfaction and hospital work load and to determine factors that influence patients' satisfaction.

Methodology : A cross-sectional study was conducted whereby 150 patients from each accredited and non-accredited hospital involved in this study group giving a total of 300 samples. 'SERVQUAL' instrument was used in this study. Patients were interviewed at 2 different times - during admission and upon discharge.

Result : Results showed 34.7% patients were satisfied with services in accredited hospital and 30.6% patients were satisfied with services in non-accredited hospital. 'Corporate Culture' component showed the lowest satisfaction score among the entire dimension in both categories hospitals. Patient satisfaction was noted to be reduced with increase in hospital work load. Other factors which significantly influence patient satisfaction include level of education, employment status and patient income. There was no significant difference in patient satisfaction between accredited and non-accredited hospital in all dimension measured.

Conclusion : Therefore there is no difference of patients' satisfaction with regards to services provided by accredited and non-accredited hospitals.

Keywords : Patient's Satisfaction, Servqual, Hospital Accreditation.

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Correspondence to: Dr. Azimatun Noor Aizuddin
Department of Community Health,
UKM Medical Centre,
Jalan Yaacob Latiff, Bandar Tun Razak,
56000 Cheras, Kuala Lumpur. MALAYSIA
Tel : +603 9145 5906, Fax : +603 9173 7825
(email: azimatunnoor@gmail.com)

INTRODUCTION

The future of the publicly-funded health care system faces many challenges in order to remain affordable and sustainable in the future. Among the greatest challenges are for the health sector to become more patient centered, provide care that is of high quality, effective and safe and use the available resources more efficiently. It also has to provide a service that meets the expectations of patients. Accreditation is a self-assessment and external peer review process used by healthcare organization to accurately assess their level of service performance in relation to established standards and to implement ways to continuously improve the healthcare system¹. The interaction of factors that contribute to the final outcome of care for patients which is the main priority of an accreditation program such as organisation and management, policies and procedure, facilities and equipment and quality improvement activities need to be monitored and evaluated continuously. This information will assist a manager in identifying cost-effective ways of closing service quality gaps and prioritizing which gaps to focus on.

Accreditation is considered to be a more appropriate tool for quality assurance in a hospital setting than ISO 9000². The Ministry of Health had instructed all hospitals to voluntarily go for accreditation by 2005¹. But, to date only 20.48% of hospitals in Malaysia were awarded accreditation status. More than 90% of hospitals in Europe have accredited whereas in South East Asia like Taiwan, Singapore and Thailand, hospital accreditation is a mandatory process³.

Perceptions of service quality ultimately affect customer satisfaction. People tend to be satisfied when their perceptions of the service that they received match their expectations. When the service falls short of expectations, they tend to be dissatisfied. Expectations are formed by many factors including previous experience, word of mouth, service reputation, the media, communications by the service provider and, crucially, the needs and characteristics of the service user. Perceptions of the service people have received will vary according to the individual and the nature of the service. However, common factors which people rate highly include reliability, responsiveness, empathy and the ability to put things right if mistakes are made⁴.

There are many reasons why health care quality is important. Involvement and

satisfaction of the customer affect behavior and the motivation to change. This is of importance if we consider the relationship between patients' satisfaction and compliance with medical treatment plans. Researchers found a positive relationship between the patients' satisfaction and compliance with respective medical regimes⁵. As quality improves, expectations increase. As consumers become more quality conscious, service firms not only need to satisfy their expectations, but to exceed them. The consequence of not meeting expectations received some attention. This study examines the relationship between two principle measures of institutional healthcare quality: accreditation status, a principal measure of technical quality and patients' satisfaction, a primary measure of service quality.

OBJECTIVES

The objectives of the study was to compare patient satisfaction in medical and surgical unit between accredited and non-accredited hospital, to determine relationship between patient satisfaction and hospital work load, to identify the association between patients satisfaction with their socio-demographic factors and to identify strategies and suggestions in improving healthcare services.

METHODOLOGY

Design and Sampling

This study is a cross sectional study conducted from July 2005 to November 2005. Sample size is calculated using the Pocok's Formula - 2 proportional formula. Four district government hospitals were randomly chosen comprising of one accredited hospital and three non-accredited hospitals. Only government hospitals were included in this study to strike a balance between subject homogeneity and generalizability of the results. Using 90% power of the study, total of 150 samples from each hospital categories were selected. Sampling method used was simple random sampling. The inclusion criteria were: i) Those admitted to any medical and surgical wards, ii) Aged 18 – 70 year old, iii) Malaysian citizen, iv) No mental illness. The exclusion criteria were: i) Patients admitted to psychiatric and pediatric wards, ii) patients who were very ill, and iii) Patients who cannot communicate in Bahasa Malaysia or English.

Instruments

Self administered questionnaires using Modified *SERVQUAL* was used. Pre-test was done on February 2005 to 30 patients from Hospital Universiti Kebangsaan Malaysia (HUKM). Reliability for the overall questionnaire was 0.94. The five dimensions identified in *SERVQUAL* were, tangibles (up to date equipments, physical facilities and appearance of personnel), reliability (ability to perform the promised service dependably and accurately), responsiveness (willingness to help customers and provide prompt service), assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence), empathy (caring, individualized attention). Three addition dimension used in this study was corporate culture (caring services, team work and professionalism), administration process (registration, admission, discharge and visiting hour's) and

environmental factors (public facilities, food and ward environment).

SERVQUAL is a multiple-item scale for measuring consumer perceptions of service quality that was developed by A. Parasuraman, Valarie A. Zeithaml and Leonard L. Berry⁶. *SERVQUAL* has been the predominant method used to measure customers' perceptions of service quality. The 'gaps,' are the difference between customer expectations and perceptions of the service received.

There are a total of 25 questions. Respondents are invited to indicate the extent of agreement or disagreement, ranging from 'strongly disagree' to 'strongly agree', by the use of a five-point Likert scale. Patient is categorized as satisfied if the score is between 0 to + 4 and dissatisfied if the score is from -1 to -4. Degree of satisfaction is base on the scores as in the table 1.

Table 1 Degree of satisfaction using *SERVQUAL*

The difference between perception and expectation	Degree of satisfaction
(+2.00) hingga (+3.00)	Most Satisfied
(1.00) hingga (+1.99)	Moderately Satisfied
(0.00) hingga (+0.99)	Mildly Satisfied
(-1.00) hingga (-0.01)	Mildly Dissatisfied
(-2.00) hingga (-1.01)	Moderately Dissatisfied
(-3.00) hingga (-2.01)	Severely Dissatisfied

Source: Roslan Johari 2001. Towards Patients' Delight. Institute of Health Management. Ministry of Health, Malaysia .

Procedure

There are 3 parts in the questionnaires. Part 1 consists of socio-demographic questions. Part 2 consists of 25 questions asking on patient expectation and part 3 consists of 25 questions asking on patient perception. Part 1 and 2 was given to patient while in the ward or during admission and part 3 was given to patient once discharge process completed. Only complete questionnaires are taken as samples.

Data Analysis

Statistical analysis was conducted using Statistical Package for Social Science (SPSS) version 11.5. Chi-square test was used to identify significant differences between the independent variables tested. Mann Whitney U test and Kruskal Wallis test was used to compare mean/s between two hospital categories and logistic regression was used to

identify the relationship between patient satisfaction and all the factors studied. Statistical value was considered significant if the p value < 0.05.

RESULTS

Socio-Demographic Data and Patient Satisfaction

Analysis on patient satisfaction score base on socio-demographic data reveal significant difference between levels of satisfaction in age groups, educational status, occupational status and monthly income in accredited and non-accredited hospital. Sex and ethnic group however, does not reveal any significant difference in levels of satisfaction for both category hospitals (Table 2).

Table 2 Comparisons of Socio-Demographic Data and Patients' Satisfaction

Variables	Accredited Hospital (n=150)			Non Accredited Hospital (n=150)		
	Frequency (%)		P value	Frequency (%)		P value
	Satisfied	Not Satisfied		Satisfied	Not Satisfied	
Sex						
Male	28 (39.4)	43(60.6)	0.245	28 (32.6)	58(67.4)	0.560
Female	24 (30.4)	55(69.6)		18 (28.1)	46(71.9)	
Age group						
18-29 years old	5 (19.2)	21(80.8)	* 0.001	7(24.1)	22(75.9)	*<0.001
30-39 years old	6 (18.2)	27(81.8)		1(4.2)	23(95.8)	
40-49 years old	6 (28.6)	15(71.4)		3(11.5)	23(88.5)	
50-59 years old	10 (34.5)	19(65.5)		9(31.1)	20(68.9)	
60-69 years old	25 (60.9)	16(39.1)		26(61.9)	16(38.1)	
Race						
Malay	34 (31.2)	75(68.8)	0.145	30 (32.6)	62(67.4)	0.516
Non Malay	18 (43.9)	23(56.1)		16 (27.6)	42(72.4)	
Educational Status						
None	12 (66.7)	6(33.3)	*<0.001	14 (53.8)	12(46.2)	*<0.001
Primary	27 (47.4)	30(52.6)		24 (52.2)	22(47.8)	
Secondary	11 (18.3)	49(81.7)		7 (11.7)	53(88.3)	
Tertiary	2 (13.3)	13(86.9)		1 (5.6)	17(94.4)	
Occupational Status						
Not Working	19 (52.8)	17(47.2)	*<0.001	27 (65.8)	14(34.2)	*<0.001
Government	10 (32.3)	21(67.7)		2 (7.4)	25(92.6)	
Private	2 (6.1)	31(93.9)		8 (21.1)	30(78.9)	
Self Employed	21 (42.0)	29(58.0)		9 (20.5)	35(79.5)	
Monthly Income (RM)						
≤ RM1000	43 (43.0)	57(57.0)	*0.002	42 (45.2)	51(54.8)	*<0.001
> RM1000	9 (18.0)	41(82.0)		4 (7.1)	53(92.9)	

* Significant if p<0.05

For age group, the lowest satisfaction level noted was in respondents aged 30-39 years old (18.2% and 4.2%) in both hospital categories. Respondents aged 60-69 years old showed the highest satisfaction level in both hospital category (60.9% and 61.9%). Satisfaction level was noted higher with increasing in age.

For educational status, the highest satisfaction level was noted in respondents without formal education with 66.7% satisfied in accredited hospital and 53.8% satisfied in non-accredited hospital. Those with tertiary level of educational status gave a lowest percentage of satisfaction in both hospital categories. Satisfaction level showed an downward tendency with increase in educational status and it is statistically significant (p<0.001).

As for occupational status, respondents working with government sectors, private

sectors and self employed gave lower satisfaction level compared to unemployed respondents in both hospital categories. These findings were also significant statistically.

Respondents with monthly income of RM1000 and more showed lower satisfaction level (18.0% and 7.1%) compared to those with income of less than RM1000. Satisfaction level showed a downward trend with increase in monthly income.

Patients' Overall Satisfaction According to Hospital Categories

A total of 34.7% (52 respondents) from accredited hospital were satisfied with the services and 30.6% (46 respondents) from non-accredited hospital were satisfied with the services. These results indicate a higher percentage of patients still dissatisfied with the hospital services. Chi-square test reveal p=0.460 which meant that there is no

significant difference in satisfaction level between accredited hospital and non-

accredited hospital (Table 3).

Table 3 Patients' Overall Satisfaction According to Hospital Categories

Satisfaction Level	Satisfied (%)	Not satisfied (%)	χ^2 Value	P Value
Accredited Hospital (n=150)	52 (34.7%)	46 (30.6%)	0.546	0.460
Non accredited Hospital (n=150)	98 (65.3%)	104 (69.4%)		

Degree in Patient Satisfaction According to Hospital Categories

Majority of respondents (56.0% from accredited hospital and 53.3% from non-accredited hospital) showed 'mildly dissatisfied' with the services received. Percentage of respondents giving response 'moderately dissatisfied' and 'highly dissatisfied' were higher in non-accredited hospital as compared to accredited hospital. A

total of 34.7% of respondents from accredited hospital and 30.6% of respondents from non-accredited hospital showed 'mildly satisfied'. No respondents from both category hospitals showed 'highly satisfied' or 'moderately satisfied'. Chi-square test of p=0.38 meant that there was no significant difference in degree of satisfaction between the two categories of hospitals (Figure 1).

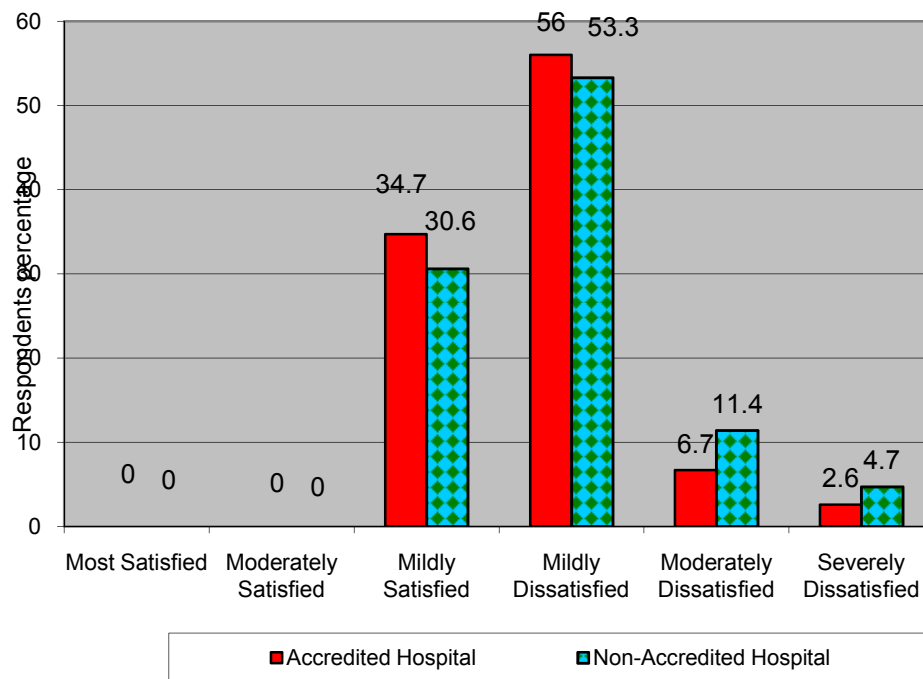


Figure 1 Degree in Patients' Satisfaction with Hospital Categories

Mean Satisfaction and Bed Occupancy Rate (BOR)

The summary scores for all hospitals indicated patients' dissatisfaction (Table 4). Dissatisfaction was highest in Hospital Banting (BOR=62.91) with mean score -0.43 ± 0.68 . These was followed by Hospital Sabak Bernam (BOR=49.41) with mean score -0.40 ± 0.52 , Hospital Tanjung Karang (BOR=46.1) with mean score -0.32 ± 0.50 and Hospital

Kuala Kubu Baru (BOR=43) with mean score -0.32 ± 0.41 . Mean score for dissatisfaction showed an upward trend with increased bed occupancy rate but not related to number of beds and accreditation status. Comparison of means score and bed occupancy rate using Kruskal Wallis test gave significant result ($p < 0.001$) which meant that there was a significant difference in satisfaction level with different bed occupancy rate.

Table 4 Comparisons of Mean Patient Satisfaction and BOR in Each Hospital

Hospital	Mean Satisfaction Score \pm s.d	Number of beds	BOR	P Value
HTAJ, Sabak Bernam	-0.40 ± 0.52	93	49.41	
H.Banting	-0.43 ± 0.68	151	62.91	* <0.001
H.Tg Karang	-0.32 ± 0.50	114	46.1	
HKKB	-0.32 ± 0.41	150	43	

* Significant if $p < 0.05$

Patients' Satisfaction According to Dimension Measured

Analysis of means on each dimension reveal satisfaction in all dimension measured except for corporate culture (Table 5). For *SERVQUAL* dimension, the greatest level of satisfaction was in the dimension of 'Tangibles' and the least satisfaction noted were in the dimension of 'Responsiveness'. These results are similar in both hospital

categories. The entire three elements in the dimension of corporate culture showed dissatisfaction with element 'Caring Services' showed the greatest level of dissatisfaction. Comparison of mean scores for these two hospitals category was done using Mann Whitney U test revealed no significant difference in each dimension measured between accredited and non-accredited hospital.

Table 5 Comparison of Mean Patient Satisfaction According To Dimension Measured

Dimension	Accredited Hospital (Mean Score \pm sd)	Non-Accredited Hospital (Mean Score \pm sd)	Z Value	P Value
1. 'Tangible'	1.520 + 0.50	1.533 + 0.50	-0.231	0.817
2. 'Reliability'	1.400 + 0.49	1.420 + 0.49	-0.352	0.725
3. 'Responsiveness'	1.286 + 0.45	1.353 + 0.47	-1.236	0.217
4. 'Assurance'	1.320 + 0.46	1.400 + 0.49	-1.441	0.150
5. 'Empathy'	1.293 + 0.45	1.386 + 0.48	-1.703	0.088
6. Corporate Culture				
i. Caring Services	-0.325 + 0.66	-0.345 + 0.62	-1.546	0.122
ii. Team Work	-0.305 + 0.47	-0.332 + 0.55	-1.201	0.230
iii. Professionalisme	-0.276 + 0.49	-0.313 + 0.57	-0.348	0.728
7. Environmental Factors	1.393 + 0.49	1.427 + 0.49	-0.586	0.558
8. Admin Process	1.320 + 0.46	1.413 + 0.49	-1.675	0.094

Logistic Regression Model for Patient Satisfaction

Independent variables which showed significant association with patient satisfaction were included for multivariate analysis. Variables retained in the final model were educational status, occupational status and monthly income (Table 6). Hospital categories, age, sex and ethnic group were not included in the final model. Patient Satisfaction increased

3.5 times in respondents who had no formal education, 3.1 times in unemployed respondents and 2.3 times in respondents who have monthly income less than RM1000. Nagelkerke R² value in this analysis was 0.308 which signify that factors in this study contributing only 30.8% to patient satisfaction. Other factors contributing to patient satisfaction was not included in the study.

Table 6 Logistic Regression Model for Patient Satisfaction

Variables	Regression Coefficient B	Standard Error	Wald	P value	Adjusted Odds Ratio	95% Confidence Interval
Constant	-0.342	0.984	0.121	0.728	0.710	
Educational Status	1.255	0.433	8.419	*0.004	3.5	1.503-8.188
Occupational Status	1.128	0.343	10.814	*0.001	3.1	1.577-6.052
Monthly Income	0.833	0.412	4.087	*0.043	2.3	1.026-5.160

Nagelkerke R² = 0.308

DISCUSSION

The finding from this study found that gender did not show any significant difference in satisfaction level in the two categories of hospital. Study done by Pascoe & Atkinson also found similar result⁷.

Ethnic group did not show any significant difference in satisfaction level in the two categories hospital. Even though there was a significant difference in ethnic group among population between the two category hospitals, satisfaction level was not being influence by this variable. Study done by AM Haliza et al found that non-Malays are more satisfied compared to Malays by 2.4 times⁸. This inconsistent result is also due to personal favoritisms in each individual patient causing expectations and perceptions received vary according to the individual and the nature of the service.

Statistical analysis showed that satisfaction level increased with increasing age for both hospital categories. The older you are, the more easily you are satisfied. Elderly people usually rate their care more positively than younger adults. Younger people tend to be more impatient and usually become easily annoyed if their expectations are not met. This result corresponds with the meta-analysis study done by Hall & Dornan⁹.

In view of educational level, satisfaction level correlates negatively with the level of education. Study done by Pascoe and meta-analysis by Hall & Dornan, also found that educational level was inversely related to satisfaction level^{7,9}. This can be explained as higher educational level will result in higher expectation of service receives and consequently causing increased in the gaps between expectation and perception.

As for occupational status, working respondents were found to have lower satisfaction level as compared to unemployed respondents. This can be explained as working respondents will have higher expectation of service received compared to unemployed respondents as they are more exposed to external environment, word of mouth and service reputation to various health service providers.

Satisfaction level decreased with increase in monthly income. This negative correlation is contradict with study done by Pascoe & Atkinson and Larsen et al^{7,10}.

With *SERVQUAL*, satisfaction is calculated as the width of gap between 'expectations' and 'perceptions'. A negative gap is usually anticipated, as typically expectations of an ideal service are not completely filled. Percentage of satisfaction among patients in accredited and non-accredited hospital is low and there is no

significant difference between them. Finding in this study correspond with other overseas study using *SERVQUAL* as well as local study by Roslan Johari to seven hospitals which gave satisfaction rate of 19% and to Hospital Kuala Lumpur which gave satisfaction rate of 29% in 2004¹¹. Inayati also found a low satisfaction rate in HUKM (19.7%) in 2004¹². In this study, greater percentage of satisfaction was gained most likely because of the higher response rate compared to the previous studies by Roslan Johari and Inayati^{11,12}.

Degree of satisfaction also shows no significant difference between accredited and non-accredited hospitals with majority of patients from both category hospitals gave the response as 'Mildly Dissatisfied'. This finding was consistent with the study done by Roslan Johari¹¹. Percentage of patients gave response 'Mildly Satisfied' in year 2000 increase from 19% to 30.6% (non-accredited hospital) and 34.7% (accredited hospital) in this study. These findings indicate that degrees of patient satisfaction in public hospitals have improved.

Final finding in this study support the study done by Griffith et al in which they revealed no relationship between Hospital Accreditation Status and patient satisfaction¹³. This finding suggests a disassociation between these two quality indicators. There was no similar study done at local level.

Satisfaction also reduced with higher bed occupancy rate. Previous research done by many researchers also gave similar result. This finding should alert the policy makers in distributing adequate amount of human resource according to bed occupancy rate and indirectly increase staffs' and patients' satisfaction level.

Possible reasons for no difference in satisfaction score in accredited and non-accredited hospitals are because patients gave different ratings of satisfaction with care as they differ in (i) the type and specific aspects of health care provided to them, (ii) their perception and experience of care, (iii) their expectations about care, and (iv) their tendency to praise or criticize. Service quality is an elusive and abstract concept that is difficult to define and measure.

Comparing one category hospital with another also creates limitation in fairness of comparison. The nature of service performance diverges from one transaction to another. This "heterogeneity" can occur because the service

is delivered by different physicians, nurses and others to a variety of patients with varying needs. Caretakers provide services differently because of variations in factors, such as their specialty training, experience and individual abilities and personalities. Interactions among physicians, nurses, administrators, patients and timing factors combine in an infinite number of ways to affect the quality of the health care service rendered.

Lastly, the sample distributions of the independent and dependent variables were not normal. The dependent variables and the attribute independent variables show a ceiling effect because of the nature of the questionnaire. Although this ceiling effect of the variables is not uncommon in customer satisfaction research, it may affect the results of multiple regression analysis. In this study, attempts were made to normalize the dependent variables by transforming them, but the results were similar to the original dependent variables. In addition to that, logistic regression analysis found that only 30.8% factors in this study contributing to patient satisfaction. Other factors determine patient satisfaction was not studied.

CONCLUSION AND RECOMMENDATIONS

From the above findings, it can be conclude that there is no significant difference in level of patient satisfaction between accredited and non-accredited hospital. This result triggered a question of the significant of accreditation status for hospital in relation with patient satisfaction. Is this result mean that these two measures of healthcare quality were of different constructs, with no meaningful relationship between them? Accreditation Program is not highly reflective of patient satisfaction and service quality outcome, nor is patient satisfaction ratings indicative of the technical aspects of quality addressed by Accreditation Program.

Several factors also make accreditation more difficult to evaluate than a clinical technology. The 'endpoints' of accreditation are hard to define, and vary according to the expectations of users and observers. Accreditation also is not a single technology but a cluster of activities which interact to produce documented processes and organizational changes, but process-outcome links may be demonstrated for component interventions, and summated as a proxy for overall impact.

One of the recommendations that can be made from this study is to establish an excellent organizational culture. The practice of the three corporate values of caring, teamwork and professionalism must be enhanced. It requires committing organization to customer service-by word and by deed. It is also recommended to hire employees who are people-oriented and naturally endowed with positive service attitudes and values. Managers should also consider behavioral change with readjustments in the current system of health care since staff and patient satisfaction are inter-related. These include shift the focus of attention from deficiencies in personal performance to defects in the system that may have permitted these deficiencies to occur. Consequently, we will less likely to accuse individuals and more likely to create an environment more conducive to good care. Readjustments include provision of resources adequate in quantity and high in quality. These resources are both material and human. Restructuring of incentives can also allow good performance to be recognized and rewarded while substandard performance is also recognized and if possible, corrected. Incentives can either in form of economical, leisure to study and do research or an appreciation of excellence.

Improving patient satisfaction starts with motivated employees. Motivational activities, courses on communication skills and benchmarking are also important recommendations to consider to enhance patients' satisfaction.

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