



Evaluation of Dental Care through Patient Satisfaction Feedback – A Cross Sectional Study at Dental Institute of OJHA Hospital, Karachi, Pakistan



Iqbal W*, Faran Farooq, Yashfika Abdul Bari and Shoro Farhana Nazir

Dow University of health sciences, Pakistan

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*Corresponding author: Wasif Iqbal, Dow University of Health Sciences, Pakistan, Email: wasif.vp@gmail.com

Abstract

Objective: The chief purpose of the study is to evaluate the patients' satisfaction following routine dental treatment delivered at dental department of Dow University of Health Sciences OJHA hospital

Materials and Methods: The study was a cross-sectional questionnaire based survey at ojha hospital. The patient selection was random and the products of questionnaire received were based on likert scale coding. The results were measured through spss 16 software by applying descriptive analysis and anova test. Descriptive analysis was done to measure central tendency of the responses.

Results: The mean values of all the variables lie between MEAN=2.8 to 4.3 i.e. more than fair to good. The overall patient's satisfaction level is calculates a 4.0 with standard deviation of SD=1.1. The responses of administrative efficiency, dentist proficiency, clinical setup and advocation if profoundly significant i.e. p value=<0.05 whereas responses of facilities compared with number of visits is not significant p value = >0.05 and vice – versa. The anova test applied within groups for number of visits over y axis is $y = 0.1366x + 0.0754$ with $R^2 = 0.5396$ whereas for level of education is $y = 0.0056x + 0.0358$ and $R^2 = 0.0566$.

Conclusion: It is concluded majority of patients were satisfied with the interaction between dentist and the patient, technical expertise, administrative competence and hospital's environment whereas responses for the facilities compared with number of visits is not substantial but is found to be significant with education level of patients at Dow University of Health Sciences.

Introduction

Satisfaction by patients is found to be the basic element of every hospital setup [1,2]. The term satisfaction is defined as the extent of an individual's experience compared with his or her expectations [3]. Current studies validate the alliance between patient's satisfaction and satisfactory treatment measures [4]. There are many countries whose primary incentives are to gauge patient satisfaction level in order to assess the level of care provided to patients but still this initiative are under process in developing countries such as in Pakistan [5,6]. Assessing the quality of care is a prerequisite in provision of ideal health services, in such appraisal the cooperation and participation of patient plays an important role [7]. Health care providers worldwide unanimously consider patient satisfaction as a basic concern of their practice [8]. It has been reported that satisfied patients are more likely than their dis-satisfied counterparts to show positive illness behaviors [9].

Nowadays, as patients have more understanding about dental care; their outlooks towards it have been modified completely. Dental care satisfaction's feedback is essential for constant amendment of services provided. Patient's assurance and satisfaction are elements of a dental organization [10]. Kareem et al. [11] emphasized the importance of patient's feedback and highlighted the fact that it has been neglected by caregivers.

Contentment with the health care is a useful measure that computes care, including the quality of care and physician-patient relationships. It has been used in medicine for several years, and as recent literature evidenced that is gaining familiarity in dentistry [12-16].

Kashinath et al. [17] studied the behaviors of patients visiting outpatient department and Tumkur [17] evidenced the fact that main reason for dissatisfaction was the needs of patients were neglected. The key element to be emphasized when considering the patient's attitude towards care is maintaining a harmonious relation between demand and need of the patient which impacts the level of satisfaction. The perceptions of treatment need vary among those who visited regularly without the normative needs being evident, and those who attend until the pain leads to a miserable situation. Psycho-social variation among the patients is another determinant of distinctive demands [18].

As the Business and economical coding's decoded in medicine and dentistry patients became the "consumers" of care, according to the phenomenon of "consumerism" honoring the patients' feedbacks is inevitable [19]. There are certain aspects, which have an impact on patient's contentment to dental care; technical skills, accessibility, interpersonal elements, cost, and facilities

[20]. Treatment outcome has a greater influence on interest of patients visiting the clinic or hospital. An unexpected experience may cause them to delay appointments or even refrain them from visiting the dentist again. Patients keep a check on the accessibility and facilities and choose to go to hospitals accordingly. Treatment quality relies on the availability of services [21].

Kumar & Chowhan [22] justified in their research study that most of the patients were satisfied with hospital setup and were contended with staff attitude. Recent studies determine association between patient’s level of appeasement of patient and positive treatment result [23]. Patient dissatisfaction has a major consequence on the business as well [24]. Dentists should make sure to keep this factor in mind and realize that this is due to their poor actions and behaviors that patients tend to change their dentists [25]. There might be a great concern among dental care workers regarding dental criticism made by patients [26].

There are many diseases in the world which greatly consider hospital setup. Among them are dental problems which are reported to be common today [27,28]. General public is more dependent upon hospital facilities for dental diseases [4,29] Patients are selective in choosing hospitals [4]. It is said that number of services are proportional to quality of treatment. The more the hospital provides facilities, the more treatment quality can be expected [20,29]. Patient’s attitude and expectations towards quality of treatment is changing since awareness regarding dental health care is increasing [30].

The standard of a hospital discipline in terms of treatment provision can be assessed by satisfaction of patients receiving treatment in the hospital. Tools such as structured questionnaires which evaluate patient’s response to the dental treatment are helpful in evaluating satisfaction of the patients to the dental care delivered [31-34]. Majority of studies showed the patient satisfaction following dental treatment at dental training institutes [34,35]. Whereas studies consider the patient satisfaction with comprehensive dental care provided by dental students are rarely found.

Worldwide various studies have been conducted to assess patients’ satisfaction regarding the dental care delivered in several institutes [36]. The ages of patients fall between 30 to 40 years as reported by most studies [37]. Seemingly the students are concerned about upgrading the living standards of the patients; healthcare awareness is improved among patients resulting in high demand for medical and dental services [36]. Besides

Results

Table 1: Sociodemographic Variables.

Variable	Description	Frequency	
		N	%
Registration Number	Not Applicable	778	100
Marital Status	Single	335	45.6
	Married	382	49.1
	Other	41	5.3

providing public health services to patients on daily basis, medical and dental training institutes gear up their students to combat healthcare challenges on day today basis [36]. In comparison to medical schools, Dental schools given the priority to train their students about appropriate dental care delivery to the patients as a part of their curriculum therefore most of dental institutes are continuously striving to improve the standards of training and hence improved quality of the dental treatment delivered by their students [35,38].

Hence, the rationale of this study is to evaluate the patients’ gratification following routine dental treatment delivered at dental department of Dow University of Health Sciences OJHA hospital, and to measure the patients’ satisfaction level to the treatment received.

Methodology

The research was commenced at dental department, Dow University of Health Sciences OJHA Hospital. The research is based on cross sectional study which is carried out through a survey measuring patient satisfaction level by self-administered questionnaire.

The survey form, construed in national language, is an integral part of this study. It considers the patients’ feedback concerning 5 basic components of hospital setup along with consent form. The questionnaire contained factors which reflects the patient’s sociodemographic profile, include marital status, education, occupation, number of visits to the hospital. Age and gender being the most important enclosed with the official registration numbers mentioned with each form.

The consent form is filled by each and every participant prior to acquiring the survey responses. The five dimensions identified to evaluate the degree of satisfaction are; administrative efficiency, prime facilities, dentist efficiency, clinical setup and recommendation for the hospital. The patients were asked to fill the survey forms abiding the ethical considerations primarily.

The responses of participants were analyzed on a LIKERT SCALE. The scale was coded as 1= Poor, 2= Fair, 3= Average, 4= Good, 5= Excellent. The result was obtained measuring central tendencies and anova test was applied to measure the significance level between number of visits and education level to the responses of participants calculated by SPSS-16 software. The patient selection was random and response rate was 97.6%.

Education	Primary	254	32.6
	Secondary	120	15.4
	Higher Secondary	144	18.5
	Graduation	209	26.9
	Post-Graduation	51	6.6
Occupation	Unemployed	149	19.2
	Self Employed	95	12.2
	Labour	221	28.4
	Government Job	218	28
	Private Job	95	12.2
Number Of Visits	1 - 10	375	48.2
	10 - 20	252	32.4
	>20	151	19.4

Table 1 demonstrates socio-demographic specifications of the patients. n= 778, patients participated in the survey. There data record is set by official registration number including basic demographic variables of age and gender assigned by the administration of the dental OPD. Among different variables, it is found that n= 254, 32.6% participants have completed their primary education while n= 209, 26.9% were graduates. The occupational status shows that n=221, 28.4% serves as labour i.e. belong to low socio economic status, n= 218, 28% participants are government employee and n= 95, 12.2% belong to the private or

Table 2: Reliability Statistics.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.837	0.844	29

Table 3: Summary Item Statistics.

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.664	2.85	4.352	1.503	1.527	0.178	29

Table 3 shows the summary of 29 items assessed by responses of Likert scale. The overall mean for the 29 variables in

commercial sector of the society. Out of 100 percent participants, n= 375, 48.2% participants had to pay 1 to 10 number of visits, n= 252, 32.4% visited 10-20 times and n= 151, 19.4% visited more than 20 times.

Table 2 shows reliability statistics. Likert scale is found to be 80.3% reliable in this case. The overall reliability coefficient, Cronbach's alpha, is $\alpha = .837$. It measures internal consistency reliability for a set of variables. It is a reliable variance of the composite score within 29 items.

questionnaire is MEAN=3.664 i.e. above average to good whereas range is R=1.503 with V=0.178 Variance.

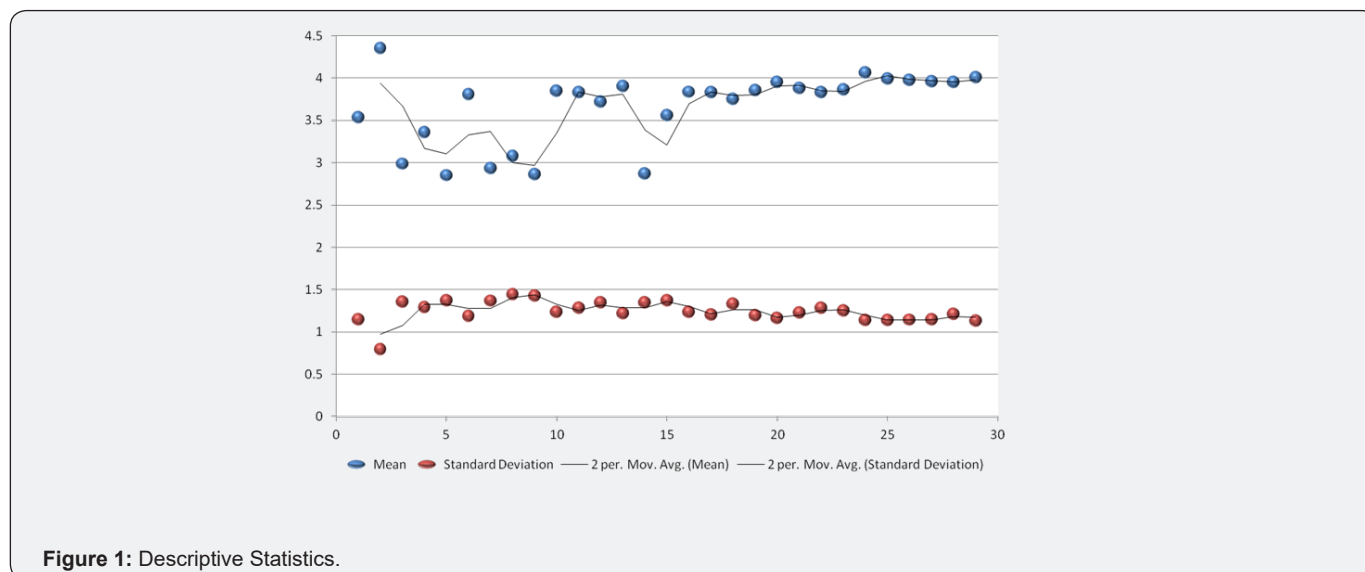


Figure 1 reveals the descriptive statistics of all 29 variables measured by Likert Scale. It is demonstrated by a bubble chart which shows that the mean values of all the variables lie between

MEAN=2.8 to 4.3 i.e. more than fair to good. The overall patient's satisfaction level is calculated as a 4.0 with standard deviation of SD=1.1.

Table 4: Group Statistics.

	Administrative Efficiency	Facilities	Dentist Proficiency	Clinical Setup	Advocation
Mean	3.4159	3.4409	3.701	3.9183	3.9743
Median	3.4	3.5	3.8	4	4
Mode	3.2	3.5	4	5	5
Std. Deviation	0.55637	0.58754	0.52372	1.12122	1.07554

Table 4 is a brief illustration of the descriptive data i.e. central tendencies measurement analysed for each major category in the questionnaire whereas Figures 2-6 illustrates graphic representation in form of histograms of each category in the

questionnaire. The overall group wise mean, median and mode ranges in between MEAN=3.41 to 3.97, MEDIAN=3.4 to 4 and MODE=3.2 to 5 respectively with standard deviation from SD=0.55 to 1.12.

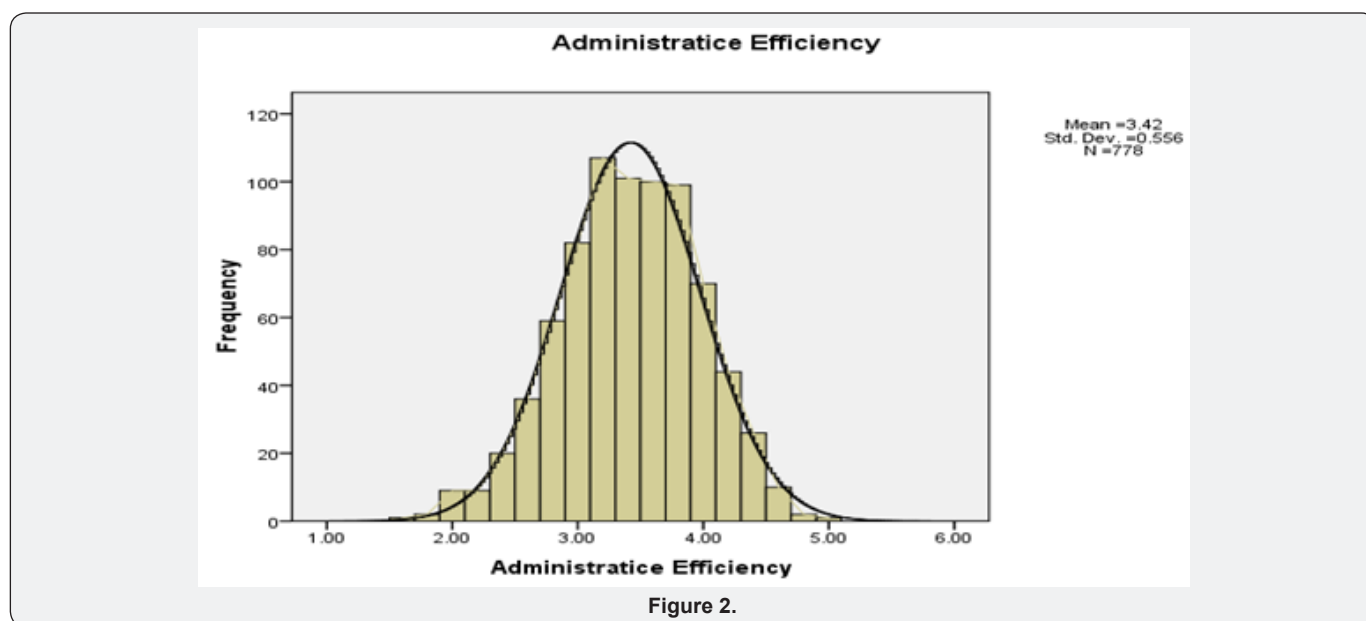


Figure 2.

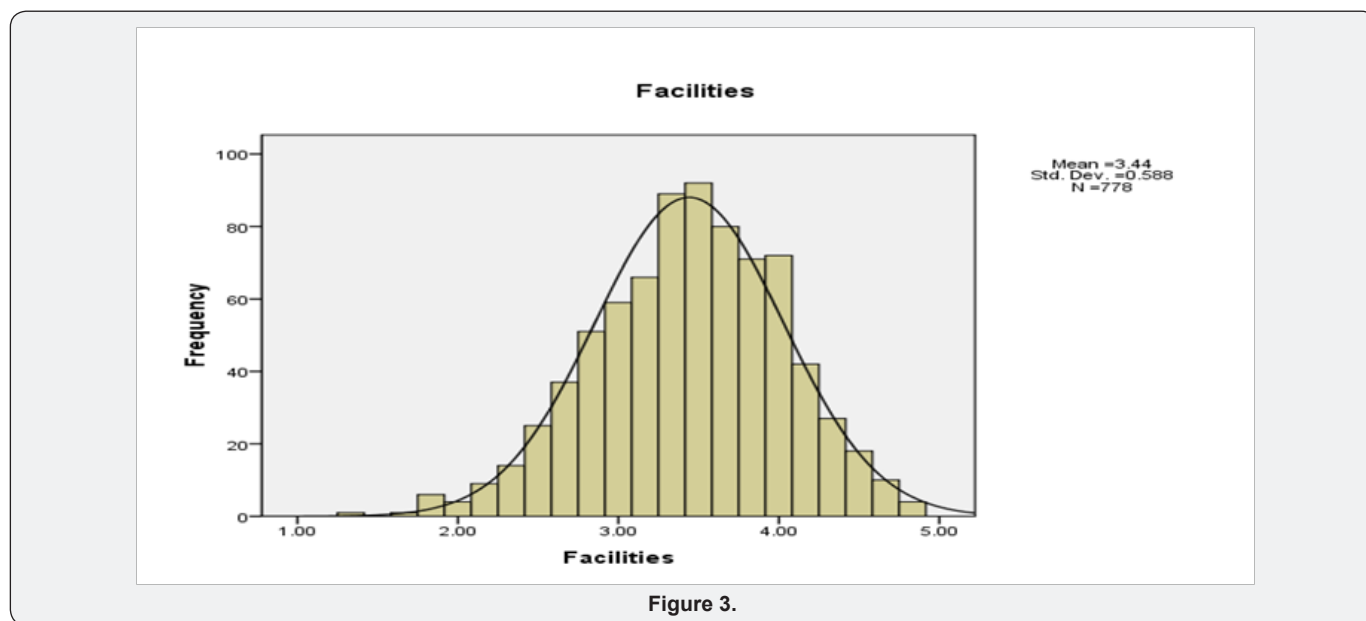


Figure 3.

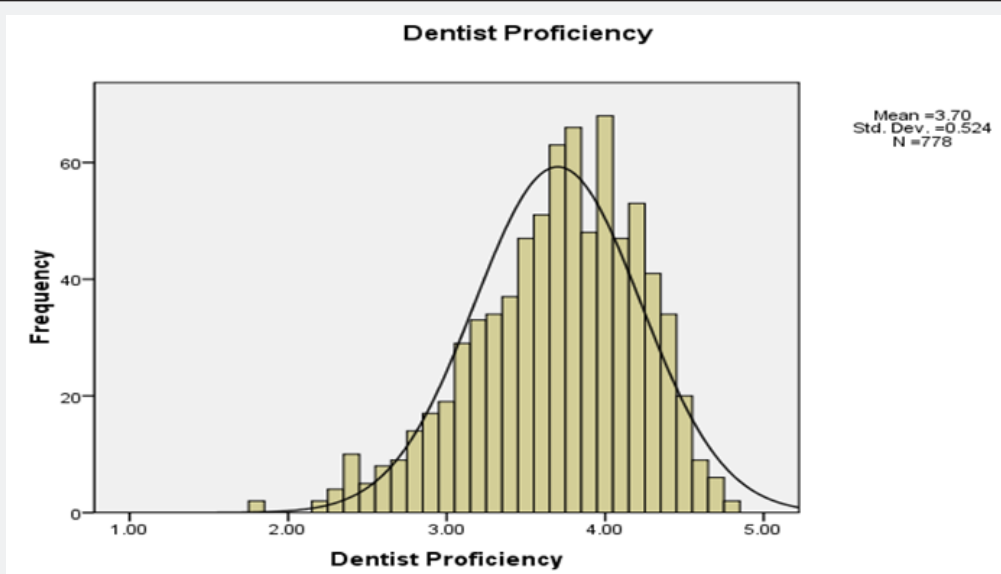


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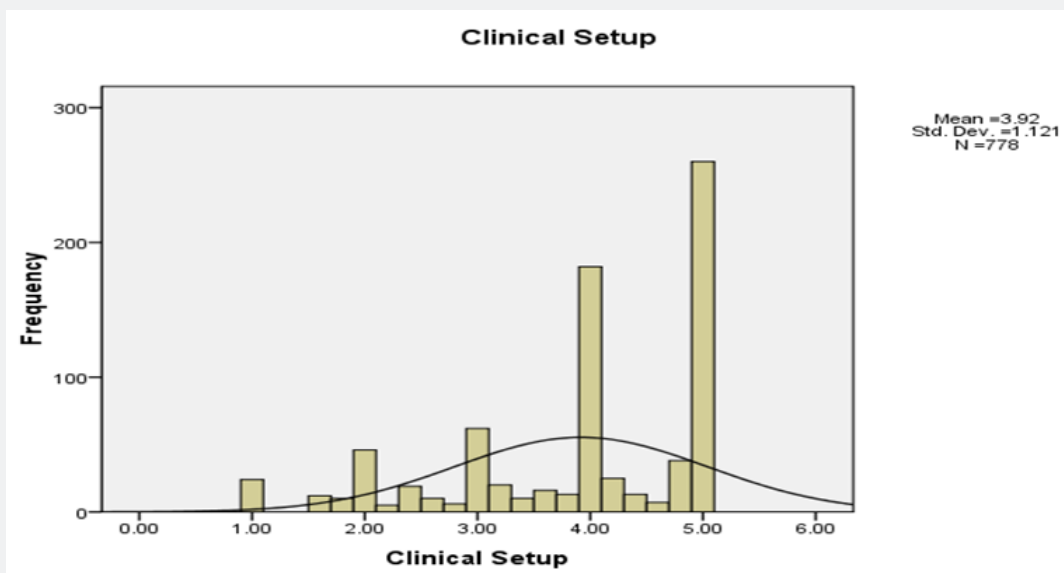


Figure 5.

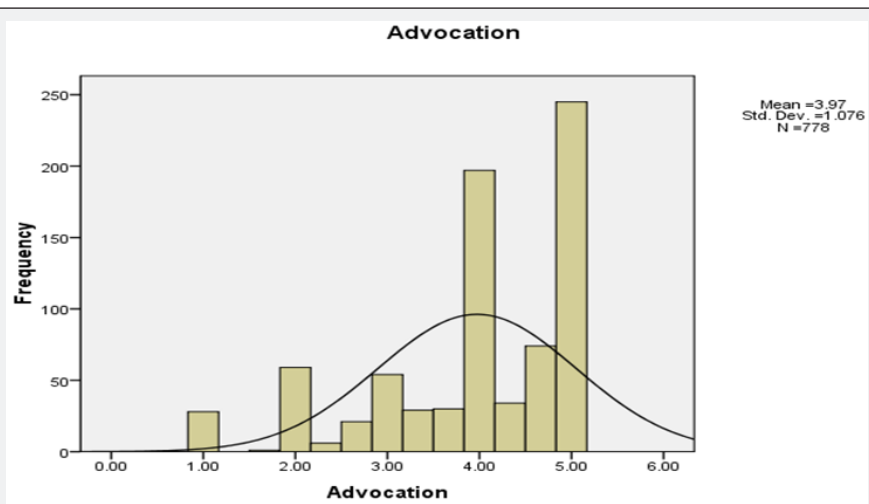


Figure 6.

Figure 7 is a measure of overall central tendency represented graphically. The satisfaction level is shown by a curve; the mean satisfaction level is MEAN=3.6 with standard deviation of SD=0.58

and variance V=0.34 with range R=3.05. The overall satisfaction level is found to be good. The patient satisfaction level over y-axis is $y = -0.4906x + 4.3298$ and $R^2 = 0.2903$.

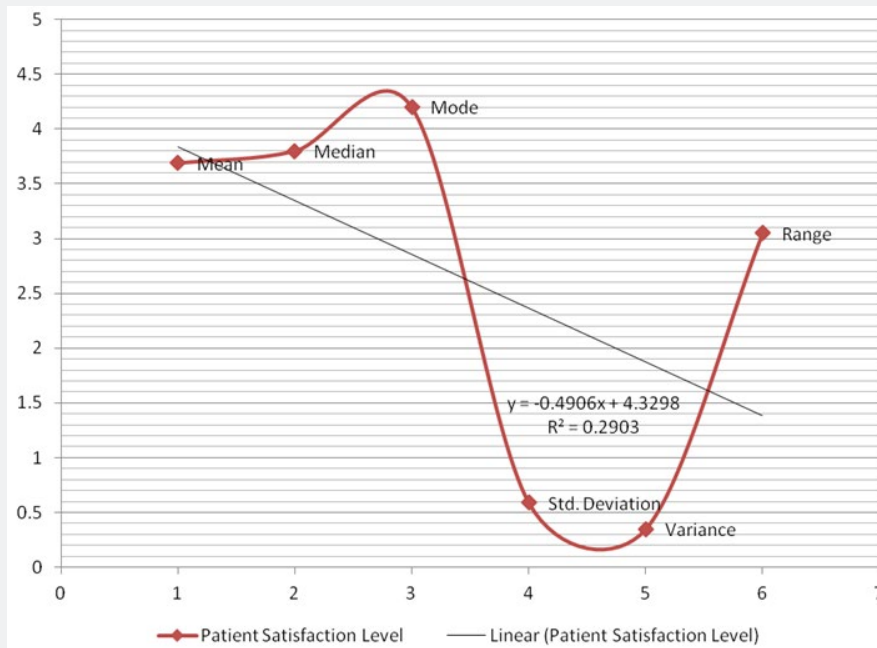


Figure 7: Patient Satisfaction Level.

Figure 8 is a scatter plot representing ANOVA analysis against number of visits and level of education. The plot reveals the responses of administrative efficiency, dentist proficiency, clinical setup and advocacy if profoundly significant i.e. p value=<0.05 whereas responses of facilities compared with number of visits

is not significant p value = >0.05 and vice - versa. The anova test applied within groups for number of visits over y axis is $y = 0.1366x + 0.0754$ with $R^2 = 0.5396$ whereas for level of education is $y = 0.0056x + 0.0358$ and $R^2 = 0.0566$.

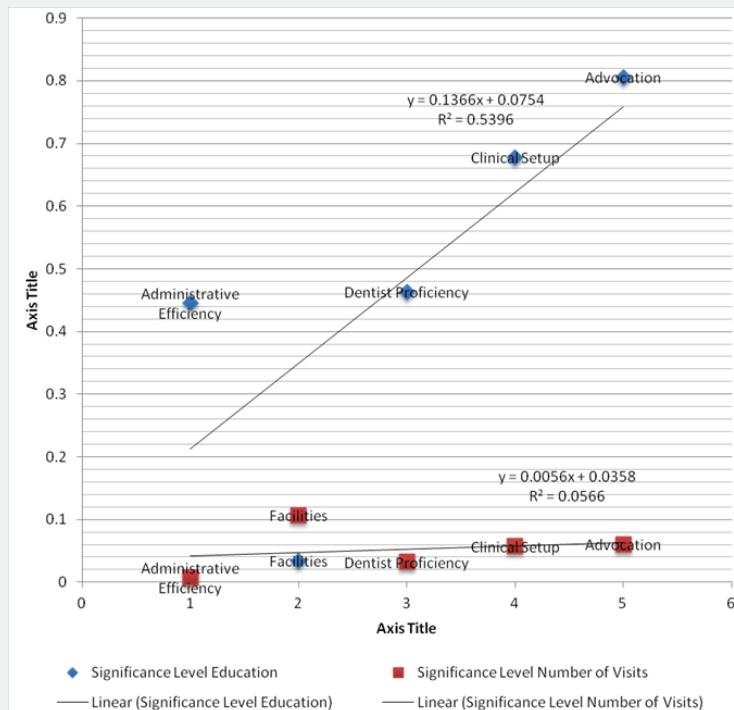


Figure 8: Anova Test.

Discussion

This study is conducted to assess the patients' satisfaction level through self-administered questionnaire covering all five aspects needed for a hospital setup. The results attained from the study found that majority of the participants studied up to primary class and serves as labor, thus belong to low socio economic status. Variation of Socio Economic Status (SES) influences health care quality and treatment outcomes [39-42]. The results also showed that higher frequency of graduated participants took part in the survey whereby mean financial affordability is ranked as good according to the established scale. Whereas the study also reveals that financial stipulation for dental treatment remain a significant barrier to approach dental care [43,44]. A similar study justifying corresponding results showing low educational level and financial concerns are the factors impeding interest towards dental treatment, therefore, middle or higher socio-economic groups visited their dentists more frequently [5].

This study found that the determination of internal-consistency reliability within the set of variables found by coefficient alpha is considered very well. The quality services usually assessed by standard clinical indices, unfortunately such norms do not always commensurate patients' expectancy [12,45-47]. The various researches have evidenced that aspects of care related to the investigation, accessibility, financial affordability, optimal technical facilities, competent treatment plans, efficacy of treatment outcome, maintenance of care, and consistent quality control are the indices for appraisal [12,13]. In this study, that mean reliability score of the tool used is above average to good.

The results of this study showed that the main reason for ranking administrative efficiency as average was underprivileged patient management system and neglected phone call answering system whereas an above average performance at reception, great staff cooperation, and excellent hospital environment are primary factors for ranking administrative efficiency. As other studies experience diminished patients' response due to administrative incompetency, lack of staff cooperation and long waiting time which showed low priority [48]. Thimmappayya [49] established a similar association between hospital environment, management skills, service provision and patient satisfaction. Trakroo [50] enumerate the factors which affecting satisfaction level of patients at OPDs. They are unusually prolonged waiting hours at registration desk, touchy and moody attitude of staff, inadequate space to accommodate patient, waiting time for consultation, clinician's objectionable behavior [50].

This study also finds the extent of satisfaction attained by facilities appreciate by the patients at dental hospital is good radiography department, average emergency facility, great financial support and billing services. The major setback was patients facing problems with the directions and there is no systematic patient calling system.

Moreover, research finds the dentist proficiency at dental department of OJHA is ranked as good. Courteous and friendly

behavior by the dentist, satisfactory solutions regarding queries, enough explanation of treatment plan may reduce the patients' anxiety and improves eliminating the status gap between patient and dentist, thus glorifies the probity of physicians' character. Studies revealed that the attitude of dental surgeons, thorough examination, accurate diagnosis and explanation of the treatment, flare-up management and frequency of appointments rated as "good" in patient satisfaction [48]. On dentists-patient interaction favoring the consent prior to treatment by the dentist is the factor patients are not satisfied. The survey conducted in New Zealand reported that almost all the patients need to be informed in detail about their dental treatment [51]. Professional attitude and skills estimated by the patients were satisfying. This is in accordance with several studies which indicated that the dentist's competency and command in explaining the pathology, consequences and treatment options to the patient received enough focus in evaluation of satisfaction levels [3].

The results of this study found that dentist at OJHA hospital are quite skilled in reducing anxiety of the patients. Dental anxiety is one of the ultimate barriers with regard to dental treatment [43,44]. Above all the beneficial two-way communication, management of patients' emotional state, ethical considerations and utmost professionalism are critical to achieve patient's satisfaction [52,53]. Provision of simplified description of the treatment options available should be focused by the dentist to attain ideal levels of satisfaction [54]. Also Rankin & Harris [55] reported that 97% of the patients preferred dentists who elaborate what the disease and cure is.

The other aspect of hospital setup was clinical department and its cleanliness. The participants were highly satisfied with sterilization protocols and cleanliness of the units. In addition, they were also highly contended with cross infection control measures and there was also satisfactory ranking to state of art facilities at OJHA's dental department.

It is found that patients were satisfied with the overall hospital setup excluding some factors which were a major barrier for the ranking. This is because the dental department is extremely cost effective as it is a part of government sector. The cost becomes major reason for the patients choosing any dental hospital which is why patient management becomes hectic in the department. The overcrowded dental OPDs mark a great satisfactory level towards great treatment quality.

The study also finds that the number of visits patient made to the hospital was not significant to administrative efficiency. This is because, every time there is massive crowd and this made the administration rather slow. It is also finds that provision of facilities were not significant with number of visits patient made whereas it is appreciating that every time patients' visit OJHA hospital, he is always contended with the dentist proficiency and clinical setup.

It is said that determining the patient satisfaction is a multidimensional approach [23,56]. Dental treatment

requirements not only vary among patients of different age, level of education and socioeconomic status, but also their satisfaction levels. The dental literature reported that socio-demographic and psycho-social factors are responsible for ignorance of dental care and non-compliance to prevention [57]. The study reveals the fact that the results and ranking are not significant with the education level. It is admiring for any hospital setup for its ranking to remain positive irrespective of the education level of the respondents. The facilities provided to the participants is significant with the education level revealing that the educated patients were much satisfied with the facilities offered due to their better understanding and knowledge. The result shows similarity with the study of Zastowny TR study [58].

Conclusion

The study concluded that the patients' feedback regarding their level of contentment with the health care quality is the standard to assess the Services. Majority of the participants visited the Dental Department Dow University of Health were satisfied with dentist-patient interaction, technical expertise, administrative competency and hospital's environment. Whereas the facilities determined to be unsubstantial when compared to the number of visits by the patient but satisfactory when compared to the education level.

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