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Factors affecting patient satisfaction at the Lagos State University Teaching Hospital Dental Clinic

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Abstract

Background: Satisfaction is important in dental care because satisfaction with care alleviates dental anxiety, influences patients' compliance and is an important indicator of quality of care.

Objectives: This study was designed to determine the factors that contribute to satisfaction with dental care among patients attending the Lagos State University (LASUTH) Dental Clinic.

Methods: A cross-sectional, descriptive questionnaire-based survey was conducted among adult patients attending the LASUTH Dental Clinic. The questionnaire, a modification of the Dental Satisfaction Questionnaire (DSQ), contained 19 items on a Likert-pattern scale with scores ranging from 0 to 4.

Results: The scores obtained for satisfaction with the dental services ranged from 19 to 75 with a mean of 55.30 ± 11.55 . The majority of respondents (305 or 87.4%) were satisfied with the services received. The items generating the highest and lowest mean satisfaction score were cleanliness/ comfort of the facility and cost of services respectively. Long waiting time was the item respondents liked least about the services. There was a statistically significant relationship between the items assessing communication and respondent's gender ($p=0.001$). The relationship between the overall satisfaction score and gender ($p=0.233$), age category ($p=0.842$) and educational status ($p=0.565$) were not statistically significant.

Conclusion: The results indicate a high level of satisfaction with services provided at the LASUTH Dental Clinic. However, there is need for improvement in communication with patients and reduction in waiting time.

Keywords: Patient satisfaction, dental outpatient, quality of care.

Résumé

Introduction : La satisfaction est importante dans les soins dentaires parce que la satisfaction avec soin soulage réduit l'anxiété dentaire, influence sur l'acquiescement des patients et constitue un indicateur important de la qualité des soins. Cette étude a été

conçue pour déterminer les facteurs qui contribuent à la satisfaction du soin dentaire parmi les patients à la clinique dentaire de l'Université de l'état de Lagos (LASUTH). Une enquête transversale, descriptive par questionnaire a été réalisée chez les patients adultes qui fréquentent la clinique dentaire LASUTH. **Méthodologie :** Le questionnaire, une modification du questionnaire de satisfaction dentaire (DSQ), contenait 19 composantes sur une échelle de Likert-modèle avec des scores allant de 0 à 4.

Résultats : Les scores obtenus pour la satisfaction des services dentaires variaient de 19 à 75 avec une moyenne de $55,30 \pm 11,55$. La majorité des répondants (305 ou 87,4%) étaient satisfaits des services reçus. Les composantes générant le score de satisfaction le plus élevé et le plus faible moyenne étaient propreté / confort de l'établissement et le coût des services respectivement. Long temps d'attente était l'élément les répondants aimaient le moins sur les services. Il y avait une relation statistiquement significative entre les éléments permettant d'évaluer la communication et le sexe du répondant ($p = 0,001$). La relation entre le score de satisfaction totale et le sexe ($p = 0,233$), catégorie d'âge ($p = 0,842$) et le niveau d'instruction ($p = 0,565$) n'étaient pas statistiquement significatives.

Conclusion : Les résultats indiquent un niveau élevé de satisfaction quant aux services offerts à la clinique dentaire de LASUTH. Cependant, il est nécessaire d'améliorer la communication avec les patients et la réduction des temps d'attente.

Introduction

Satisfaction with health care services is considered an intermediate outcome of the health care process and a reflection of the extent to which care provided addresses patients' needs, meets their expectations and provides an acceptable standard of service [1]. The assessment of patient satisfaction is subjective but may be useful in measuring how successful a health care program is in meeting the perceived needs and expectations of the consumer [2]. Research has shown that patient's expectations are based on past experiences, environment, social background and personality [3]. It has also been suggested that less satisfactory care is likely to reduce the ability to

achieve good health status [1]. Associations have been demonstrated between dissatisfaction with the outcome of health care and behaviors which could be detrimental to the patient's health status such as non-compliance with instructions, delay in seeking care, as well as poor understanding and retention of instructions [1,4,5].

In dentistry, patient satisfaction is an important component of care because satisfaction with care alleviates dental anxiety, influences patients' compliance, their use of dental services [6] and is an important indicator of quality of care [5]. Consequently, interest has grown in determining the features that are likely to influence patient satisfaction. In Nigeria, the oral health indices are poor [7] and utilization of dental services is low [8,9]. A large proportion of dental clinic attendees' visit after the onset of pain and only a few have regular dental attendance habit [10]. Low awareness of the importance of oral health [7] and dissatisfaction with the dental care received are all possible explanations for this pattern. The cost of treatment in the face of high level of poverty in the nation [11] may also hamper regular use of dental services. Thus the provision of poor quality oral health services may further worsen the poor oral health seeking behavior of Nigerians and act as a barrier to seeking dental care. However there is limited information on patient satisfaction with dental care services in Nigeria [12]. Thus studies on contributory factors to patients' satisfaction with oral health care services may provide information that could help address some barriers to dental service utilization by clients.

This study therefore was designed to determine the level of satisfaction with dental care and identify socio-demographic factors associated with satisfaction among patients attending the Dental Clinic Lagos State University Teaching Hospital (LASUTH). The results obtained would be useful in evaluating the services offered and identifying factors responsible for patient dissatisfaction. It would also provide a useful guideline for improving the facilities and services offered which should stimulate improved clinical practice and increased efficiency. These should be helpful in achieving better clinical outcomes.

Methodology

The LASUTH dental clinic was established more than 20 years ago and it is located in the capital of Lagos State which is a cosmopolitan city and the economic hub of Nigeria. The centre provides oral health care services that range from oral and maxillofacial surgery to restorative dentistry, child

dental care (including orthodontics), diagnostic and preventive oral care. The clinic comprises 12 computerized dental chairs and a dental laboratory. A planned upgrade of the facility to a dental school is expected in the near future. There are 13 consultants who provide various specialised dental services, ten general dental surgeons, four dental technologists, four dental therapists, four administrative staff and one nursing staff. The fees charged at the facility are subsidized by the state government and as such the clinic attracts high patronage from a wide section of the populace in the state and neighboring states.

The present survey conducted over a period of four months (Sep 2010- Dec 2010) included adult patients (18 years and older) attending the Dental Out-patient Department of the Lagos State University Teaching Hospital as participants. Informed consent was obtained from the participants after explaining the importance and nature of the study. Ethical approval was also obtained from the hospital ethical committee.

Data were collected using a self-administered questionnaire containing both open and closed ended questions on all selected participants. The questionnaire used for data collection contained 19 items and was a modification of the Dental Satisfaction Questionnaire (DSQ) [1,2]. It was administered by a research assistant after the patients had received dental care in the department. The questionnaire contained three sections namely biodata, the DSQ and suggestions for improved service delivery. Participants were also requested to indicate how they learnt about the LASUTH dental clinic.

The questionnaire explored the following factors relating to satisfaction; access to care and cost of services (4 items), doctor-patient relations (2 items), technical quality of care (5 items), waiting time (2 items), facilities (3 items) and communication from staff (3 items). The items on the questionnaire were presented as statements pertaining to the personal experience of the respondents at their last dental visit or series of visits. Both positive and negative statements were used; the negative statements were reversed during data analysis so that all favorable responses were reflected by higher scores. Participants recorded their level of agreement or disagreement with each statement on a scale of zero to four, with zero indicating strong disagreement and four indicating strong agreement. A mean score was computed for each statement with a higher score indicating higher level of satisfaction. The cut off for achieving satisfaction was set at 2 for each statement. The maximum possible score was 76 and a score of 38 and above was graded high satisfaction while

scores less than 38 were graded as low satisfaction using the criteria utilized in an earlier study [12].

The data were cleaned then analysed using the SPSS for Windows (version 16.0; SPSS Inc. Chicago, IL) statistical software package. The measures of central tendency were computed for all numerical variables and the median and inter-quartile range were reported when the data was not normally distributed. The Chi-square and Fishers test of association were used to compare proportions. While the Mann-Whitney U test was used to compare differences in means. Significant variables in bivariate analysis were entered into a binary logistic regression model to determine factors that may predict satisfaction. Level of significance was set at 5% and all tests were two-tailed. Associations and differences were considered significant when the p-values were less than 0.05

Table 1: Socio-demographic characteristics of study participants

Characteristic	No	%
<i>Gender</i>		
Female	230	65.9
Male	119	34.1
<i>Age</i>		
18-25 years (young adults)	77	22.1
26-55 years (adults)	231	66.2
56 years and above (Elderly)	41	11.7
<i>Educational Status</i>		
None/Primary school	14	4.0
Secondary School	84	24.1
Post-secondary education e.g. Polytechnic/NCE	70	20.0
University education	181	51.9
<i>Dental Clinic Visited</i>		
Child Dental Health	53	15.2
Oral and Maxillofacial Surgery	132	37.8
Preventive Dentistry	102	29.2
Restorative Dentistry	62	17.8
Total	349	100.0

Table 2: Respondent's median satisfaction scores

Factor (no of items)	Minimum Score obtained	Maximum Score obtained	Median Score	Inter-Quartile Range	Proportion satisfied*
Doctor patient relationship (2)	3.0	8.0	7.0	1.0	99.7
Technical quality of care (5)	4.0	20.0	17.0	4.5	92.3
Access to care and cost of services (4)	0.0	16.0	12.0	3.0	83.7
Patient waiting time (2)	0.0	8.0	5.0	3.0	74.2
Facilities (3)	2.0	12.0	10.0	3.0	88.5
Communication (3)	0.0	12.0	8.0	4.0	82.5
Overall satisfaction (19)	19.0	75.0	58.0	13.0	88.5

*Satisfaction was set at 50% of maximum possible score

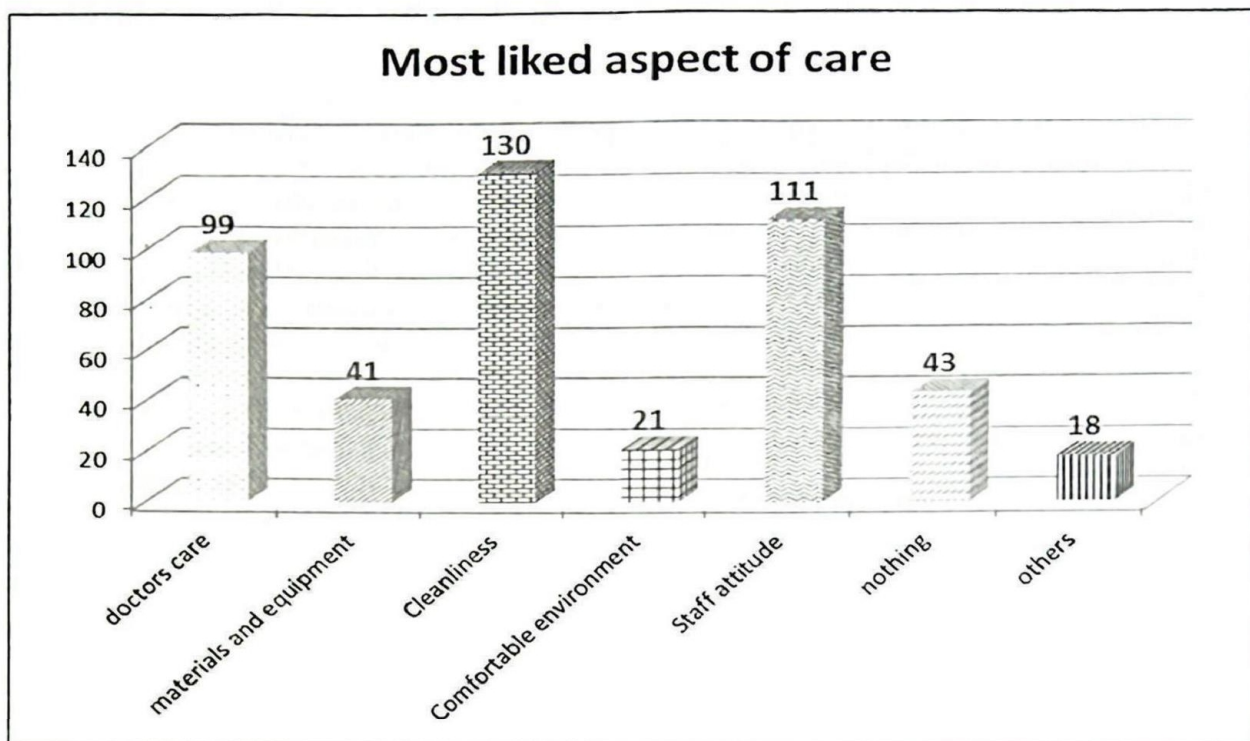
Results

Socio-demographic characteristics of the sample

A total of 384 questionnaires were completed by dental clinic attendees during the study period out of which 35 were improperly filled thus only 349 questionnaires were used for the data analysis. The participants were aged between 18 years and 86 years with mean age of 35.68 (S.D \pm 12.31) years. The majority of respondents (65.9%) were female and the highest proportion (37.8%) received care in the oral and maxillofacial unit (Table 1). The respondents were educated with over half having either post-secondary or tertiary education. On the question of how they learnt of the LASUTH dental clinic, 154 respondents (44.1%) mentioned family and friends while 100 (28.7%) were referred there by a health worker such as doctor, nurse or another dentist and 22 respondents (6.3%) knew through the media.

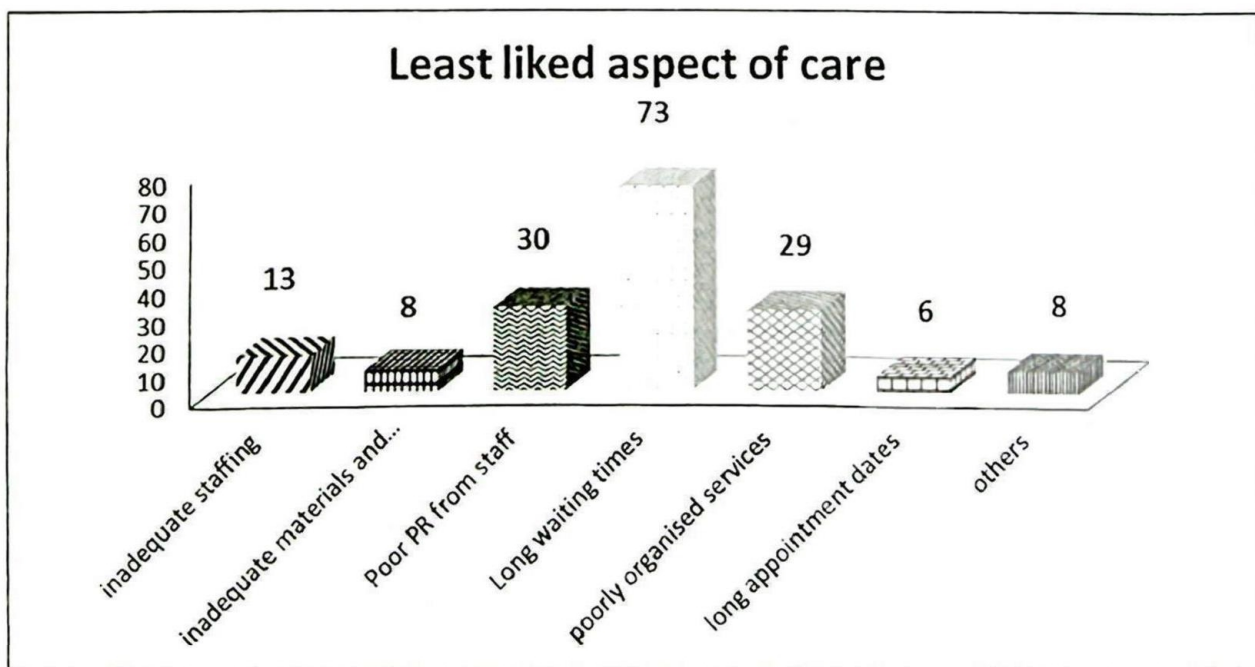
Satisfaction with dental services

The overall scores obtained for satisfaction with the dental services ranged from 19 to 75 (out of a possible score of 76) with a mean score of 55.30 \pm 11.55. Most of the respondents (87.4%) were satisfied with the services received using the earlier described criteria. For each of the specific items on the instrument, the item generating the highest mean satisfaction score was cleanliness and comfort of the clinic (3.82 S.D.=0.578) while the cost of services generated the least mean satisfaction score (1.81 S.D.= 1.26). The ability of dentists to relate well with patients was the factor generating satisfaction amongst the highest proportion of respondents. Conversely, the cost of services generated satisfaction among the lowest proportion of respondents (Table 2). On the subject of what they appreciated most about the dental services received, the highest proportion (130 or 37.5%) identified cleanliness of the facility while long waiting time was the item the respondents liked the least (Figures 1 and 2).



* Some respondents selected more than one aspect of care

Fig. 1: Respondent's perceived best aspect of care received.*



*Some respondents did not complete this section

Fig. 2: Respondent's perceived worst aspect of care received.*

Table 3: Relationship between respondent's social-demographic features and factors of dental satisfaction.

Characteristics and variables	Mean Scores of Factor					
	Doctor patient relations	Technical quality of care	Access and cost	Patient waiting	Facilities	Communication
<i>Age category</i>						
Young adults	7.01	14.62	10.25	4.42	9.17	7.06
Adults	7.13	15.74	10.66	4.98	9.44	8.17
Elderly	7.10	15.78	10.82	5.20	8.76	8.15
<i>p-value</i>	<i>0.731</i>	<i>0.064</i>	<i>0.225</i>	<i>0.205</i>	<i>0.143</i>	0.007*
<i>Gender</i>						
Male	7.16	15.92	10.71	5.12	9.22	8.42
Female	7.07	15.27	10.53	4.76	9.34	7.66
<i>p-value</i>	<i>0.392</i>	<i>0.529</i>	<i>0.954</i>	<i>0.106</i>	<i>0.703</i>	0.001*
<i>Educational Status</i>						
None/Primary school	7.36	16.07	10.71	5.71	8.86	9.79
Secondary School	6.99	14.77	10.15	4.90	9.12	7.90
Post-secondary education e.g. Polytechnic/NCE	6.99	15.33	10.71	4.94	9.47	7.59
University education	7.18	15.86	10.73	4.78	9.35	7.91
<i>p-value</i>	<i>0.346</i>	<i>0.129</i>	<i>0.902</i>	<i>0.390</i>	<i>0.976</i>	<i>0.046</i>
<i>Clinic Visited</i>						
Child Dental Health	7.11	15.11	11.13	4.85	9.45	7.63
Oral and Maxillofacial Surgery	7.11	15.70	10.61	4.84	9.04	7.91
Preventive Dentistry	7.09	15.48	10.26	4.86	9.56	7.94
Restorative Dentistry	7.08	15.42	10.60	5.03	9.32	8.15
<i>p-value</i>	<i>0.982</i>	<i>0.632</i>	<i>0.418</i>	<i>0.743</i>	<i>0.060</i>	<i>0.843</i>

*=*significant***Table 4:** Relationship between respondent's socio-demographic features and dental satisfaction.

Characteristics and variables	Satisfied (%)	Dissatisfied (%)	Chi-square (p-value)	Mean score	Kruskal-wallis H (p-value)
<i>Age category</i>					
Young adults	67 (87.0)	10 (13.0)	0.343	52.53	11.573
Adults	201 (87.0)	30 (13.0)	(0.842)	56.13	(0.009)*
Elderly	37 (90.2)	4 (9.8)		55.80	
<i>Gender</i>					
Male	108 (90.8)	11 (9.2)	(0.233)	56.55	4.001
Female	197 (85.7)	33 (14.3)	fishers test	54.65	(0.045)*
<i>Educational Status</i>					
None/Primary school	13 (92.9)	1 (7.1)		58.50	
Secondary School	70 (83.3)	14 (16.7)	2.038	53.85	3.363
Post-secondary education e.g. Polytechnic/NCE	61 (87.1)	9 (12.9)	(0.565)	55.09	(0.339)
University education	161 (89.0)	20 (11.0)		55.80	
<i>Clinic Visited</i>					
Child Dental Health	48 (90.6)	5 (9.4)		55.36	
Oral and Maxillofacial Surgery	115 (85.8)	19 (14.2)	0.836	55.21	0.302
Preventive Dentistry	89 (87.3)	13 (12.7)	(0.841)	55.20	(0.960)
Restorative Dentistry	53 (88.3)	7 (11.7)		55.60	
Total	305(87.4)	44(12.6)		55.30	

*=*significant*

Relationship between dimensions of satisfaction and patient characteristics

Table 3 displays the relationship between the various dimensions of satisfaction and patient characteristics. There was a statistically significant relationship between the factor assessing communication with patients and gender ($p=0.001$) as well as age category ($p=0.007$). The men were more satisfied with the communication received from the dental personnel. While the older participants had higher mean satisfaction scores than their younger counterparts.

Relationship between overall satisfaction and patient characteristics

The relationship between patient characteristics and satisfaction is displayed on Table 4. There was a statistically significant relationship between age category of respondents and the mean satisfaction score ($p=0.009$). Younger persons displayed lower mean satisfaction scores than older persons. However, the relationship between the overall satisfaction score and gender, age category and educational status were not statistically significant. Using binary regression model none of the factors explored i.e. section visited (OR = $p=0.712$), gender (OR = 1.436 $p=0.132$), age category (OR = 1.022 $p=0.962$) and educational status (OR = 0.591 $p=0.265$) were observed to be predictive of satisfaction with care ($p>0.05$).

Discussion

In the healthcare sector, considerable efforts are being made to ensure that services provided are clinically effective, evidence based, and considered acceptable and beneficial by patients. This has promoted the use of patient satisfaction surveys as a measure of the quality of healthcare services including dental services [13]. While there is consensus on the need to improve the quality of healthcare service provision in many developing countries, there is little evidence to inform decisions regarding changes necessary for improving service delivery. There are even fewer studies addressing the oral health care sector [12]. This study was designed to address a recognized gap i.e. to study the level of patient satisfaction with dental services provided in an outpatient dental facility in Lagos State Nigeria as well as identify factors associated with satisfaction.

The level of satisfaction with dental care in this study was observed to be relatively high. This is similar to the findings of a study in Kuwait [14] but contrasts with another study in Nigeria where only about half of the respondents were highly satisfied [12]. The high level reported in this study is probably related to the fact

that the LASUTH dental clinic was recently renovated and is considerably more modern than the facility in the earlier study. This is supported by the fact that many respondents identified the cleanliness and ambience of the environment as what they liked most about the facility. In addition there are no clinical dental students in the LASUTH facility a factor reportedly generating low satisfaction in the earlier study.

The most satisfactory attribute of dental services in this study was the doctor to patient relations while waiting time was the least satisfactory attribute. Several studies report that dentist-patient relationship is significantly associated with dental patient satisfaction [4,13-20]. Research also indicates that long waiting time is a factor which often generates dissatisfaction with dental services [15]. Dissatisfaction with waiting time exposes an important problem that needs to be addressed urgently. One way of doing this is limiting the number of patients to receive attention daily and using an appointment system to reduce the waiting time. Another factor which elicited low satisfaction was the cost of services. This is probably a reflection of the prevalent poverty in the nation especially in the wake of the recent global financial crisis. There is a need to find innovative ways of reducing cost barriers to oral health care in the country particularly because the fees charged are already heavily subsidized by the State government. An effective way may be the use of health insurance for providing oral health services for the populace.

Socio-demographic characteristics of the patients in this study were not a significant predictor of patient satisfaction. This result is similar to that obtained in an earlier study [15] while a similar study in Nigeria [12] reports that age category significantly affected satisfaction levels while differences between gender and educational status were not significant. However there are conflicting results from other studies. Some studies report that patient satisfaction may be influenced by age [6,16], gender [17], education [16], ethnicity [6,16], and social status [18]. The differences in the research findings may be due to differences in study locations, research methodologies, or other confounding effects.

Interestingly we observed that there was a significant association between gender and the factor assessing communication with staff as well as age category and communication with staff. The difference in respondents' satisfaction regarding communication received from personnel was not surprising. Generally women tend to be more sensitive and emotional than men while younger persons are less likely to be patient. Nonetheless there is a need

to ensure that all communication with personnel is done in a professional and polite manner at all times.

Expectedly, this study is subject to the limitations of patient satisfaction research. Questionnaires used in assessing patient satisfactions are often unable to differentiate between good and bad practice and their effect on the patient. Respondent's attitudes to services also provide little information on the nature of these services. Other limitations are the inability to generalize the results obtained to the entire country because the subject distribution is not typical of the Nigerian population. Most of the subjects in this survey were educated while only about half of the Nigerian population is educated. In addition, there is the possibility of bias from non-participation. Nonetheless the results obtained are useful in bridging the information gap in dental service provision, gaining insight into patients' priorities and identifying areas for improvement. The results are likely to be invaluable to policymakers in making decisions concerning the planning of dental services.

In conclusion the findings from this study indicate a high level of satisfaction with the services provided at the Lagos State University Teaching Hospital Dental Clinic. However the study revealed the need for improvement in certain areas. Communication skills should be included in the training curriculum of dental and allied professionals. Also regular in-house training on customer management may be beneficial for dental employees. There is a need to improve the management practices of the dental facility and priority should be placed on implementing an efficient appointment system.

References

1. Stewart JF and Spencer AJ. Dental Satisfaction Survey 1999. AIHW Cat No. DEN 98. Adelaide: AIHW Dental Statistics and Research Unit, The University of Adelaide Press 2002.
2. Stewart JF and Spencer AJ. Dental Satisfaction Survey 2002. AIHW cat. no. DEN 141. Adelaide: AIHW Dental Statistics and Research Unit, The University of Adelaide 2005.
3. Madan Kumar P.D and Zahra F. Factors affecting patient satisfaction among those attending an outpatient department in Chennai city -India. J IAPHD 2008; 12: 15 – 19.
4. Newsome PRH and Wright GH. A review of patient satisfaction: 1. Concepts of satisfaction. Br Dent J, 1999; 186(4): 161-165.
5. Ntabaye MK, Scheutz F and Poulsen S. Patient satisfaction with emergency oral healthcare in rural Tanzania. Community Dent Oral Epidemiol. 1998; 26(5): 289-295.
6. Reifel NM, Rana H and Marcus M. Consumer satisfaction. Adv Dent Res. 1997; 11(2): 281-290.
7. World Health Organization. Global Oral Health Data Bank. Geneva: World Health Organization 2001.
8. Adegbembo AO. Household utilization of dental services in Ibadan Nigeria. Community. Dent Oral Epidemiol 1994; 2(5): 338-339.
9. Akaji EA, Oredugba FA and Jeboda SO. Utilization of dental services among secondary school students in Lagos Nigeria. Nig. Dent. J. 2007; 15: 87-91.
10. Akpata ES. Oral health in Nigeria. Int Dent J 2004; 54(6Suppl 1): 361-366.
11. Earthtrends. Poverty resource: Nigeria information page. [Internet]. (Cited on 2011 December 10). Available from: <http://earthtrends.wri.org/povlinks/country/nigeria.php>.
12. Orenuga OO, Sofola OO and Uti OG. Patient satisfaction: A survey of dental outpatients at the Lagos University Teaching Hospital Nigeria. Nig QT J Hosp Med 2009; 19(1): 47-52.
13. Sitzia J and Wood N. Patient satisfaction: a review of issues and concepts. Soc Sci Med. 1997; 45: 1829-1843.
14. Al-Mudafa BA, Moussa MAA., Al-Terky MA, Al-Dakhil GD, El-Farargy AE and Al-Ouzairi SS. Patient Satisfaction with Three Dental Speciality Services: A Centre-Based Study. Med Princ Pract 2003; 12: 39-43.
15. Sur H, Haydar O, Yildirim C and Mumcu G. Patient satisfaction with dental outpatient clinics in Turkey. Croat Med J 2004; 45(5): 651-654.
16. Handelman SL, Fan-Hsu J and Proskin HM. Patient satisfaction in four types of dental practice. J Am Dent Assoc. 1990; 121: 624-630.
17. Gopalakrishna P and Munnalene V. Influencing satisfaction for dental services. J Health Care Market. 1993; 13: 16-22.
18. Williams SJ and Calnan M. Convergence and divergence: assessing criteria of consumer satisfaction across general practice, dental and hospital care settings. Soc Sci Med. 1991; 33: 707-716.
19. Gurdal P, Cankaya H, Onem E, Dincer S and Yilmaz T. Factors of patient satisfaction/dissatisfaction in a dental faculty outpatient clinic in Turkey. Comm Dent Oral Epidemiol. 2000; 28: 461-469.
20. Kikwulu EN, Kahabuka FK, Masalu JR and Senkoro A. Satisfaction with oral urgent care among adult Tanzanians. J Oral Sci 2009; 51(1): 47-54

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