**Patient Satisfaction Survey at Wad Medani Dental Teaching Hospital, Gezira State, Sudan**

**ALFADEL Ameer A, ABDELMONTALIB Razaz A, NASIR Iglal B, MAGEET Adil O**

**ALFADEL Ameer A**

Resident, Faculty of Dentistry, University of Gezira, University City Wad Medani, Gezira State, Sudan

Email: [amieer96@Hotmail.com](mailto:amieer96@Hotmail.com)

Tel: +249 917721010

**ABDELMONTALIB Razaz A**

*BDS, MSc*

Assistant Prof. Department of Dental Public Health, Faculty of Dentistry, University of Gezira, Wad Medani, Gezira State, Sudan

Email: [razazhadim@gmail.com](mailto:razazhadim@gmail.com)

Tel: +249927096618

**NASIR Iglal B**

*BDS, MSc*

Associate Prof. Department of Dental Public Health, Faculty of Dentistry, University of Gezira, Wad Medani, Gezira State, Sudan

Email: [eglalbasher@gmail.com](mailto:eglalbasher@gmail.com)

Tel: +249920259495

**MAGEET Adil O** (Corresponding author)

*PhD; BDS; CES (France); MSc (Orthodontics, UK); M.Orth.RCSEd; FDS.RCSEd;*

*MDTF.RCSEd; M(Ortho)RCPS (Glasg); FDS.RCPS (Glasg)*

Associate Prof. Faculty of Dentistry, Ajman University, P.O. Box 346, Ajman, UAE

Associate Prof. Faculty of Dentistry, University of Gezira, Wad Medani, Gezira State, Sudan

Email: [a.mageet@ajman.ac.ae](mailto:a.mageet@ajman.ac.ae)

amageet2000@yahoo.co.uk

Tel: +971 553378730

Tel: +249 912546907

**Patient Satisfaction Survey at Wad Medani Dental Teaching Hospital, Gezira State, Sudan**

**Abstract**

This is a descriptive cross-sectional study conducted at Wad Medani, Dental Teaching Hospital, Sudan.

**Aim**

The aim of the study is to estimate the level of patient satisfaction of available services and facilities at Wad Medani dental teaching hospital

**Methods**

The sample size was 100 patients. Information was obtained by a structured questionnaire, all the respondents agreed to participate in this study giving a response rate of 100%. Most of the patients underwent the study were women (56%).

**Results**

The overall patients 'satisfaction rate was (61%), and the dissatisfaction rate was (39%). The areas for satisfaction were the residents', doctors (79%), respect for what the patients said (85%), getting approval before treatment (77%), explain the treatment plan in a clear way and the explanations that residents provided (70%). The areas behind the dissatisfaction were with cleanliness in the hospital (59%), evaluating the waiting time after registering to enter the clinic (44%), evaluating pharmacy services and providing medicines (51%), evaluating of the radiology service (35%).

**Conclusions**

Assessment of patient satisfaction and the impact of collecting patient information is important to build up strategic quality improvement plans. The resulted information provides the opportunity for the Dental Teaching Hospital managers and policy makers to yield a better understanding of patient views and perceptions, and the extent of their involvement in improving the quality of dental healthcare services. Furthermore, mangers should implement effective changes by unfreezing old behaviours, introducing new ones, and re-freezing them for better dental healthcare delivery.

**Keywords**: patient satisfaction, standard of clinical care, dental hospital cleanliness, dentistry.

**Introduction**

Patient satisfaction is the pleasant reflection of how patients are happy with their treatment outcome, both inside and outside of the dental office. It is the measure of the quality of the dental healthcare provided, including the effectiveness of their dental care and their level of empathy and sympathy and the outcome of the treatment.

Patient satisfaction is an important factor when delivering any service, [recently gained](http://patientengagementhit.com/news/patient-satisfaction-becomes-critical-concern-for-hospitals) opprobrium in clinical governance. With the development of the patient-centered healthcare system, patients become more aware and start demanding a high standard of clinical healthcare and expect a certain level of service from their healthcare providers.

Patient satisfaction is a feeling of pleasure or disappointment resulting from a service’s perceived performance or outcome concerning his or her treatment expectations. If the performance falls short of their expectations, the patient reflects dissatisfaction, and if the performance matches their expectations, the patient feels satisfied.1

Patient satisfaction referred to as a positive emotional response that is desired from the cognitive process in which patient compare their individual experience to the set of subjective standards.2

The word satisfaction is from Satis = enough, faction = to do or make. Hence satisfaction is a fulfillment response.3

A recent study done at Wad Medani General Teaching Hospital of assessing patient satisfaction with Sudanese doctors, the sample size was 389, the overall satisfaction rate was 66%.4

Research is done on 400 adult patients in the dentistry department of a typical Taiwanese hospital, and this study aimed to propose a conceptual framework for identifying the key drivers and provide guidance for enhancing dental care service quality, The satisfaction rate was 76% (303/400).5

A research conducted in Riyadh City to determine factors affecting the utilization of dental health services among intermediate female school students in Riyadh, the study aimed to assess patients’ satisfaction with the dental treatment received during their last dental visit.6

The high cost of dental care was found to be an important factor in discouraging students from continuing the utilization of their chosen dental clinic among those who received their treatment in the private sectors.6 Many research finding necessitates the importance of reviewing the cost of dental services in the hospitals to make treatment fees more affordable to the public.7,8,9,10,11

The patients' satisfaction with the services obtained from Aminu Kano Teaching Hospital, Northern Nigeria, found 83% of the patients were satisfied with the services received.12 satisfaction surveys are the main sources of feedback from patients about the health care services and as such, they inform purchasing decisions, stimulate proposals to restructure services delivery and can be used to evaluate the effects of policy change.13

Assessment of patient satisfaction in medical and surgical wards in a tertiary care hospital in Pakistan found the overall satisfaction rate of 77%.14

A Bangladeshi study showed that the unavailability of doctors and nurses, their negative attitudes and behaviours, lack of drugs, long traveling distances, and the waiting times for treatment were major hindrances to the utilization of services in public hospitals.15

Earlier research done in Switzerland revealed that measuring patient satisfaction patient-doctor communication is the most important factor.16

Various studies indicated that the patient's dissatisfaction includes many factors: cost of treatment; overcrowding; waiting time; shortage of drugs and supplies, physical environment (cleanliness of toilet and examination rooms), provision of information about hospital services, maintenance of privacy, courtesy and respect, difficulty to locate different sections, laboratory procedures and re-visiting of the Doctor for evaluation with laboratory results.17,18,19

Ethiopian research on patients’ satisfaction and its determinants in Outpatient Department of Debre Birhan Referral Hospital, North Shoa, Ethiopia, has shown that patient satisfaction was higher than those of studies conducted at Nekemte Referral Hospital, East Wellega, Ethiopia, both regular and private wing OPDs (58.2 and 68.8%), Hawassa University Teaching Hospital (80.1%), Jimma University Specialized Hospital (77.0%), Bahir Dar Felege Hiwot Referral Hospital (57.8%), Debre Birhan Referral Hospital (57.7%), Tigray Zonal Hospital (43.6%), Wolaita Sodo University Teaching Hospital (54.2%), University of Calabar Teaching Hospital Nigeria (59.3%), and Chitwan Medical College Teaching Hospital in Nepal (75.9%).20

The aim of the study is to estimate the level of patient satisfaction of the available services and facilities at Wad Medani Dental Teaching Hospital.

**Materials and Methods**

This study was a descriptive analytic cross-sectional type, held at Wad Medani Dental Teaching Hospital, Sudan between December 2019 - January 2020.

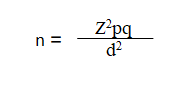
The survey was conducted at the Outpatient Department (OPD) of Wad Medani Dental Teaching Hospital at Gezira State, Sudan. A sample of 100 patients were randomly selected in the survey from the (OPD) of Wad Medani Dental Teaching Hospital, Gezira State, Sudan.

Twenty questions were taken from both males (44) and females (56). An informed consent was taken from the patient who had undergone the survey.

The questionnaire-based study was designed in Arabic and divided into two parts. The first part contained questions relating to socio-demographic data of the patients and the second part designed to measure the patient’s perception, satisfaction, and expectation.

***The study period*** is a timeframe between December 2019 - January 2020.

***The sample size*** is calculated by using the following formula. We can estimate the proportion with 5% discrepancy with 95% confidence interval. Then the:



n= the desired sample size

z = the standard normal deviate, usually set at 1.96, corresponds to the 95% confidence level.

p= the proportion in the target population estimated to have a characteristics and desire accuracy at 50%

d= p-ps=5%

q= the remaining proportion from p which is minimal size at 50%.

So, sample size could be 400. But due to some constraint of the investigator (lack of time, uncooperativeness of patient etc.) we made n star modified sample size (adjusted) as the below equation.

n**\*=**

n=population of patients attending in the past three months

Sample = 97.9315 approximately=100 patient will be taken in this study

A simple random sampling of 100 patients were selected for the study.

***Inclusion criteria*:** patients attending the OPD of Wad Medani Dental Hospital, Gezira State, Sudan and agree to undergo the survey. Both patients’ genders were selected, their age range from 11 – 65 years.

***Exclusion Criteria****:* Patient not coming for treatment at OPD of Wad Medani Dental Hospital was not selected; handicapped children; patients that were physically challenged and mentally disabled; patients with terminal disease and psychosis were also excluded from the study.

The surveyed data was converted into frequencies and percentage forms. After collecting information from primary source, data were processed and analyzed by following steps: review of the collected data and information; sorting of revised data and information and analyze for easy explanation.

Data were analyzed by using Microsoft Office Excel 2013. Necessary charts and diagrams were drawn for summarizing and easy visual presentation of data.

All the study participants signed the informed consent prior to participating in the study from all selected respondents after explaining the purpose and procedure of the study.

The study was conducted on an anonymous basis. Proper permission was taken from the Wad Medani Dental Teaching Hospital authorities before starting the study.

The limitation of the study could show that the results of the survey may represent some satisfaction of dental college patients.

Study may not have been representative of the whole country since it was conducted in one Dental Teaching Hospital in Gezira State, Sudan. It is the Gezira State referral dental hospital.

###### **Results**

The study comprises of 100 patients (44 male and 56 female). The age range between 11-65 years. The study is a descriptive cross-sectional study conducted on Wad Medani, Dental Teaching Hospital, 200 Km south of Khartoum, Sudan, from December 2019 to January 2020.

A survey of 20 questionnaires are presented in four graphs figures (each contains 4 questions result).

Figure 1 (a,b,c,d): The first group of questions

Figure 2 (a, b, c, d): The second group of questions

Figure 3 (a, b, c, d): The third group of questions

Figure 4 (a, b, c, d): The fourth group of questions

Figure 5 (a, b, c, d): The fifth group of questions

**Discussion**

The views, desires, opinions, and satisfaction with dental healthcare provide useful information to those who are interested in understanding or predicting patients' behaviour and opinion about dental healthcare services. This study included five domains (access, availability/convenience, cost, pain, and quality), which represent the primary sources of satisfaction or dissatisfaction with dental services. The participants were asked to evaluate the factors that encourage/discourage their use of dental services in addition to the level of satisfaction in dental services.

This present study was an attempt to assess the level of satisfaction of the patients with the various aspects of dental healthcare in Wad Medani dental teaching hospital.

In this present study, the quality of dental care was found to be the most critical factor in seeking and encouraging continuous utilization of services in the chosen clinic. The quality of dental care and competences of the operators have always been used synonymously

as the outcome of the dental treatment depends mainly on the quality of dental healthcare received and the operators' competence.

According to the patient's opinion, the study showed reasonable satisfaction concerning registration services, doctor services, nurse services, lab services, and pharmacy staff services. The cleanliness of the waiting area and the radiology service were found unsatisfied.

Most of the dental teaching hospital clinics are operated by general dentists or dental students under the supervision of faculty members. The specialists interfere only in complicated cases. This present finding agrees with reported studies that low quality of dental care was among the top reasons for dropping out of care among their study samples.21,22 This finding, however, is contrary to the another results, who found that up-to-date care was the primary reason for participants coming to dental colleges.23 Efforts should be made for further improvement of delivery systems in these centres to ensure a high quality of dental care and to reduce any adverse outcome of treatment.

This study showed that patients who visited the dentist for routine treatment were more concerned about the quality of dental care compared to those who made their visits due to pain. Regular attendants visit the dentist more frequently; consequently, they are more experienced and demand a high quality of dental care. While those who visit only in case of pain are pleased by having the pain relieved, these findings are consistent with previous studies.7,10,24

In this present survey, the patient's satisfaction level found to increase significantly with their perception of receiving a high quality of dental care and going to modern equipped dental clinics, possibly, linking between modern equipped clinics with high quality of dental care. The availability of friendly staff and convenient appointments, in addition to these clinics recommended by friends or relatives, were also found to increase patient satisfaction. Too long to get appointments and difficulty in getting appointments were found to be among the most issues causing dissatisfaction in other studies.23,25,26

Knowing adolescent's concerns and views about the availability of the dental services and ensure their satisfaction with dental care will ultimately increase the utilization and level of compliance with dental regimen, which in turn will promote the desired dental healthcare among the Sudanese population.

Accessibility of the dental service is one of the important factors for all patients, as stated in Alma Ata declaration on primary health care. Although the considerable catchment area of the tertiary health facilities makes it less accessible, yet people travelled by the automated public transport for more than an hour to reach the dental hospital to receive the specialized dental service. The findings of this work are consistent with a study done in lower and upper Egypt for the accessibility and the traveling time.27 The affordability of the treatment cost in dental hospital signifies the readiness of the patients to pay for transportation. The demand for evening outpatient department services can be an important finding regarding the reforms that need to be made for making health services more user-friendly to avoid disturbance to patient’s work especially for continuing treatment.

**Conclusion**

* Patient evaluation of care is an important tool for improvement of the quality of the dental healthcare services.
* The overall patient satisfaction and collection of patient information help to build-up strategic quality improvement plans.
* It provides opportunity for any organizational managers and policy makers to yield a better understanding of patient views and perceptions, and the extent of their involvement in improving the quality of care and services.
* Implement effective change by unfreezing old behaviors, introducing new ones, and re-freezing them for better healthcare delivery.

**Recommendations**

This study identified some areas, which can berevised in order to improve the healthcare services and the quality of care.

* To overcome the low satisfaction rate with conventional x-ray, the hospital authority should take action to purchase a digital peri-apical and dental pantomographic x-ray machines.
* The waiting time before seeing the dentist was one of the important factors affecting patient satisfaction. It could be reduced by starting appointment system at least for nonemergency cases.
* The waiting time for drugs dispatch could be reduced by introducing token system at the pharmacy counter.
* Availability of drugs was one of the important factors determining patient satisfaction. Therefore, the policy and procedure guidelines for drug prescription should be revised regularly and the most prescribed drugs should be made available.
* An audit of patient satisfaction assessment should be conducted regularly every 6 months.
* Suggestion and complaint boxes should be kept, so that patients can freely put their suggestions and complaints for improvement in services and openness of the system. So, we can learn from complaint.

**Acknowledgement**

We thank Dr. Muawia MA Abdelsalam the head of the Higher Studies Committee, University of Gezira for his continuous help.

**Declaration**

The authors declare that there is no conflict of interest and all the study materials are available.

**References**

1. Sanjay Mohapatra, K. Ganeh, M. Punniyamoorthy, Rani Susmitha. Service quality in Indian hospitals perspective from an emerging market. Springer Publisher, 2017: ISBN 978-3-319-67888-7e-book, ISBN 978-3-319-67887-0. <https://doi.org./10.1007.978-3-319-67888-7>.
2. [Swan JE](https://www.ncbi.nlm.nih.gov/pubmed/?term=Swan%20JE%5BAuthor%5D&cauthor=true&cauthor_uid=10274620), [Sawyer JC](https://www.ncbi.nlm.nih.gov/pubmed/?term=Sawyer%20JC%5BAuthor%5D&cauthor=true&cauthor_uid=10274620), [Van Matre JG](https://www.ncbi.nlm.nih.gov/pubmed/?term=Van%20Matre%20JG%5BAuthor%5D&cauthor=true&cauthor_uid=10274620), [McGee GW](https://www.ncbi.nlm.nih.gov/pubmed/?term=McGee%20GW%5BAuthor%5D&cauthor=true&cauthor_uid=10274620). Deepening the understanding of hospital patient satisfaction: fulfillment and equity effects. [J Health Care Mark.](https://www.ncbi.nlm.nih.gov/pubmed/10274620) 1985; **5**: 7-18.
3. Oliver, R.L. A conceptual model of service quality and service satisfaction: compactible goals, different concepts, In Swartz, T. A., Bowen D. E., Brown, S. W. (Eds), A. i. s. m. & management 1993; (Vol. 2, p. 65-85), (ed.) Greenwich. CT: JAI.
4. Mohamed H. Taha. Assessing patient satisfaction with Sudanese doctors. J Adv Med Edu Prof. 2019; **7**: 105-106.
5. Wen-Jen Changa, Yen-Hsiang Chang. Patient satisfaction analysis: Identifying key drivers and enhancing service quality of dental care. J Dent Sciences. 2013; **8**: 239-247.
6. Al Johara A. Al-Hussyeen. Factors affecting utilization of dental health services and satisfaction among adolescent females in Riyadh City. The Saudi Dental Journal. 2010; **22**: 19-25.
7. Goedhart, H., Eijkman, M., Tertorst, G. Quality of dental care. The review of regular attenders. Community Dent. Oral Epidemiol. 1996; **24**: 28-31.
8. Lafont, B.E.G., Gardiner, D.M., Hochstedler, J., Patient satisfaction in dental school. Eur. J. Dent. Educ. 1999; **3**: 109-116.
9. Chu, C.H., Yeung, C.Y.Y.S., Loe, C.M. Monitoring patient satisfaction with university dental services under two fee-paying systems. Community Dent. Oral Epidemiol. 2001; **29**: 390-398.
10. Raghad Hashim. Patient satisfaction with dental services at Ajman University, United Arab Emirates. Eastern Mediterranean health journal. Sep 2005; **11**: 913-921.
11. Ierardo, G., Luzzi, V., Vestri, A., Sfasciotti, G.L., Polimeni, A. Evaluation of customer satisfaction at the department of pediatric dentistry of “Sapienza” University of Rome. Eur J Pediatr Dent. 2008; **1**: 30-36.

1. [Iliyasu Z](https://www.ncbi.nlm.nih.gov/pubmed/?term=Iliyasu%20Z%5BAuthor%5D&cauthor=true&cauthor_uid=21220848), [Abubakar IS](https://www.ncbi.nlm.nih.gov/pubmed/?term=Abubakar%20IS%5BAuthor%5D&cauthor=true&cauthor_uid=21220848), [Abubakar S](https://www.ncbi.nlm.nih.gov/pubmed/?term=Abubakar%20S%5BAuthor%5D&cauthor=true&cauthor_uid=21220848), [Lawan UM](https://www.ncbi.nlm.nih.gov/pubmed/?term=Lawan%20UM%5BAuthor%5D&cauthor=true&cauthor_uid=21220848), [Gajida AU](https://www.ncbi.nlm.nih.gov/pubmed/?term=Gajida%20AU%5BAuthor%5D&cauthor=true&cauthor_uid=21220848). Patients' satisfaction with services obtained from Aminu Kano Teaching Hospital, Northern Nigeria. [Niger J Clin Pract.](https://www.ncbi.nlm.nih.gov/pubmed/21220848) Dec 2010; **13**: 371-8.

1. [Sedat Bostan](https://www.researchgate.net/profile/Sedat_Bostan?_sg%5B0%5D=FVNZdo6VEzRzr_vrmhH5FN0MTSJkfvoybG8TNeHMDsblhq2TpfmMkHJnbVZ254u66Uz39uc.uK6a0Jwlf4UZVQWPuMJECKJDdGRoMxytiU6m64_cKAcffDRxDWDVPHhkQtlBOJX1ss6g6Cgu2ffBc5YyzJA5QQ&_sg%5B1%5D=_oj7yrEun8ypqCBGuwhQKGdZ54WFjts6QIz8j7LcuSCZtKAS6Umfm_5nPyBFy_cmFR-Sbs8.fKb0gnXHSYN7xvEgla6OGS1lv97FFzXH97hk2gE7EWAVmbakr0hppaaDUSJ96cLhM5dN-A4X7RTJUdUIxW5wYg), [Taner Acuner](https://www.researchgate.net/scientific-contributions/2093155218_Taner_Acuner?_sg%5B0%5D=FVNZdo6VEzRzr_vrmhH5FN0MTSJkfvoybG8TNeHMDsblhq2TpfmMkHJnbVZ254u66Uz39uc.uK6a0Jwlf4UZVQWPuMJECKJDdGRoMxytiU6m64_cKAcffDRxDWDVPHhkQtlBOJX1ss6g6Cgu2ffBc5YyzJA5QQ&_sg%5B1%5D=_oj7yrEun8ypqCBGuwhQKGdZ54WFjts6QIz8j7LcuSCZtKAS6Umfm_5nPyBFy_cmFR-Sbs8.fKb0gnXHSYN7xvEgla6OGS1lv97FFzXH97hk2gE7EWAVmbakr0hppaaDUSJ96cLhM5dN-A4X7RTJUdUIxW5wYg), [Gökhan Yilmaz](https://www.researchgate.net/scientific-contributions/2033133388_Goekhan_Yilmaz?_sg%5B0%5D=FVNZdo6VEzRzr_vrmhH5FN0MTSJkfvoybG8TNeHMDsblhq2TpfmMkHJnbVZ254u66Uz39uc.uK6a0Jwlf4UZVQWPuMJECKJDdGRoMxytiU6m64_cKAcffDRxDWDVPHhkQtlBOJX1ss6g6Cgu2ffBc5YyzJA5QQ&_sg%5B1%5D=_oj7yrEun8ypqCBGuwhQKGdZ54WFjts6QIz8j7LcuSCZtKAS6Umfm_5nPyBFy_cmFR-Sbs8.fKb0gnXHSYN7xvEgla6OGS1lv97FFzXH97hk2gE7EWAVmbakr0hppaaDUSJ96cLhM5dN-A4X7RTJUdUIxW5wYg). Patient (Customer) Expectations in Hospitals. Health Policy. June 2007; **82**:62-70.
2. [Ahsan N](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ahsan%20N%5BAuthor%5D&cauthor=true&cauthor_uid=24669638), [Chawala JA](https://www.ncbi.nlm.nih.gov/pubmed/?term=Chawala%20JA%5BAuthor%5D&cauthor=true&cauthor_uid=24669638), [Farooq U](https://www.ncbi.nlm.nih.gov/pubmed/?term=Farooq%20U%5BAuthor%5D&cauthor=true&cauthor_uid=24669638), [Rasool A](https://www.ncbi.nlm.nih.gov/pubmed/?term=Rasool%20A%5BAuthor%5D&cauthor=true&cauthor_uid=24669638), [Ahmad A](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ahmad%20A%5BAuthor%5D&cauthor=true&cauthor_uid=24669638), [Burki NA](https://www.ncbi.nlm.nih.gov/pubmed/?term=Burki%20NA%5BAuthor%5D&cauthor=true&cauthor_uid=24669638), [Qureshi MU](https://www.ncbi.nlm.nih.gov/pubmed/?term=Qureshi%20MU%5BAuthor%5D&cauthor=true&cauthor_uid=24669638)[J. Assessment of patients' satisfaction in medical and surgical wards in a tertiary care hospital. Ayub Med Coll Abbottabad.](https://www.ncbi.nlm.nih.gov/pubmed/24669638) Jul-Dec 2012; **24**: 147-50.
3. Mannan MA. Access to Public Health Facilities in Bangladesh: A Study on Facility Utilisation and Burden of Treatment Bangladesh Development Studies. Senior Research fellow, BIDS. Dec 2013; **36**: 25-80.
4. Cohidon Christine, Wild Pascal, Senn Nicolas. Patient experience in primary care: association with patient, physician and practice characteristics in a fee-for-service system. Swiss Med Wkly. 2018: **148** (w14601): 1-12.
5. Oljira L, Gebreselassie S. Satisfaction with outpatient health services at Jimma Hospital, Southwest Ethiopia. Ethiop J. Health Dev. 2010; **15**: 179-184.
6. Mitike G, Mekonnen A, Osman M. Satisfaction on outpatient services in hospitals of the Amhara region. Ethiop Med J. 2002; **40**: 387-396.
7. Anteneh Asefa1, Andargachew Kassa, and Muluken Dessalegn. Patient satisfaction with outpatient health services in Hawassa University Teaching Hospital, Southern Ethiopia. Journal of Public Health and Epidemiology. Feb 2014; **6**: 101-110.
8. Rahel Mezemir, Darye Getachew and Measho Gebreslassie. Patients’ Satisfaction and its determinants in Outpatient Department of Deberebirhan Referral Hospital, North Shoa, Ethiopia. Int J Econ Manag Sci. 2014; **3**: 1-4.
9. Butters JM, Willis DO. A comparison of patient satisfaction among current and former dental school patients. J Dent Educ. Jun 2000; **64**: 409-415.
10. [Matee](https://www.researchgate.net/profile/Mecky_Matee2?_sg%5B0%5D=I4x7mihwtk7qPnwWCG5OyhDcA_xDZp4w0kxw20astyCYZ2j0lQdWLj-7s-rWK7nGuApyRo0.vFxxX6p40N8eggoE54ktF9UU35wRbusv8-zP8N53olBWBdlnEJD1ryuleobgD43VtE2pp4cd2mSojbcj1VqIXA&_sg%5B1%5D=xd01da5vPbGrqaR9BvLkCeOdFNfMPyL4FPGoBLGO1oxIJyC5Uq2AypkdKpiuoSmBEoUanSk.0Bp2xf-zce1afdeYYPu4uXDA4CFJew7eq81it-ZTIikQsIHTHFmZ2HQ_-DTd6BiFukeQ-rtH2Q1x67VmMpQUAw) MI, [Scheutz](https://www.researchgate.net/scientific-contributions/62219825_F_Scheutz?_sg%5B0%5D=I4x7mihwtk7qPnwWCG5OyhDcA_xDZp4w0kxw20astyCYZ2j0lQdWLj-7s-rWK7nGuApyRo0.vFxxX6p40N8eggoE54ktF9UU35wRbusv8-zP8N53olBWBdlnEJD1ryuleobgD43VtE2pp4cd2mSojbcj1VqIXA&_sg%5B1%5D=xd01da5vPbGrqaR9BvLkCeOdFNfMPyL4FPGoBLGO1oxIJyC5Uq2AypkdKpiuoSmBEoUanSk.0Bp2xf-zce1afdeYYPu4uXDA4CFJew7eq81it-ZTIikQsIHTHFmZ2HQ_-DTd6BiFukeQ-rtH2Q1x67VmMpQUAw) F, [Simon](https://www.researchgate.net/scientific-contributions/38765039_Elison_N_M_Simon?_sg%5B0%5D=I4x7mihwtk7qPnwWCG5OyhDcA_xDZp4w0kxw20astyCYZ2j0lQdWLj-7s-rWK7nGuApyRo0.vFxxX6p40N8eggoE54ktF9UU35wRbusv8-zP8N53olBWBdlnEJD1ryuleobgD43VtE2pp4cd2mSojbcj1VqIXA&_sg%5B1%5D=xd01da5vPbGrqaR9BvLkCeOdFNfMPyL4FPGoBLGO1oxIJyC5Uq2AypkdKpiuoSmBEoUanSk.0Bp2xf-zce1afdeYYPu4uXDA4CFJew7eq81it-ZTIikQsIHTHFmZ2HQ_-DTd6BiFukeQ-rtH2Q1x67VmMpQUAw) ENM, [Lembariti](https://www.researchgate.net/profile/Bakari_Lembariti?_sg%5B0%5D=I4x7mihwtk7qPnwWCG5OyhDcA_xDZp4w0kxw20astyCYZ2j0lQdWLj-7s-rWK7nGuApyRo0.vFxxX6p40N8eggoE54ktF9UU35wRbusv8-zP8N53olBWBdlnEJD1ryuleobgD43VtE2pp4cd2mSojbcj1VqIXA&_sg%5B1%5D=xd01da5vPbGrqaR9BvLkCeOdFNfMPyL4FPGoBLGO1oxIJyC5Uq2AypkdKpiuoSmBEoUanSk.0Bp2xf-zce1afdeYYPu4uXDA4CFJew7eq81it-ZTIikQsIHTHFmZ2HQ_-DTd6BiFukeQ-rtH2Q1x67VmMpQUAw) BS. Patients' satisfaction with dental care provided by public dental clinics in Dar es Salaam, Tanzania. East African medical journal. May 2006: **83**(4): 98-104.
11. Awliya WY. Patient satisfaction with dental services provided by the dental college of King Saud University. Saudi Dent. J. 2003; **15**: 11-16.
12. Lahti S, Hausen H, Kääriäinen R. Patients’ expectations of an ideal dentist and their views concerning the dentist they visited: Do the views conform to the expectations and what determines how well they conform? Community Dent Oral Epidemiol. 1996; **24**: 240-244.
13. Al-Mobeireek, AF, Al-Hussyeen, AA. Factors influencing patients’ satisfaction with dental services provided by dental college and private sector in Riyadh, Saudi Arabia. Egypt Dent J. 2003; **49**: 1859-1866.
14. Gurdal P, Cankaga H, Onem E, Dincer S, Yilma ZT. Factors of patient satisfaction dissatisfaction in a dental faculty outpatient clinic in Turkey. Community Dent. Oral Epidemiol. 2000; **28**: 461-469.
15. Gadallah MA, Allam MF, Ahmed AMA*, et al.*, Are patients and healthcare providers satisfied with health sector reform implemented in family health centres? *Quality and Safety in Health Care.*2010; **19**: e4.