

Level of Patient Satisfaction about dental service at Majmaah Post corona lockdown period: A cross sectional study

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ABSTRACT

Background: Patients' satisfaction is one of the most important measure for evaluating performance of healthcare services, in any society. The assessment holds vital importance and especially holds great relevance especially during the post corona lockdown period. This present study was carried out with an objective to assess the patient satisfaction with dental services and referral post Covid 19 lockdown.

Methods: This questionnaire based cross sectional study was conducted at Dentistry department of both Majmaah and Zulfi on a sample of 400 participants who were randomly selected for the study and were distributed questionnaires. Out of them, 390 responded after for which the data was collected between Aug – Nov 2020. The questionnaire prepared had two main sections, namely demographic characteristics as well as satisfaction with respect to both dental services as well as referral procedures. T test were used to compare means of satisfaction.

Results: 63.58% males & 36.42% females with more than 81% over 18 years of age participated in the study with over 55% having college education or more. On assessing overall satisfaction with relation to various parameters it was found a majority (73 %) affirmed positively with different services parameters namely, environment, cleanliness, referral, clear communication etc. On the flipside nearly 27% of patients were not satisfied with referral services.

Conclusion: There is a need to addressing challenges faced by patients by proper counselling and adequate referral mechanism to be put in place by making better systems and processes integrating technology.

Keywords: Patient Satisfaction, Dental Clinics, Services Parameters

INTRODUCTION

Patients' satisfaction is one of the most important key performance indicators for measuring the quality of healthcare services delivered[1]. There are lot of factors, however the performance of the systems and execution of those services by the manpower are most critical among them. The services rendered by the health professionals as well as their willingness to communicate effectively play an important role in measuring patient's satisfaction apart from the preferences of the patient about the health care environment where care is delivered [2].

In medical care, referral of the patients to the other healthcare units is a common phenomenon. Research studies suggests that functional integrity of the primary healthcare system is dependent upon referral system, which is one of its integral and essential component. One of the important monograph of WHO described the various functions of a hospital associated with referral. It included the inward and outward flow of patients, instructions, demands and requests and the reasons for referrals as well as problems plaguing the patient referral system [3].

Dental Services are an important component of the primary healthcare structure. The referrals made by the family physicians (FP) or the general dentists at the PHCs to the Specialist Dentists not only serve as an active source of clientele for them but also serves as an important benchmark to measure the effectiveness of the dental department [4]. Patient satisfaction drives quality since satisfied patients enhance referrals by suggesting their doctor to friends and family members when they are looking for a suitable health care provider [5]. Therefore, a healthy, functional Referral System (RS) is of critical

importance for smooth functioning of any health care delivery system [6].

The concept becomes more pertinent with reference to public dental health services since they cater to the population at large. The dental treatment should be as seamless as any other medical or surgical services, which means that the burden of coordinating care transitions should not be individual based but electronically regulated [7]. The need for such a seamless system has become more pronounced during Covid. The referral program among dental clinics in primary healthcare centers to help patients to reach the specialist clinics during Covid and more importantly the readdressal of their oral problems during the pandemic has important implications.

A few studies were conducted earlier in the Kingdom measuring patient satisfaction with Dental care. For instance, a study performed at King Abdulaziz University Dental Hospital concluded despite scoring high that on patient outcomes there were several loopholes persisted within the system [8]. Similarly, another study by Ali (2016) [9], which measured too patient satisfaction with reference to dental care found out that strongest satisfaction was observed with was the quality of the dentists exhibited (40.4%) whereas the poorest satisfaction were attributed to physical infrastructure and accessibility to center with 42.6 % and 31.5 % satisfaction reported with dental and non-dental care respectively. However, all these studies were conducted at individual level and that too during normal times.

The Corona pandemic has taken everyone by surprise. Every sector had witnessed substantial slump during this time period. While other essential services had suffered during the period, it was also suggested by few research studies that dental services suffered very badly

during the pandemic. There the aim of the study is to measure patient satisfaction regarding dental care and referrals during the corona pandemic. The research is first of its kind study in the kingdom which was conducted to measure the strength of the dental referral services and its relation on patient satisfaction during this period.

MATERIALS & METHODS

The study design is a descriptive cross sectional facility based study which was conducted to measure patient's satisfaction with referral dental services provided by primary health care center and some other dental centers in Majmaah, Kingdom of Saudi Arabia. The Majmaah city which is located at about 180 km north of the capital city i.e. Riyadh with a population of 60,000. The dental services at Majmaah are provided by King Khalid hospital, which is the only public hospital in the city along with eleven primary health care (PHC) centers besides three private hospitals. The period of the study was 3 months i.e. from August beginning to Oct end, 2020. The study included both males and females patients whereas excluded the patients from the study who were the visitors to the city and procured dental services due to some factor. The selection of the dental services at the primary health care centers was done using stratified random sampling method, where stratification was done according to the patients' load at the centers. Using the criteria, 5 out of the 11 dental centers at the PHC in the city were selected, where apart from the university dental department, two with high and two with low number of patients were included in the study.

Similarly, the selection sample patients within the selected dental units was done using systematic sampling. The interval was computed by dividing the estimated average number of patients attending the center per day over the number of the referral sample patients decided to be taken in the same day. The sample size was calculated using the formula $n = Z^2 \times pq / d^2$, where n is the sample size, Z is the standard normal deviate, equals to 1.96, p (the prevalence) = 0.5, $q = 1 - p = 0.5$, d : error accepted = 0.05. Using the formula a minimum sample size of 384 patients was suggested and for the study a sample of 400 randomly selected patients were selected. The selected patients were distributed an interviewer administered questionnaires.

Assessment of Satisfaction was done using a validated patients' satisfaction questionnaire adapted from a questionnaire designed to assess satisfaction among patients attended the health centers [10]. The questionnaire had two main sections. The first section contained demographic details including (age, gender, literacy level etc.) while the other section contained closed ended questions with nominal responses regarding their experiences and level of satisfaction with the provided dental services, reasons for referral, reasons behind satisfaction/dissatisfaction for services /referral.

Each question was scored on an ordinal scale as: very satisfied, satisfies, neutral, unsatisfied and very unsatisfied. All items taken together yield a maximum score of 100 and a minimum of 20. Higher score on each item indicates higher level of satisfaction. Later the very satisfied and satisfies were combined as satisfied, the unsatisfied and the very unsatisfied were combined as unsatisfied.

Since the objective in health services is to attain complete satisfaction, we sought particularly to ascertain the proportion of respondents who stated neutral level of satisfaction being considered unsatisfied. The questionnaire was translated to Arabic language so as to facilitate the communication with the dental patients and was back translated before the start of data collection.

The reliability of our study questionnaire was (Cronbach's alpha = 0.823). The training of the staff involved in data collection regarding questionnaire was done. Before execution of final study, piloting was conducted on 30 participants which presented with 95% good satisfaction levels. Only those participants were excluded who refused to participate in the study. Necessary approval was taken before the conduct of study from the Research Ethics Committee of the Majmaah University. An informed consent was obtained from all the participants. The data were kept confidential and used only for the purpose of this study. Statistical Analysis was done using SPSS, version 21 (SPSS, Chicago, Illinois USA).

RESULTS

A total of 400 patients were selected out which 390 participants responded, 248 were males (63.58%) and 142 (36.42%) females, the age was (9.76%) less than 12 years old, (8.71%) range 12-18 years old and (81.53%) above 18 year old . 13.58% patients only attended primary school, 31.02% attended only high school and (55.38%) received college education as suggested in (Table 1).

Table 1. Socio-demographic characteristics of participants.

Variables		Count n = 390	Percentage %
Sex	Male	248	63.58 %
	Female	142	36.42%
Age	>18 years old	318	81.53%
	12-18 years old	34	8.71%
	<12 years old	38	9.76%
Education	Primary or less	53	13.58%
	Senior secondary or less	121	31.02%
	College Graduate and above	216	55.38%

Table 2. Levels of Satisfaction

Service Parameters	Levels of Satisfaction	
	Satisfied	Dissatisfied
Overall environment & cleanliness	283(72.5%)	107(27.5%)
Technical competencies of staff	268(68.75%)	122(31.25%)
Public Dealing & Patient handling	294(75.5%)	96(24.5%)
Delivery of Dental Services	285(73%)	105(27%)
Medications & Other aspects including Quality care	292(74.75%)	98(25.25%)
Total	285(73%)	105(27%)

With regard to levels of patient satisfaction, it was observed that 72.5% patients were satisfied with the overall environment & cleanliness while 27.5% were dissatisfied. 68.75% patients were content with technical competencies of the staff while 31.25% were discontented. 75.5% of the patients were content with public dealing &

patient handling whereas 24.5% had discontentment regarding the same. Again 73% of the total patients were satisfied with the delivery of the dental services while 27% had issues regarding the same. Medications & other aspects including Quality care pleased 74.75% of the patients while 25.25% patients weren't convinced with the services. Overall the figures for overall level of satisfaction of the patients suggested that out of the total 390 patients, 73% were satisfied while 27% were dissatisfied. (Table 2)

With regard to the results of patient satisfaction, the various responses regarding satisfaction with the referral procedure in Table 3. Some respondents (45.38%) informed that the referral made were through paper referral forms while 41.79% respondents informed that the referrals were through automatic forms. On being asked regarding

the referral made was based on the specialist opinion or the patient, overwhelmingly (75.89%) suggested that the referral was suggested by the doctor. Similarly, when the response from the participants were taken regarding whether the need for referral was explained by the health staff, 87.16% of the respondents affirmed positively. When patients were asked regarding if there was any intervention delivered before referral, 68.71% patients responded positively. Last but not the least, when asked regarding the entire experience of the referral system the statistics showed that a majority (65.21% and 19.23%) were of the view that process was good, and average whereas the rest (15.65%) suggested it was poor (Table 3). Majority of respondents, 287 (73.59%) were overall satisfied with only 103 (26.41%) being dissatisfied overall.

Table 3: Response regarding patient's satisfaction with reference to the referral system

Referral Parameters	Responses	n=390	Percentage
Mode of Referral	Paper (Paper referral Form)	177	45.38%
	Automatic Form	163	41.79%
	Don't remember/Not Sure	50	12.82%
Doctor Referral	Suggested by Doctor	296	75.89%
	Patient's Insistence	39	10%
	Not Sure	55	14.10%
Need for Referral was explained properly by the Health Staff	Yes	340	87.16%
	No	25	6.42%
	Not Sure	25	6.42%
Any Intervention delivered before referral	Yes	268	68.71%
	No	89	22.82%
	Not Sure	33	8.46%
Rating regarding entire referral process	Good	254	65.12%
	Average	75	19.23%
	Poor	61	15.65%

In terms of satisfaction levels on the basis of Gender, Age & education it was observed that 62.02% of the total male participants were satisfied, while in case of female participants 76.76 were satisfied. In terms of age, 84.21% in the < 12 years age group were satisfied, 85.29% participants in 12-18 years age group were satisfied while in the > 18 years age group 71.07% participants were satisfied with the overall quality of the service provided.

When comparing education with satisfaction levels it was found that 79.25 % of the participants with primary education or less were satisfied while out of those with senior secondary education or less, 59.5% participants were satisfied. Last but not the least, those with college education and above had a satisfaction level of 80.09% out of the total participants. (Table 4).

Table 4. Satisfaction Levels on the basis of Gender, Age & Education

Demographic Factors	Satisfied	Not Satisfied	Total	P value
Gender				
Male	178(71.77%)	70(28.22%)	248 (100%)	0.038*
Female	109(76.76%)	33(23.24%)	142(100%)	
Total	287(73.59%)	103(26.41%)	390(100%)	
Age				
>18 years old	226(71.07%)	92(28.93%)	318(100%)	0.673
12-18 years old	29(85.29%)	5(14.71%)	34 (100%)	
<12 years	32(84.21%)	6(15.79%)	38 (100%)	
Total	287(73.59%)	103(26.41%)	390(100%)	
Education				
Primary or less	42(79.25%)	11(20.75%)	53(100%)	0.027*
Senior Secondary or less	72(59.50%)	49(40.49%)	121(100%)	
College Graduate & above	173(80.09%)	43(19.90%)	216(100%)	
Total	287(73.59%)	103(26.41%)	390(100%)	

DISCUSSION

The present study was aimed at investigating the level of patient satisfaction with reference to dental services in City of Majmaah post Corona Lockdown Period. In the present study, it was found that 73.59% of the total sample studied

were satisfied with the dental services as compared to 26.41% who were dissatisfied with the services.

Corona pandemic is one of the rarest events in history of mankind that has witnessed tremendous attention worldwide not only in lieu of its wide medical ramifications

but also the way it has impacted all spheres of life. Till date very few studies had been published to study the impact of corona pandemic on dental services and even more rare with its impact upon patient satisfaction. A latest study by Westgarth (2020) [11], emphasized about the fact that the corona pandemic had radically changed the future of dentistry, with its hardest effect upon the geriatric population. Another important observation in the study was that as the dental services resumed post corona de-escalation, more pressure were added to the community dental services since special care children, elderly population required the maximum attention not only because of the their specific needs but also because of the meeting the necessary shielding criteria to put this vulnerable group away from risk.

The findings of our study corroborated with these facts since 71.07% of the population formed the crux of the sample population with almost 81% been college graduates and above, found to be statistically significant ($P < 0.05^*$). (Table 5).

Quality of care is a major concern of health care providers all over the world. An important element of quality is the satisfaction with the services provided [10]. Patients' satisfaction has been investigated in many previous studies earlier with reference to Dentistry in various countries [11]. However, the single most key differentiating factor between the current study and previous studies is the corona pandemic. Digging deep into the reasons or the factors contributing to dissatisfaction among the dental patients it was found that technical competency of the treating staff followed by environment/cleanliness, delivery of dental care followed by public dealing and patient handling were the key ones responsible (Table 2).

Usually in a number of studies published earlier it was found that patient's perceptions regarding high quality service and concerns regarding their well-being is the most cited reasons for dissatisfaction. In a review of other set of studies found a most important reason for attending these clinics used to be low cost of service. [12-16]. It is been increasingly seen that measurement of patient satisfaction has been used lately to motivate changes in healthcare systems. The area has received considerable attention worldwide from various researchers where patient is the focus since quality control and quality assurance in hospitals is becoming an important area of concern for this very important services sector. Henceforth, many researchers found that patient satisfaction is directly correlated to patient's expectation, but not necessarily to clinical outcomes [17].

The present study is also different from the earlier conducted studies since the patient referral system was not considered as an important criteria for patient satisfaction in the earlier conducted studies. However in the current study, due to the corona pandemic it was quite evident in the hospitals especially the primary care units that the hospitals were busy treating the corona patients. Besides this, other factors included risk of catching corona nosocomial infection, phobia of unwanted exposure, were some of the major contributing factors affecting satisfaction with services. These notion could be partially explained with the findings of our study where 45.38% of the patients were referred to other center via paper referral forms and

that too with 22.82% without getting any treatment or intervention. These could might have been responsible for causing dissatisfaction as almost 15.65% of the interviewed sample population rate the referral system as poor (Table 3). This is different from other previously conducted studies as most studies conducted earlier with Dental clinics focused were around quality and nature of care [18-21].

The present study had mixed bag of participants with higher percentage of men (63.58%) than women (36.42%) which might be because of the fact that corona pandemic had forced everyone to be restricted at home with only more serious or urgency care required for dental care requiring. Men being the torch bearer of the house, mostly responsible for outdoor activities may have availed more dental care. This could be true as most of the cross sectional studies published during the corona pandemic had more males participants unlike certain academic institutions where the respondents were unisex, i.e. either men or women [22].

Correlating this to the findings of the study with regard to education level, it was observed that majority of the respondents who had higher education (university education or more) (80.09%) were quite satisfied as compared to the others such as secondary education or less where almost 60% were satisfied with the dental services again found to be statistically significant (Table 5). This could be quite suggestive of the fact that as level of education might affect the rate of satisfaction of the patients. Another way of looking at the results could be the fact that irrespective of the corona pandemic which has gained full public attention since past so many months, the dedication and the commitment of the dental staff at the community hospital to serve the community and providing services might have caused this positive outcome. This could be corroborated with the fact that this leads to high almost 87.16% of the patients were satisfied with the explanation by the dental staff for referral if required (Table 3). Though significant relationship have been found between gender and education level with relation satisfaction level related to dental services, it is important to highlight over here that in earlier conducted study no relationship of patient satisfaction was found with their perceptions and expectation with age, gender, and education level of the patients [23].

The various factors including cleanliness, environment, the behavior of doctors, availability of medicines, staff conduct, delivery of medical information are major contributory factors as far measuring performance are concerned. All these factors have been rated more than 75% irrespective of the gender, which signifies the importance and its correlation with the satisfaction index [23].

Regarding patient's satisfaction with reference to referral system, it was observed that both methods of the referrals i.e. electronically (41.79%) as well as paper format (45.38%) were used in almost the same proportion. This could be indicative of the fact that maybe the population isn't yet well aware of the electronic medium of referrals and rather are still comfortable with the old paper format. Another important factor may be Majmaah or Zulfi may not be as a big city like Riyadh may have contributed to such phenomenon. But with the advent of technological

advancements and electronic propaganda the situation seems to be changing.

On exploring the notion of referral where the request for referral is made either by the dentist, or the patient, it was unilaterally been observed that 75.89 % of the referrals to the specialized Dental center were made directly by the dentist as compared to meagre 10 % where the patient made the request to be referred. This observation is a measure of the interpersonal communication and has a positive impact on the patient's confidence and trust on the system as majority of the referrals were suggested by the dentist (75%). This also reflected on the part of the dentists since they knew that during corona exposing the patient unnecessarily would be a huge medical risk especially for the elderly. The coordination and improved communication between the doctors especially where the doctors communicate the need to be referral clearly to the patient had a positive impact which was evident from the patient's positive response (Table 3).

Some earlier conducted studies also indicated that correct and honest expression and communication with the patient impact satisfaction positively. A study made by AlMutairi, suggested that healthy and clear interaction between patients and providers plays a very influential role in improving patient satisfaction especially with the service the patient receives before and after treatment [24]. Doctors have an important role in service satisfaction, which is expressed in terms of both consultation and communication at the time of inspection as well as using language that is easily understood by patients [25].

The findings in the present study was found to be in consistency with one of the studies conducted earlier under Dental hospital where it was found that some patients were not satisfied with the speed with which the dentists handled redressal of patient complaints. This was in contrast to health care in general hospitals because Dental care focuses primarily on the urgent care as the procedure performed on a patient at the Dental clinic is in majority instantaneous in nature. Therefore to satisfy the patient's needs or condition providing some intervention is one of the earliest things to be done to resolve patient complaints, irrespective of its efficacy [9]. In the current study, 68.71% patients received some type of intervention before referral which might have also contributed to the positive outcome.

CONCLUSION

The study focused on some very important pertinent aspects contributing to patient satisfaction especially with the background frame of the corona pandemic. The results of this study has overall emphasized on the fact that both gender and education level do effect patient satisfaction. Similarly, poor communication is again one of most important factor as compared to the other parameters and therefore addressing those challenges by making better systems and processes integrating technology fully can improvise the satisfaction among patients in better ways. Last but not the least, Environmental cleaning and disinfection procedures should be followed consistently and correctly after each patient since they too play an important role in patient's opinion too.

REFERENCES

1. Prakash B. Patient satisfaction. *J Cutan Aesthet Surg*. 2010; 3(3):151-155.
2. Khoja, Tawfik AM, Al Shehri, Ali M., Abdul Aziz, Abdul AF, et al. Patterns of referral from health centres to hospitals in Riyadh region. *EMHJ - Eastern Mediterranean Health Journal*. 1997; 3 (2):236-243.
3. Amole BB, Oyatoye EO, Kuye OL. Determinations of patients satisfaction on service quality dimensions in the Nigeria teaching Hospitals. *Zeszyty Naukowe*. 2016; 87: 16.
4. Lee KT, Chen CM, Huang ST, Wu Y, Lee H, Hsu K, et al. Patient satisfaction with the quality of dental treatment provided by interns. *J Dent Sci*. 2013;8:177-83
5. Devi KV, Muthuswamy PR. A study on service quality gap in multispecialty hospitals. *Indian J App Res*. 2016; 6: 616-617.
6. Senitan M, Alhaili AH, Gillespie J, Alotaibi BF, Lenon GB. The Referral System between Primary and Secondary Health Care in Saudi Arabia for Patients with Type 2 Diabetes: A Systematic Review. Scaramuzza A, editor. *J Diabetes Res*. 2017; 29.
7. Flickinger TE. Clinical empathy is associated with differ-ences in patient-clinician communication behaviours and higher medication self-efficacy in HIV care. *PEC*. 2016; 99: 224-225.
8. Naguib GH, Hamed MT, Alnowaiser AM, Sindi AM, Al-Hamzi N. Patient satisfaction with services in King Abdulaziz University Dental Hospital. *JKAU Med Sci* 2016; 23 (2): 21-28.
9. Ali D. Patient satisfaction in Dental Healthcare Centers. *Euro J Dentist* 2016;10: 309-314.
10. Mohamed EY, Sami W, Alotaibi A, Alfarag A, Almutairi A, Alanzi F. Patients' Satisfaction with Primary Health Care Centers' Services, Majmaah, Kingdom of Saudi of Saudi Arabia. *Int J Health Sci*. 2015 Apr; 9(2):163-70.
11. Westgarth D. COVID-19 and Community Dental Services: The challenges ahead. *BDJ In Practice*. 2020; 33:14-19.
12. Mahrous MS, Hifnawy T. Patient satisfaction from dental services provided by the College of Dentistry, Taibah University, Saudi Arabia. *J Taibah Univ Med Sci*. 2012 Dec 1; 7(2):104-9.
13. AwliyaWedad Y. Patient satisfaction with the dental services provided by the Dental College of King Saud University. *SaudiDent J*. 2003; 15: 11-16.
14. Doxsee FR, Lorencki SF. Attracting and retaining dental schoolclinic patients. *J Dent Educ*. 1978; 42(5): 257-259.
15. Bitzer EM et al. Satisfaction with dental care from the patient's perspective – the Dental-ZAP-V1, *Gesundheitswesen*; 2012.
16. Maynard K. Dental patients are largely satisfied with services. *Br Dent J*. 2012; 212(12): 578.
17. Theodosopoulou E, Raftopoulos V, Krajewska-Kulak E, Wrońska I, Chatzopulu A, Nikolaos T, et al. A study to ascertain the patients' satisfaction of the quality of hospital care in Greece compared with the patients' satisfaction in Poland. *Adv Med Sci*. 2007; 52 (Suppl 1): 136-139.
18. Albalushi RM, Sohrabi MR, Kolahi AA. Clients' satisfaction with primary health care in muscat. *Int J Prev Med*. 2012 Oct; 3(10):713-7.
19. Al-Borie HM, Damanhour AM. Patients' satisfaction of service quality in Saudi hospitals: a SERVQUAL analysis. *Int J Health Care Qual Assur*. 2013; 26(1):20-30.
20. Al-Mudaf BA, Moussa MA, Al-Terky MA, Al-Dakhil GD, El-Farag AE, Al-Ouzairi SS. Patient satisfaction with three dental speciality services: a centre-based study. *Med Princ Pract*. 2003 Jan-Mar;12(1):39-43.
21. Al-Doghaither AH, Saeed AA. Consumers' satisfaction with primary health services in the city of Jeddah, Saudi Arabia. *Saudi Med J*. 2000 May; 21(5):447-54.
22. Yadav V, Kumar V, Sharma S, Chawla A, Logani A. Palliative dental care: Ignored dimension of dentistry amidst COVID-19 pandemic. *Spec Care Dentist*. 2020 Nov;40(6):613-615
23. Fuad HAKbar, Burhanuddin D, Pasiga, Rasmidar S, Ikhlas B. Patient satisfaction levels in dental health care: a case study of people in North Mamuju, Indonesia. *J Dentomaxillofac Sci*. 2018;3(2):115-118
24. AlMutairi MA. Parents' satisfaction with pediatric dental care provided by dental college, Riyadh. *J Int Soc Prevent Communit Dent* 2016;6:542-8
25. Adebayo ET, Adesina BA, Ahaji LE, et al. Patient assesment of the quality of dental care services in a Nigerian Hospital. *J Hospital Adm* 2014; 6: 24-26.