

Patients' Perception Towards Receiving Dental Treatment from Undergraduate Students of a Saudi Dental School.

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ABSTRACT

The aim of the present study was to investigate the factors responsible for the patients attendance at undergraduate dental clinics, the degree of satisfaction patients have after the treatment is done and the amount of trust the patients have towards their treating dental students. The cross sectional qualitative survey study was conducted among male and female patients, attending the College of Dentistry, King Saud University Hospital, Riyadh Saudi Arabia, at the undergraduate training institute from August 2019 to February 2020. The patients were randomly selected who were attending hospital for dental treatments in undergraduate course with 3rd, 4th and 5th year students. The questionnaire consisted of 17 closed ended questions mainly divided into section one for demographic data and section two for undergraduate clinics method of booking, type of procedures, method of contacting the student clinic and previous experience with student clinics. The last section enquired about participants beliefs related to student clinics, including, satisfaction level and reasons for dissatisfaction, would they prefer repeating the experience, must students be supervised and are students able to manage emergencies. Data was analyzed Descriptive statistics (means, standard deviations, percentages and frequencies), One-way analysis of variance (ANOVA), post hoc tukey and Chi square test to compare association between categorical variables. 268 out of 400 responses were completed (67%). 67.2% of participants were males, while 32.8% were females. 42.9% were aged between 18-28 years and 23.1% were aged between 29-39 years, however, 30.2% of participants were students and 27.6% were governmental employees. In addition, 38.1% had bachelor's degrees while 29.1% completed secondary; 43.3% were single, 52.6% were married. Two-thirds of the patients were satisfied with the dental treatments provided by students under supervision and the main reason for dissatisfaction was the delay and long duration of treatment. A majority agreed that they would seek treatment from dental students again and one-third of patients believed that students do not need supervision at all times. Further studies with larger sample size and different undergraduate institutes should be performed to validate these findings.

KEY WORDS: PATIENTS' PERCEPTION, METHOD OF CONTACTING, DESCRIPTIVE STATISTICS.

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INTRODUCTION

Dental students are trained and prepared to perform the clinical procedures by taking courses in their undergraduate years delivered by experienced faculty members on clinics and laboratory simulations (Alrahabi et al., 2015). In addition, exposure to basic life support and cardiopulmonary resuscitation courses, where students are trained to manage life-threatening emergencies is

mandatory for students (Al-Shamiri et al., 2017, Alotaibi et al., 2016). Furthermore, another critical aspect of undergraduate teaching and learning is infection control management and introduction to proper protective measures to eliminate risks of transmission of infections to patients and the surrounding environment. Ethics and professionalism are perilous foundation skills for a dental graduate and are taught through didactic and practical interactions at educational institutes.

It is critical to understand that all required competencies for suitability of graduation of any student including examining, diagnosing and treating patients clinically, are taught under close supervision of experienced and highly trained faculty instructors. Therefore, in the undergraduate years of dentistry, dental students are required to perform clinical requirements and achieve competency in all dental specialties to qualify for graduation. In order to achieve such objective, it is crucial to provide a students with patients who are willing to be treated by dental students. This somewhat could be challenging taking into consideration students' lack of expertise and chance of errors, (Humphris et al., 2002, O'Keefe et al., 2014, Gilmouret al., 2016, Al-Essa, 2017 Al-Harbi et al., 2019).

One of the main determinants of a successful physician-patient relationship is trust establishment (Hall et al., 2001). It is not between doctors and patients only, but it also should be remained between all the workers at any place (Berthelsen et al., 2010, Firth-Cozens 2004, Carter 2009). Patients are no longer classified as a passive recipient (Shikiar & Rentz 2004). Various initiatives that supports patients' encouragement have been established to activate patient's role at all levels (Shikiar & Rentz 2004). In addition, patients can uniquely contribute in detecting problems of quality and safety in health care systems (Vincent 2002, Gillespie & Reader 2018).

Moreover, absence of patient's trust in dentistry as well as in medicine can construct a barrier to seeking health-care which may result in poor patient satisfaction, lack of compliance, increase in anxiety and thus can lead to unfavorable outcomes (Yamalik 2005). It is linked with factors including empathy, reliability, responsiveness, assurance, accessibility, cost and more (Davies & Ware 1981, Tucker & Adams, 2001). Patient satisfaction towards the dental treatment provided by the undergraduate students at dental schools is multifactorial and is of great importance for the growth and involvement of oral health service and practice, (Scambler & Asimakopoulou, 2014).

Objection and complaints made by patients may cause a great deal of anxiety and stress among the students and their supervisors (Humphris et al., 2002). Evaluating patients' acceptance and compliance towards the dental care they receive from dental student is of great importance for the success of an oral health service can be assessed by the amount of satisfaction of its patients and positive feedback (Scambler & Asimakopoulou, 2014, Essa et al., 2006). In this regard, some patient

still strongly believe that public hospital are failing in delivering quality services (Aman et al., 2016). A recent study conducted at the College of Dentistry, King Saud University, showed that the patients were satisfied with their treatment provided by trained students and maintained a good oral hygiene. However only 86 participated in the study (Albiladi et al., 2019).

Also, various studies around the world described patient satisfaction towards dental and medical treatment in general, but still studies regarding patient feedback after receiving dental treatment from undergraduate students is limited (Deshwal et al., 2014). Therefore the aim of this study was to investigate the factors responsible for the patient's attendance at under-graduate dental clinics, the degree of satisfaction patients have after the treatment is done and the amount of trust the patients have towards their treating dental students.

MATERIAL AND METHODS

The study protocol was approved by the ethics review board at the College of Dentistry, King Saud University, Riyadh KSA and is presented using standard guidelines. The cross sectional qualitative survey study was conducted among male and female patients, attending the Dental hospital at the undergraduate training institute from August 2019 to February 2020. A total of 400 participants were provided survey questionnaires, who were 18 years and above. The patients included as participants, were randomly selected who were attending hospital for dental treatments in undergraduate course with 3rd, 4th and 5th year students. The consent form included a cover letter briefly describing the objectives and benefits of participation, however participation was voluntary. It was made clear that confidentiality will be maintained throughout the process.

The questionnaire consisted of 17 closed ended questions mainly divided in demographic data, distribution of patients based on their perception and belief towards dental treatment provided by dental students. The first section addressed the demographic information of participants; age range and category, employment status, education level, marital status and income category. The second section consisted of closed ended question related to undergraduate clinics method of booking, type of procedure received by the participant, method of contacting the student clinic by participants, reasons for taking dental student clinic appointment and previous experience with student clinics. The last section enquired about the feedback from the participants and their beliefs related to student clinics, including, satisfaction level and reasons for dissatisfaction, would they prefer repeating the experience, must students be supervised and are students able to manage emergencies.

The statistical analysis was performed using Statistical Package for Social Science Software (SPSS version 20) (IBM Corporation, New York, USA). Descriptive statistics (means, standard deviations, percentages, frequencies, tables) calculated to assess the student's awareness.

One-way analysis of variance (ANOVA) followed by post hoc Tukey test was performed for comparing different variables of study. Chi square test was employed to compare association between categorical variables.

RESULTS AND DISCUSSION

Demographic features: The total completed response were 268 out of 400 with a response rate of 67%. Table 1 shows that 67.2% of participants were males, while 32.8% were females. 42.9% were aged between 18-28 years, 23.1% were aged between 29-39 years, 20.5% were aged between 40-50 years, and 13.4% were 51 years and above. According to employment status, 30.2% of participants were students, 27.6% were

governmental employee, 14.6% private sector, 13.1% were on-employed, 10.4% were retired, and 4.1% did freelancing. According to educational level, 38.1% had a bachelor's degree, 29.1% completed secondary, 16.8% had diploma, 7.1% with intermediate, 6% completed masters or higher, and 3% with primary or less. And their distribution according to marital status was, 43.3% were single, 52.6% were married, 3% were divorced and 1.1% were widowed. Finally, their distribution according to monthly income in Saudi riyals (SR) included, 32.1% of the participants' had monthly income of less than 3000, 21.3% were between 10000-19999, 20.1% were between 6000-9999, 17.2% were between 3000-5999, and 9.3% were 20000 and above.

Table 1. Distribution of the participants according to the demographic data.				
		Frequency N= 268	Percent 100%	P-value
Gender	Male	180	67.2	.000
	Female	88	32.8	
Age	18-28 years old	115	42.9	.000
	29-39 years old	62	23.1	
	40-50 years old	55	20.5	
	51-60 years old and above	36	13.4	
Employment status	Student	81	30.2	.000
	Governmental employee	74	27.6	
	Private sector	39	14.6	
	Non-employed	35	13.1	
	Retired	28	10.4	
Highest degree or level of school	Primary or less	8	3.0	.000
	intermediate	19	7.1	
	secondary	78	29.1	
	diploma	45	16.8	
	bachelor degree	102	38.1	
Marital status	masters or higher	16	6.0	
	Single	116	43.3	.000
	Married	141	52.6	
	Divorced	8	3.0	
Monthly income	Widowed	3	1.1	
	Less than 3000 SAR	86	32.1	.000
	3000-5999 SAR	46	17.2	
	6000-9999 SAR	54	20.1	
	10000-19999 SAR	57	21.3	
	20000 and above	25	9.3	
Chi-square test. P-value is significant at 0.01 level.				

Patients perceptions towards treatments by dental students: Table 2 presents the distribution of participants according to the method of booking appointments with 48.1% through reception, 36.2% through the dental student and 15.7% by the waiting list. In addition, with

regards to method of contacting patients, 64.2% of participants contacted treating dental student by text messages, 25.4% by phone calls, while 10.4% did not have any way of direct contact (Table 3). In addition, 82.1% of participants already had treatment experience

with undergraduate student, while 17.9% never had prior student treatment experience (Table 4).

Table 2. Presents participants' distribution according to the method of booking an appointments at the undergraduate clinics.

	Frequency	Percent	P-value
Reception	129	48.1	.000
Through the dental student	97	36.2	
Waiting list	42	15.7	
Total	268	100.0	

Chi-square test. P-value is significant at 0.01 level.

Table 3. Presentation of participant distribution according to the way they contact with the treating dental student.

	Frequency	Percent	P-value
Texts	172	64.2	.000
Phone calls	68	25.4	
I don't have any way of contact	28	10.4	
Total	268	100.0	

Chi-square test. P-value is significant at 0.01 level.

Table 4. Presentation of participant distribution, as to whether they have been treated by an undergraduate dental student previously.

	Frequency	Percent	P-value
Yes I have	220	82.1	.000
No it's my first time	48	17.9	
Total	268	100.0	

Chi-square test. P-value is significant at 0.01 level.

Regarding the reasons, why participants choose to undergo treatments by students, 45% believed that they would receive the optimal treatment under the supervision of specialists, 25.5% trusted the dental student as he or she was a relative or a friend, 17.3% for low or no cost of treatment, 10.5% were transferred by the specialist, and 1.8% got the idea form advertisement through social networking sites (Table 5). Participant's satisfaction levels from undergraduate treatments included, 59.5% evaluated the experience as very good, 30.5% evaluated the experience as good, 8.2% evaluated the experience as OK, and 1.8% evaluated the experience

as poor (Table 6). Furthermore, out of the participants with not satisfactory treatment experience with students, 63.6% reported that the treatment took a long time and multiple appointments, 27.3% reported that the student lacks self-confidence and show anxiety, however 9.1% were dissatisfied with the final results of treatment (Table 7).

Table 5. Distribution of Reasons, why participants undergo treatment by the dental student.

	Frequency	Percent	P-value
The dental student was a relative or a friend of mine	56	25.5	.000
My believe that I will be provided by the optimum treatment under the supervision of specialists	99	45.0	
I was referred by a specialist	23	10.5	
Could not afford other solutions	38	17.3	
An advertisement on social media caught my attention	4	1.8	
Total	220	100.0	

Chi-square test. P-value is significant at 0.01 level.

Table 6. Presentation of participant satisfaction levels distribution on treatment by undergraduate dental student.

	Frequency	Percent	P-value
Very good	131	59.5	.000
Good	67	30.5	
Ok	18	8.2	
Poor	4	1.8	
Total	220	100.0	

Chi-square test. P-value is significant at 0.01 level.

The distribution of treatment procedure provided by the students included, caries removal and fillings (45%), root canal treatment (22.7%), calculus removal and teeth cleaning (12.3%) , fixed dentures (crowns and bridges) (8.6%), removable dentures (8.2%), and extraction or surgery (3.6%) (Table 8). Interesting, 90% of the participants preferred to repeat the experience with the same dental student, while 10% requested to change the treating clinician if possible (Table 9). A majority of participant believed that dental student should be supervised by the dental specialist throughout the treatment duration (60.9%), however, 39.1% of patients thought that supervision was not necessary (Table 10). Finally, 50.7% of patients considered that students are

capable of managing emergencies in the clinic, 40.7% responded as “ I don’t know” and 8.6% do suggested that students were not able to manage emergencies on their own (Table 11).

Table 7. Distribution of Reasons for dissatisfaction of participants with the treatment provided.

	Frequency	Percent	P-value
The anxiety and lack of confidence of the student.	6	27.3	.000
The treatment took a long time and multiple appointments.	14	63.6	
I didn't like the final results	2	9.1	
Total	22	100.0	

Chi-square test. P-value is significant at 0.01 level.

Table 8. Participant distribution based on type of dental treatment received.

	Frequency	Percent	P-value
Caries removal and fillings	98	44.5	.000
Root canal treatment	50	22.7	
Calculus removal and teeth cleaning	27	12.3	
Removable dentures	18	8.2	
Fixed dentures (crowns and bridges)	19	8.6	
Extraction or surgery	8	3.6	
Total	220	100.0	

Chi-square test. P-value is significant at 0.01 level.

This study provides information about the patients' perception towards receiving dental care from undergraduate students at the College of dentistry. One of the main aims of dental treatment is to provide comfort and function to satisfy patient. It is the most important element to measure the success of the delivered treatment (Mericon & Yon, 2002). Measurement of satisfaction is therefore as an integral aspect of evaluating the given care (Albiladi et al ., 2019). In recent years, quality of health care and its perception by patients has been an issue that gained some noticeable importance by Health Service Providers, therefore patient satisfaction has been considered as a good predictor of treatment compliance and adherence to care provider instructions. It is also considered as a tool for assessment in which patients'

Table 9. Participant distribution according to whether they prefer to repeat the experience with the same dental student.

	Frequency	Percent	P-value
Yes	198	90.0	.000
No	22	10.0	
Total	220	100.0	

Chi-square test. P-value is significant at 0.01 level.

Table 10. Distribution of participants according to their belief that the dental specialist should supervise the dental student for the time of treatment.

	Frequency	Percent	P-value
Yes	134	60.9	.001
No	86	39.1	
Total	220	100.0	

Chi-square test. P-value is significant at 0.01 level.

Table 11. Distribution of participants based on their belief that a dental student is capable of dealing with any emergency that could happen during the treatment.

	Frequency	Percent	P-value
Yes	136	50.7	.000
No	23	8.6	
I don't know	109	40.7	
Total	268	100.0	

Chi-square test. P-value is significant at 0.01 level.

opinions could be used for service improvement and development.

In order to assess the quality of care provided by the students, participants were asked to evaluate their experience, in which the majority showed high levels of satisfaction with a percentage of 59.5% (very good). Thus indicating the high professionalism and management levels that students perform among their patients during clinical sessions and their ability to achieve their duties in a safe and ethical manner (Molina & Fernandez, 2017). Looking into the minority who were somewhat unsatisfied, the factor of long treatment duration was the main reason, showing the direct relationship between patient's own time and willingness to proceed with treatment.

This is previously proved in a study by Anderson et al., (Anderson et al., 2007). It is fair to claim that, the more the patients need to invest in their own resources (time

the less valuable the outcome becomes, leading to less satisfaction³⁵. In order to ensure a good flow of patients for dental students to practice on, it is crucial to take into consideration patients' personal perceptions towards health care in general and specifically oral health care. Our study highlighted the reasons that cause both patient adherence and reluctance to dental students. It is assumed that the selection of dental clinics is based on dental accessibility, convenience, and affordability.

In the present study the main reason of seeking treatment with students (45%) was due to supervision by specialists which shows to enhance the patient's trust in the student, as the clinical instructor closely supervises the dental student (Albiladi et al., 2019). Patients' loyalty is correlated with their compliance in taking the medical advice, use of medical services wisely and take a role in their medical care (Macstravic, 1995). The definition of patients' loyalty is the intention to visit the same doctor (Cyr, 2008). Among the 286 participants in this study, 90% preferred to repeat the experience with the same dental student, while 10% did not prefer to repeat it with the same dental student.

While clinical practice is considered as an integral part of educational process in dentistry, supervision plays a major role in enhancing student's learning to complete their academic programs successfully carrying with them good experience (Deuchar, 2008, Lee & McKenzie, 2011). Clinical supervision by experts can markedly improve and build students clinical skills. On the other hand, it can obstruct it or inhibit it (Lingard et al., 2012). It was enquired from participants' if the student should be supervised by the dental specialist the whole time of the treatment, 60.9% believed that the dental student should be supervised by specialist the whole time of the treatment, while 39.1% answered that it is not necessary. Finally, dealing with emergencies becomes a challenging task (Gururaju et al., 2013).

One of the most commonly occurring medical emergencies is syncope (Gururaju et al., 2013). Therefore, Emergencies in dentistry include severe pain, abscesses and swelling (Dailey & Martin, 2001). Among our sample 50.7% of the participants believe that student is capable dealing with any emergency that could happen during the treatment, 8.6% do not believe, and 40.7% do not know. Although the present study suggests that patients have a positive attitude towards seeking treatment from undergraduate student clinics, however they still prefer supervised students. These findings should be considered in light of the possible limitations of the study. The findings reflect the opinion of the population involved and cannot be generalized to other populations. In addition, as a survey based study, it is difficult to remove all subjective bias of individuals involved.

CONCLUSION

Within the study limitations, two-thirds of the patients were satisfied with the dental treatments provided by students under supervision and the main reason

for dissatisfaction was the delay and long duration of treatment. A majority agreed that they would seek treatment from dental students again and one-third of patients believed that students do not need supervision at all times. Further studies with larger sample size and different undergraduate institutes should be performed to validate these findings.

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