ORIGINAL ARTICLE

A SURVEY OF PATIENTS' OPINION FOR BUSINESS AND PROFESSIONAL FACTORS AFFECTING PRIVATE DENTAL PRACTICES IN RIYADH, SAUDI ARABIA

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ABSTRACT

Objective: To assess the criteria identified as important by the patients attending private dental clinics in Riyadh, Saudi Arabia.

Design: A cross sectional survey.

Patients and Method: Information was collected on a especially designed questionnaire from 575 patients of 30 private dental clinics, 6 each from 5 regions of Riyadh City. The questionnaire was divided into two parts. The first part contained demographic information about the patient and the second part listed a set of 16 criteria about the opinion of the patients for a good dental practice in private clinics. Crohnbech's alpha, chi-square, two-sample 't' and factor analysis were utilized for data analysis.

Results: The internal consistency of the respondents, using Crohnbech's alpha method, was 87.2%. 'caring dentist' showed the highest percentage (97.2%) followed by 'friendly staff' (95.1%) among the 16 criteria. 'Accessible location of the clinic' showed the least percentage (80.3%), while, 'pleasant décor and comfortable surroundings' (81.4%) took the second lowest place in the list. Factor analysis created only two groups of criteria (factors). The first group covered the factors, which are related to money, communication, administration and high values of the treatment, while the second group identified those factors, which are related to personality behavior of dentist and staff, professional competence and quality.

Conclusion: In general, the patients were more interested to see better communication and behavior of dentists and staff in private practices as compared to public clinics.

Key words: Saudi Arabia, private dental clinics, patient's satisfaction.

INTRODUCTION

Satisfaction and the opinion of the patients are the key factors, in any health care setting. Dentistry is not excepted from this general rule. However, opinion of the customers differs from one setting to another. Therefore, it is important to look into the factors affecting these opinion in different setting, communities and locals.

Dentistry is a two-way street: whatever benefits the patients should in turn benefit the dentist[1]. If the dentist meets the patients' expectations of good dental practice, they will be more satisfied.

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One way of achieving this is to encourage the patient to say what their needs are with respect to good dental practice[2]. Many factors influence whether an individual is satisfied with the dental care they received. Amongst those identified have been technical competence and level of qualification of the dentist, the characteristics of the patients, the cost of the treatment, the attitude of the receptionists and the practice's cross-infection control procedures[3]. The expectations of patients are based on their experiences, environment, social background, and personality[4].

In a Norwegian study, dental attendees identified accuracy, professional skills, carefulness, willingness to listen and discuss dental problems and effective working habits as the top qualities for dentists[5]. Studies where perceptions were grouped by factor-analysis or other similar analysis, perceptions of the patients about dentists have fallen into the following areas: 1) technical ability, quality and

competence, 2) costs of treatment, 3) convenience, availability and access to treatment, and 4) personality, behavior and appearance of the dentist, including different aspects such as communicativeness, friendliness, ease of understanding, caring, supportiveness and avoidance of pain[6].

Patients' perceptions toward dentists have been discussed in a number of studies in different countries. However, as far as authors' knowledge is concerned, only one study is available in the literature from Saudi Arabia[7], and it is from Al-Ahsa region. But no data are available from any metropolitan city like Jaddah, Dammam or Riyadh, where most of the private clinics exist. Therefore, a study was conducted to collect the opinion of the patients about the factors affecting the private dental practices from private clinics of Riyadh city. The aim of this study was to assess the criteria identified as important by the patients attending private dental clinics in Riyadh city.

PATIENTS AND METHODS

The survey questionnaire was the same as was used by El-Amin et al[7]. It constituted of two parts. The first part contained demographic information about the patient: including age, gender (male/female), nationality (Saudi/non-Saudi), education level (up to intermediate (grade 9), secondary (grade 12), university (above grade 12)) and the profession of the patient, while the second part listed a set of 16 criteria, four-class Likert scale statements about the opinions of the patients for a good dental practice in private clinics. The scale consisted of the options of very important, important, little important and not important. Since it was not easy to get the list of private dental clinics with their locations, therefore an area-based sampling technique was used to target patients attending practices of different locations. Thirty private clinics, 6 clinics each from northern, southern, eastern, western and central districts, of Riyadh were chosen conveniently. Two thousand questionnaires were left at the reception desk of these clinics. When the patients checked-in for the appointment/treatment, the receptionist invited him/her to participate in the study. Patients were not obliged to complete the questionnaires. Five hundred and seventy five questionnaires were received from these clinics during these visits. The response rate was 28.75%. Statistical Package for Social Sciences (SPSS version 10.0) was used for data entering and statistical analysis. Crohnbech's alpha test was utilized to determine the internal consistency within the respondents. To make the analysis more comprehensible, 'very important' and 'important' options were joined together as 'positive response', and 'little important' and 'not important' options as 'negative response'. One and two way frequency tables were generated to observe the percentages of responses. Chi-square test was employed to make inferences about the relationship between the responses and demographic factors of gender, nationality and educational level. Two-sample independent 't' test was used to find the significant difference of mean age of the respondents between positive and negative answers. Factor analysis was utilized to make homogeneous groups of the 16 criteria. Varimax method with Kaisar normalization was used for orthogonal rotation of the factor analysis groups.

RESULTS

Five hundred and seventy five patients filled and returned the questionnaire. The internal consistency of the respondents, using Crohnbech's alpha method, was 87.2%. It showed a satisfactory level of consistency among the responses. About two-third (64.7%) of the patients were males and more than three-fourth (77.70%) were Saudis. Forty two percent of the patients were university graduates (Figure 1). Figure 2 shows the percentage of professions

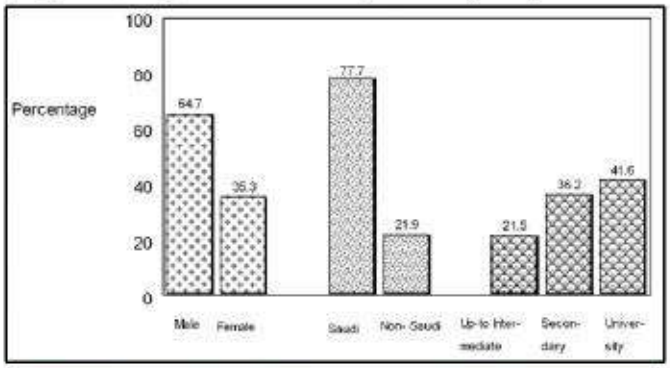

Figure 1: Demographic data of the respondents regarding gender, nationality and education.

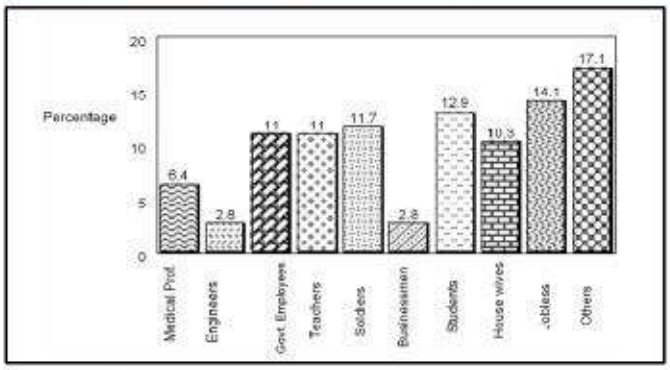

Figure 2: Profession of the respondents.

of respondents. Fourteen percent of the respondents were without any work. Thirteen percent of the patients were students. Figure 3 describes the area-wise distribution of returned questionnaires. Forty six percent of the forms were returned from the clinics of western areas, while only 11.1% were received from southern clinics. Since the percentages of

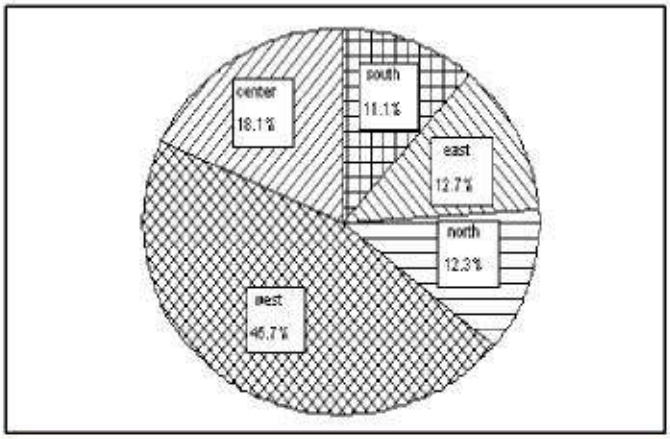

Figure 3: Distribution of filled questionnaires according to geographical location.

the returned questionnaires varied very much among the geographical location, therefore responses of the patients were not analyzed according to this factor. Table I describes the percentage of the positive responses of the patients as well as categorization of the positive responses by gender and educational level. 'Caring dentist' showed the highest percentage (97.2%) followed by 'friendly staff' (95.1%) among the 16 criteria. 'Accessible location of the clinic' showed the least percentage (80.3%), while, 'pleasant décor and comfortable surroundings' (81.4%) took the second lowest place in the list. Significantly higher percentages of male patients were more concerned about 'standard of cleanliness and hygienic procedure' and 'dentist qualification' as compared to female patients ($p<0.05$). When comparing the responses among different educational background, only 'pain free dentistry' showed a significant difference ($p=0.033$), with high percentage of positive responses with lowest educational level (up to intermediate). The importance of 'pleasant décor and comfortable surroundings' showed a linear relationship with education background with 'marginal' significance ($p=0.056$). The positive response, categorized by nationality (Saudi/non-Saudi), is discussed in Table II. Saudi patients showed higher percentage of positive responses in 14 out of 16 questions than non-Saudi patients, with significantly higher percentage of 'explanation of the procedure', 'readiness to see any emergency situation', and 'good administration' ($p<0.05$). Table II also compares the mean differences of age for the patients who indicated 'positive' and 'negative' responses. Generally, the patients who responded positively were older than the patients who responded negatively, except 'pleasant décor and comfortable surrounding', 'explanation of procedure', and 'readiness to see any emergency situation', where young patients showed more positive responses. However, only 'pleasant décor and comfortable surroundings',

Table I: Positive responses of the patients' by gender and education level.

	Positive response n(%)	Gender			Educational Level			
		Male	Female	p-value	Up to Intermediate	Scondary	University	p-value
1) Caring dentist	559 (97.2)	362 (97.3)	197 (97.0)	0.852	119 (96.0)	199 (95.7)	237 (99.2)	0.054
2) Friendly staff	547 (95.1)	352 (94.6)	195 (96.1)	0.445	117 (94.4)	194 (93.3)	232 (97.1)	0.163
3) Up to date equipment and material	537 (93.4)	350 (94.1)	187 (92.1)	0.364	113 (91.1)	193 (92.8)	227 (95.0)	0.348
4) Pleasant décor and comfortable surroundings	468 (81.4)	303 (81.5)	165 (81.3)	0.960	92 (74.2)	170 (81.7)	202 (84.5)	0.056
5) High standard of cleanliness and hygienic procedure	534 (92.9)	352 (94.6)	182 (89.7)	0.027*	1112 (90.3)	194 (93.3)	224 (93.7)	0.469
6) Dentist Qualification	518 (90.1)	342 (91.9)	176 (86.7)	0.045*	113 (91.1)	187 (89.9)	214 (89.5)	0.890
7) Dentist Skills	525 (91.3)	341 (91.7)	184 (90.6)	0.676	113 (91.1)	186 (89.4)	222 (92.9)	0.433
8) Appointment System	517 (89.9)	335 (90.1)	182 (89.7)	0.879	115 (92.7)	179 (86.1)	219 (91.6)	0.073
9) Good practice image	518 (90.1)	332 (89.2)	186 (91.6)	0.362	116 (93.5)	183 (88.0)	215 (90.0)	0.262
10) Pain-free dentistry	504 (87.1)	324 (87.1)	180 (88.7)	0.584	117 (94.4)	177 (85.1)	206 (86.2)	0.033*
11) Explanation of the procedure	508 (88.3)	335 (90.1)	173 (85.2)	0.084	105 (84.7)	184 (88.5)	215 (90.0)	0.331
12) Giving oral hygiene and post operative instructions	509 (88.5)	331 (89.0)	178 (87.7)	0.642	108 (87.1)	181 (87.0)	216 (90.4)	0.471
13) Accessible location of the clinic	462 (80.3)	293 (78.8)	169 (83.3)	0.196	105 (84.7)	169 (81.3)	184 (77.0)	0.195
14) Reasonable cost of treatment	501 (87.1)	319 (85.8)	182 (89.7)	0.182	111 (89.5)	176 (84.6)	210 (87.9)	0.386
15) Readiness to see any emergency situation	573 (89.2)	328 (88.2)	185 (91.1)	0.274	114 (91.9)	180 (86.5)	215 (90.0)	0.270
16) Good administration	497 (86.4)	326 (87.6)	171 (84.2)	0.255	107 (86.3)	179 (86.1)	207 (86.6)	0.986

Table II: Positive responses of the patients by nationality and comparing the responses by mean age of the patients.

Studied Question	Nationality			Age grouping				
	Saudi	Non-Saudi	p-value	Positive		Negative		p-value
				n	X̄-SD	n	X̄±SD	
1) Caring dentist	437 (97.8)	120 (95.2)	0.129	552	32.1±10.1	16	30.6±19.3	0.447
2) Friendly staff	426 (95.3)	119 (94.4)	0.693	540	32.1±10.1	28	30.9±9.6	0.546
3) Up to date equipment and material	417 (93.3)	118 (93.7)	0.364	530	32.1±10.1	38	31.4±9.2	0.708
4) Pleasant décor and comfortable surroundings	370 (82.8)	97 (77.0)	0.139	462	31.6±9.9	106	33.9±10.6	0.028*
5) High standard of cleanliness and hygienic procedure	420 (94.0)	112 (88.9)	0.051	527	32.1±10.2	41	31.3±8.3	0.658
6) Dentist Qualification	407 (91.1)	109 (86.5)	0.132	512	32.0±10.2	56	31.8±8.5	0.859
7) Dentist Skills	411 (91.9)	112 (88.9)	0.676	518	32.1±10.3	50	30.9±7.6	0.396
8) Appointment System	404 (90.4)	111 (88.1)	0.453	510	32.3±10.3	58	29.9±7.8	0.036*
9) Good practice image	401 (89.7)	115 (91.3)	0.362	511	32.1±10.2	57	31.1±9.0	0.482
10) Pain-free dentistry	393 (87.9)	109 (86.5)	0.671	497	32.3±10.4	71	30.0±7.3	0.024*
11) Explanation of the procedure	405 (90.6)	101 (80.2)	0.001*	502	31.9±10.1	66	32.8±9.5	0.481
12) Giving oral hygiene and post operative instructions	397 (88.8)	110 (87.3)	0.639	502	32.1±31.3	66	31.3±9.1	0.551
13) Accessible location of the clinic	365 (81.7)	96 (76.2)	0.172	455	32.2±10.2	113	31.4±9.4	0.431
14) Reasonable cost of treatment	396 (88.4)	105 (83.3)	0.134	494	32.1±10.3	74	31.7±8.6	0.739
15) Readiness to see any emergency situation	405 (90.6)	106 (84.1)	0.039*	506	31.9±10.1	62	33.2±9.3	0.327
16) Good administration	396 (88.6)	100 (79.4)	0.007*	491	32.1±10.3	77	31.7±8.5	0.761

'appointment system', and 'pain-free dentistry' were significantly different between the two groups ($p<0.05$). Factor analysis created only two groups of criteria (factors) with eigen values more than 1. These factors are mentioned in Table III. The selected questions of these two groups are as follows:

Group 1 included: (a) pleasant décor and comfortable surroundings, (b) dentist qualification, (c) appointment system, (d) good practice image, (e) pain free dentistry, (f) explanation of the procedure, (g) giving oral hygiene and post operative instructions, (h) accessible location of the clinic, (i) reasonable cost of treatment, (j) readiness to see any emergency situation and (k) good administration.

Group 2 included: (a) caring dentist, (b) friendly staff, (c) up to date equipment and material, (d) high standard of cleanliness and hygienic procedure, (e) dentist qualification and (f) dentist's skills.

The first group covered the factors, which were related to money, communication, administration and high cost of the treatment, while the second group identified those factors, which are related to personality behavior of dentist and staff, professional competence and quality.

DISCUSSION

The response rate of the return questionnaires was quite low, even though, the investigators visited the clinics many times. However, the high percentage of Crohnbech's alpha value showed the consistency among the responses. The higher percentage of male respondents in the sample was due to cultural and religious background of the Saudi society. Females usually do not process the paper work and delegate the job to the male guardian. The ratio of Saudi and non-Saudi patients were not very much different to the respective proportion in the society[6]. It was against the general view in the society that Saudis were supposed to have more attendees in the private clinics than non-Saudis due to financial edge. It could be explained by the following two reasons. Firstly, most of the returned forms were received from the clinics located in center and western part of Riyadh, where most of the expatriates live. Secondly, most of the non-Saudis work in small

Table III: Factor analysis groups for the criterion.

Criterion	Factor 1	Factor 2
1.) Caring dentist	-	0.711
2.) Friendly staff	-	0.768
3.) Up to date equipment and material	0.508	0.767
4.) Pleasant décor and comfortable surroundings		0.613
5.) High standard of cleanliness and hygienic	0.534	0.524
procedure	-	0.590
6.) Dentist qualification	0.631	-
7.) Dentist skills	0.638	-
8.) Appointment system	0.671	-
9.) Good practice image	0.682	-
10.) Pain-free dentistry	0.691	-
11.) Explanation of the procedure	0.747	-
12.) Giving oral hygiene and post operative instructions	0.687	-
13.) Accessible location of the clinic	0.767	-
14.) Reasonable cost of treatment	0.646	-
15.) Readiness to see any emergency situation	-	-
16.) Good administration		

Weights with value more than 0.5 are mentioned in the table.
Rotation method: Varimax with Kaisar normalization

private businesses, which are not covered for free or insured medical facilities.

Forty-two percent of the respondents reported to have university degree, which was higher than the percentage of university degree holders reported for Riyadh population[8]. It is due to the fact that educational level shows some kind of proxy for socio-economic status. Since some cost is involved in visiting the private clinics, therefore, middle or higher socio-economic groups prefer to go to private clinics.

Behavioral components of the dentists' and staff (caring dentist and friendly staff) were shown to be the most important factors. Occupational and professional aspects, such as dentist qualification, dentist skills and pain-free dentistry were less important. These preferences are in agreement with Lahti et al[6], and El Amin et al[7]. Eighty-eight percent of the respondents liked to be explained about the procedures, oral hygiene and post-operative instructions. A survey in New Zealand[4] showed that almost all the patients wanted to be informed in detail about their dental treatment. Similarly, Rankin and Harris[10] reported that 97% of the patients surveyed favored a dentist who explained what the treatment and procedure entailed. The location of the clinic received the least importance in the list. This also agrees with El Amin' results. Due to the availability of automobiles in middle and upper socio-economic groups and low price of gasoline in the kingdom, distances are of little importance in selecting place in the city. The importance of cost of the treatement, however, was lower in this study than in other studies[11-14]. However, it agrees with Lahti et al[6]. This might be due to the fact that people are well off due to petro-dollar and paying medical bills does not affect their monthly budget too much. Pleasant décor and comfortable surroundings received second place from the bottom in the preference list. Burke and Croucher[2] also found this factor as one of the least valued criteria.

Male patients showed significant higher percentage of positive responses for 'higher standard of cleanliness and hygienic procedure' than female patients. It could be attributed to better cross-infection knowledge and awareness among male than female patients. Because in Saudi society, males are still having higher educational level than females, even though, recently attention is given by the government of Saudi Arabia for female literacy as well. El Amin et al[7] also reported higher percentage for male patients, but it was not statistically significant. However, Burke and Croucher[2] reported the other way around. Dentist qualification was the second criterion, which had significantly higher percentage among male than female patients. The reason for this significant difference could be the same as mentioned above. El-Amin[7] also found higher percentages for males, but not statistically significant, for the same question. However, Burke and Croucher[2] indicated that female patients ranked better than males for this question.

'Pleasant décor and comfortable surroundings' was significantly (marginal) higher among the university degree graduates than lower educational background and showed a positive linear trend of education level with importance of this factor. It is clearly due to the fact that as the socioeconomic status improves, people prefer better comfort and atmosphere. However, El-Amin[7] found an opposite linear trend of educational level with the importance of this criterion. Second criterion, which was statistically significant among different educational level, was 'pain-free dentistry'. Higher percentage of low educational background people concerned more about this criterion. It could be explained by the fact that higher educated patients know that it is part of the dentistry practice to have pain and discomfort in the treatment process, therefore, they expect it from very beginning. El-Amin[7] reported the same trend, but it was not statistically significant.

Almost in all the criteria, the Saudi patients showed higher importance than non-Saudi patients. However, the statistical significance appeared only for 'explanation of the procedure', readiness to see any emergencies' and 'good administration'. All three belong to behavioral or administrative sides, rather than occupational or professional aspects. As the native people they are more concerned about these criteria than outsiders. When comparing the mean age of the patients with positive and negative responses, more younger people picked up 'pleasant décor and comfortable surrounding' as important criterion than elder people. It shows that young people are more concerned about beautification and comfortable sitting surrounding area than elder patients. However, 'appointment system' and 'pain-free dentistry' was weighted more by elder patients. Elder patients, who are busy with their businesses and jobs, give more importance to their time and like to have better appointment system. Furthermore, because they were older patients, they liked to have their treatments with very low pain or without any pain.

Two sets of group, created by factor analysis, were related to (1) money, communication, administration and high cost of the treatment, and (2) personality behavior of dentist and staff, professional competence, and quality. The factor analysis computed by Davies et al[13] and Koslowsky et al[11] generated 5 groups of criteria, namely (1) technical ability, quality and competence, (2) costs of treatment, (3) convenience, availability and access to treatment, (4) personality, behavior and (5) appearance of the dentist. However, other investigators[10,12,13,15] reported 4 groups obtained by factor analysis. The present study generated only 2 groups of factors. It shows the consistency of the responses, which is further verified by very high value of Crohnbech's alpha. These two groups divide the 16 criteria into two broad-based subgroups of patients. One group was mainly interested in the behavior and knowledge of dentists and staff, and latest dental materials and instruments. Other group was interested in the rest of the criteria related with private dentistry.

In general the patients were more interested to see better communication and behavior of dentists and staff in private practices as compared to public clinics. This confirms the stereotype picture of the dentists that they fill the patients' mouth first and then start talking afterwards. The factors extracted could guide the private practitioners what the patients are expecting from them. These information could be included into undergraduate training curriculum of dentists and continuing education programs. The systematic collections of patients' opinion could help the dental practitioners to get clear idea what his or her patients are expecting from them.

The sample was drawn in convenient sampling method without any randomization. A better sampling frame is needed to verify the findings of this study. It would be more appropriate if a representative sample should be drawn from community. Because many people visit the dental clinics very few times, except in emergencies, and hence their opinions are lesser in chance to be included in clinic-based studies. This study could also be repeated in private clinics of Pakistan. Due to different culture and environment, the outcomes could be completely different than this report.

CONCLUSION

In general, the patients were more interested to see better communication and behavior of dentists and staff in private practices as compared to public clinics.

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