

Perceptions of Patients Seeking Consultations in Restorative Dental Clinics of Hail Region, Saudi Arabia

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Abstract:

Background: The objective of this study was to investigate the relationship between patient perceptions and professional assessments for restorative treatment needs in the population attending dental clinics at Hail.

Materials and Methods: This is a descriptive study with a cross-sectional design. A validated questionnaire encompassing five subject areas for the dentists and patients was used as a study tool for this study. Data were presented in form of numbers. Chi-square test was employed to identify association among patient and dentists. $P < 0.05$ was considered significant.

Results: About 26% patients perceived discoloration compared to 41% reported by dentist, 70% patients and 59% dentist reported it not being a problem. Seventy-two (72%) patients perceived pain as a concern compared to 91% by dentists. Both findings were statistically significant $P < 0.05$. Twenty Eight (28%) patients perceived space as a concern compared to 32% by the dentist. Whereas for 70% patients space was not a concern, compared to 68% by the dentists. Similarly, for loose teeth 53% patients and 47% dentists perceived it as a concern, whereas 47% patients and 53% dentists did not. Both findings were not statistically significant at $P > 0.05$.

Conclusions: A significant difference was observed between patient and dentist perception of pain and esthetics (poor color). This difference could be because of esthetics and pain being subjective entities. The cost was not a barrier in seeking dental consultation.

Key Words: Dentist, patients, perceptions, treatment

Introduction

The demand for systematic conservation of teeth largely developed in the 20th century. Whatever had transpired before as regards this subject was generally related only to the removal of tartar and sharp edges on the teeth, and also the unmethodical filling of cavities with a variety of materials.¹

Sturdevant *et al.*, in their text also stated some indications for operative procedures, categorized into following primary areas: Caries, malformed, and discolored, fractured teeth, and replacement needs.² With respect to the restorative needs the dentist's aids (like drills, instruments, and filling materials) contribute to the replacement or restoration of the missing parts. Following any effective therapeutic measure, the operative dentist prevents or arrests the disease process and restores the missing part.

The principal objectives of any form of restorative dental care are the restitution of oral health and the prevention of disease. Many factors are involved, but the restoration of function and esthetics can be seen as of primary importance. The esthetic factor is often the force that motivates the patient to seek dental treatment.³ Three factors are essential in fabricating an esthetic restoration: Size and contour, the texture of the reflecting surface, and color harmony.⁴ Goldstein stated that 50% of patients were in the category of those who wanted to improve the appearance of their smiles.⁵ The same author has reported that the shape of the face, teeth, and other physical characteristics influence our own physical and psychological reactions to another person. He estimated that approximately half of patient funds spent on dentistry were related in some way to esthetic dentistry.⁶

Many factors need be considered during the restoration of missing or compromised teeth for maintenance of esthetics and function. These depend on the patient's expectations and the expertise of the dental practitioner. Facilities available at dental clinics and skills of the operator and experience play a vital role in the decision of a treatment option. Dentistry has kept abreast of these developments with an ever-increasing array of new materials and innovative techniques, making this a rewarding time to be a dentist.⁷

Appearance, performance, and function of the stomatognathic system have an impact on the patients' dental health, lifestyle, social and professional interaction, and self-esteem. Factors such as pain, speech, masticatory efficiency, and esthetics reflect on patients' quality of dental health.^{8,9} Dentists are expected to be aware of patients' perception and their opinion regarding oral and dental health, thus recognizing patients' treatment needs.^{8,10}

To the best of our knowledge, no study has been reported on restorative dental needs in Saudi Arabia apart from few

studies mostly related to patient perception of orthodontic treatment needs in western province, attitudes of Saudi male patients toward the replacement of teeth in Riyadh region and satisfaction with appearance and the desired treatment to improve esthetics in northern region, respectively.¹¹⁻¹³ This study aims to decipher links between the patient-perceived treatment and dentist-reported practices in Hail region of Saudi Arabia.

Materials and Methods

The objective of this study was to investigate the relationship between patient perceptions and professional assessments by parallel questionnaire for restorative treatment needs in patients attending dental clinics at Hail, Saudi Arabia. A validated questionnaire involving different aspects of restorative dentistry was used as a study tool for this patient study.¹⁴ Sample included adult males and female patients seeking dental treatment from practitioners.

Study design

It was an observational study with cross-sectional design. It encompassed obligatory choice questionnaire on which respondents gave their opinion on five subject areas covered by the questionnaire which included color of teeth (esthetic), pain, loose teeth, space and cost. Neither the patients nor the dentists were aware of the particular area being investigated. A convenient sampling of *n* = 200 including 100 patients and 100 dentist at 95% confidence interval with *P* < 0.05 was considered significant for this study. The patient questionnaires were completed in the waiting rooms of the clinics prior to seeing the appropriate dentist after an informed consent. The dentist’s questionnaire was completed immediately following the patient leaving their clinic. Ethical approval was obtained from the research Ethics Committee at university of Hail. Data were displayed as number. Chi-square test was used to identify the association between the patient and the dentists using SPSS version 20.

Results

Table 1 represents patient perceptions as a variable, 26% patients perceived discoloration as a concern compared to those suggested by the dentist (41%), whereas for 70% patients it was not a concern, and similarly 59% dentist reported; it not being a problem. These findings show a significant variation, as far as the dentists are concerned which was statistically significant *P* < 0.05. This also holds true for pain wherein 72% patients perceived pain compared to 91% dentists, and only 9% patients did not perceive pain as a reason for visit compared to those by dentists (28%). This finding was also statistically significant at *P* < 0.05. With regards to patient’s perception of space and loose teeth, 28% patients perceived space and for 70% it was not a concern, whereas 32% dentists perceived space as a concern and the rest of 68% did not. There was no significant disparity among the dentists and the patients seeking consultation for space,

P > 0.05, similarly with regards loose teeth; 53% patients and 47% dentists responded affirmative compared to 47% patients and 53% dentists. These findings were not significant statistically, *P* > 0.05.

Table 2 reflecting the perception of various treatment options available revealed 36% patients opted for tooth whitening in contrast to 70% dentists. This is statistically significant at *P* < 0.05. With respect to tooth fillings 51% patients compared to 42% dentists choose, it as a treatment option; this was not statistically significant at *P* > 0.05. With regards options for replacement of missing teeth, the response to treatment options showed a significant variation between the dentists and patients with 70% dentists opting for acrylic dentures compared to 13% by the patients. Similarly, 66% dentists preferred fixed bridge as compared to 34% patients, 60% dentists choose implants

Table 1: Response of the dentists and patients to perception of color, space, loose tooth, and pain.

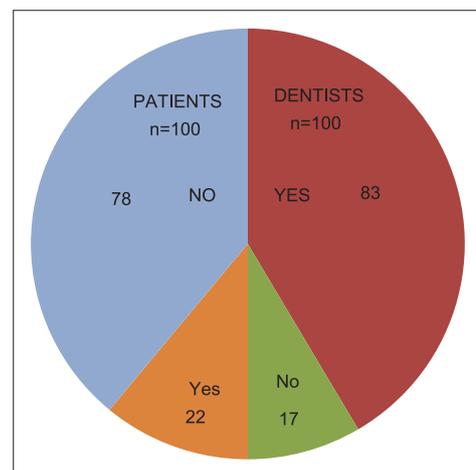
Perceptions	n=100 (n)				P value
	Dentist		Patient		
	Yes	No	Yes	No	
Discolor	41	59	26	74	0.024*
Space	28	70	32	68	0.59
Loose tooth	53	47	47	53	0.039
Pain	91	9	72	28	0.005*

*: *P* < 0.05

Table 2: Response to perception of treatment options by dentist and patients.

Response	n=100 (n)				P value
	Dentist		Patient		
	Yes	No	Yes	No	
Tooth whitening	70	30	36	94	0.0001***
Tooth filling	42	58	51	49	0.20
Acrylic dentures	70	30	13	87	0.0001***
Bridge	66	34	34	66	0.0001***
Implants	60	40	39	61	0.0029**

** : *P* < 0.005, ***: *P* < 0.001



Graph 1: Perception of the dentist and patient to the cost of dental treatment. ****P* < 0.00001.

compared to 39% perceived by the patients. All these findings were statistically significant at $P < 0.05$.

Graph 1 showing the perception of cost as a factor affecting treatment decisions between the dentists and patients seeking dental treatment, 83% dentists thought the cost of treatment was a factor affecting patient attendance whereas 17% thought otherwise. With respect to the patients only 22% agreed cost of treatments being a factor in seeking dental treatment compared to 78% for whom, it was not. This finding was highly statistically significant at $P < 0.05$.

Discussion

Patients attend dental clinics with a variety of problems. However, the main complaints could have been centered on pain,¹⁵ esthetics (color and space), functional problems, or a lack of stability of the teeth.^{3,8-13} In the present study, the majority of patients seeking dental advice were grouped based on the same problems. Most of the studies focus on treatment needs based on perception of patient demands and quality of care or socio-demographic factors.¹⁶

Attitudes and perceptions regarding dental appearance differ among individuals,¹⁷ and are influenced by cultural and personal preferences.^{18,19} Esthetics is a growing concern in the modern society.¹⁸ Samorodnitzky-Naveh *et al.*, 2007²⁰ reported tooth color was the primary reason for dissatisfaction among 89.3% of subjects, which is not in agreement with our study finding of 26% patients seeking advice for discoloration. On the contrary, in our study 41% dentists affirmed the same compared to 26% perceived by the patients, which was statistically significant at $P = 0.024$ (Table 1). A significant perception was also reflected for the treatment option for discolored teeth, 36% patients opted for tooth whitening in contrast to 70% dentists (Table 2). In fact a similar study conducted in Leeds, United Kingdom (UK) by AL-Shammari and Youngson during the year 2003, showed no statistical difference for the perception of tooth color among participants,¹⁴ which is in disagreement to our study. The increased response from dentists in our study could be ascribed to the experience and scientific knowledge of the dentists in recognizing esthetic concerns, in comparison to the patients; moreover, the perception of tooth color is a complex phenomenon that is influenced by many factors including lighting conditions or the optical properties of teeth. Some patients are unaware of treatment options and cannot distinguish the source of bad appearance.²¹ Because dental esthetics being a subjective issue, opinion varies among patients and this implies for dentists and patients also. Goldstein implied that dentists often interpret esthetic needs based on their own concepts and knowledge, ignoring patients' opinion.²² Brisman reiterated his view and concluded that opposite should be true.²¹ Some patients are socially embarrassed or psychologically impacted and this may not be mentioned to the dentist, or overlooked. In many instances, the patients cannot distinguish the source of bad

appearance, whether it is principally a result of the color or shape of the dentition. Apparently 72% patients perceived attendance complaining of pain and according to dentist 91% sought treatment complaining of pain which was found to be statistically highly significant at $P < 0.0001$ (Table 1) that is not in line with the findings of a similar study conducted in Leeds, UK during the year 2003 which showed no statistical difference in perception of pain among patients and dentists.²⁰ The response in the present study for dental fillings was statistically insignificant, 51% patients and 42% dentists at $P > 0.05$ (Table 2). A study in Kuwait by Al Shammari *et al.*, 2007 reported that visiting a dentist with pain had declined to 31.5% as compared to 69% in an earlier study by Behbehani and Shah in the same region.^{23,24} This significant contrast in the present study could be attributed to the educational, social, and cultural barrier. Moreover pain perception being a subjective entity, the response may differ among individuals.

The present study showed there was no statistically significant difference in perception of space and loose teeth $P = 0.59$ and 0.39 , respectively. These findings were in contrast to a study done by Akeel in 2003 in Riyadh region of Saudi Arabia who reported significant difference between patient and dentist perception.¹² In this study, perception to treatment for replacing missing teeth showed statistically significant response among the dentists and patients ($P < 0.05$) with 70% dentist and 13% patients opting for acrylic dentures (Table 2), which are in contrast to findings of Akeel 2003 in Riyadh. However, it is in agreement with a study in Brazil by Elias and Sheiham.²⁵ With regards fixed options like bridges and implants, a wide disagreement was observed between patient and dentists perceptions with 66% dentists and 34% patients opting for fixed bridges, and similarly 60% dentists and 39% patients opting for implants. These findings were statistically significant at $P < 0.05$ (Table 2).

An interesting finding was association between the dentists' and patients' perception to cost as a barrier for seeking dental treatment. Eighty three (83%) of the dentists perceived cost being a barrier in seeking dental consultation, on the contrary 78% of the patients perceived; it was not a factor (Graph 1), and this was statistically significant at $P < 0.05$. Our findings are contrary to the findings of the adult dental health survey 2009, conducted in the UK, wherein irrespective of an increase in turnout of dentate patients from 40% in 1968 to 61% in 2009, 26% of adults reported that cost influenced their choice of dental treatment and 19% said they had deferred dental treatment for the same reason.²⁶ This difference in opinion could be attributed to selected options of dental treatment being offered in the National Health Services in the UK, added by the constraints of insurance in the private sector. In comparison, the dental care is free of charge in the Saudi Arabia at both primary and tertiary levels. The results of present study reinforce the findings of the study by Al-Shammari *et al.*,²³ done in 2007 in Kuwait. These findings collectively reflect the

growing awareness and increasing demand toward dental care reflecting on the impact and importance of dental health among the population.¹⁷ Patients seemingly differ in their response to treatment but also in their commendation of the dentist's efforts. It is reasonable to assume that the dentists are both sensitive and responsive to such differences among patients.²⁷

Limitations of the study

Smaller sample size due to limited logistic support was a limitation of this study.

Conclusion

Significant difference was observed between patient and dentist perception for pain and esthetics (poor color), although space and loose tooth were not significant. The present study aimed to fulfill the gap regarding barrier between patient and dentist perceptions for treatment needs in restorative dentistry. Further research is suggested to have an overview of relevant contributing factors regarding patients' needs and demand for better treatment planning.

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