The role of psychoneurotic, social and other factors in refusal of complete denture treatment

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Abstract:

Treating the patient requiring prosthesis is one of the most challenging and demanding aspects in dentistry. One of the important dental health problems in the community is edentulousness, where some of the edentulous patients refuse dental consultation for denture treatment.

The aim of this study was to investigate the role of psychoneurotic status of the edentulous patients and other social and individual variables on refusal of denture treatment.

A sample consisting of 81 denture refusing patients were compared with 94 satisfied denture wearers as a control group. Crown-Crisp Experiential Index (CCEI) was used to assess the psychoneurotic status of both groups.

Compared with the control group, denture refuser's scores were statistically higher in their psychoneurotic status according to the CCEI, phobia and obsession were amongst the most obvious personality traits in the study group.

In conclusion, the findings of this study highlighted the importance of psychological factors and their role in the patients' refusal for complete denture treatment.

Keywords:

Complete denture, psychoneurotic status, social factor, edentulous patient, CCEI

Introduction:

The orofacial region is essential to the integrity of the physical appearance of the individual, personality and the quality of life, in general, to all age groups and particularly to geriatrics [1, 2].

Teeth have symbolic significance, and the most symbolic significance of tooth loss in aging, loss of femininity, loss of virility, loss of attractiveness and vitality and body degeneration[3]. Tooth loss can be disabling and handicapping [4]. For some people, it may mean the end of hope and the termination of many experiences that made life meaningful for them [3]. Such patients are likely to feel less confident about themselves inhibited in carrying out a range of activities [5].

It was suggested that the manner in which an individual views the loss of his original teeth will, in part, influence how he will adjust to his prosthesis[6]. Denture refusal for many authors is viewed as any other emotional problem, which is related to patient's previous experience, personality and attitude of other important patient's acquaintances [6].

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Flexibility and ability to adapt to a new situation is considered among the several factors that contribute to the refusal [7]. For some, tooth loss and wearing dentures is like "going bare foot on gravel" [8].

Several authors from different places of the world stated that "the psychological factors play a significant role in determining the ability of the patient to adjust to dentures and his ultimate satisfaction with them [9-11].

Jamison found that "fitting the personality of the aged patient is often more difficult than fitting the denture to the mouth" [12]; while Moulton, Collette and Koper concluded that patients with emotional problems may reject dentures from reasons unrelated to technical adequacy [13-15]. However, psychological causes of rejecting replacement of teeth loss by complete denture include the feeling that complete dentures are not more advantageous than their present condition [16]. Review of literature revealed that other factors also play a role in denture treatment refusal; of these factors the dentist approach is significant. The interpersonal relationship between the patient and his dentist, which is the most complex and may contain mountable barriers. If we, as dentists, do not understand why the patient refuses the treatment; dentist's authority represents one of these important barriers. Such barriers of refusal must be broken slowly [17]. The manner in which the dentists present the treatment plan will greatly determine the patient's acceptance [18]. However, the financial circumstances of some patients do have a role in that, and the impact of dental ill-health on daily living is well recognized; despite this recognition, little interest has been shown in total tooth loss. The problem will be more complicated in those edentulous patients who refuse treatment with artificial dentures. Such patients have double problems, tooth loss and the no replacement by a complete denture.

This study is planned to assess the psychological status of a sample of Iraqi edentulous patients who refuse wearing complete dentures in order to establish a therapeutic approach and to ensure success in treatment.

Materials and methods:

A cross-sectional study was carried out, where 175 totally edentulous Iraqis, 81 refusals of complete denture wearing (study group) were compared with 94 denture wearers with satisfaction (control group). Three different types of questionnaires were used including general information through covering sociodemographic, clinical and descriptive aspects. The sociodemographic questions included age, sex, occupation and education.The clinical questions included one medical question about the general health of the patients, and other 3 items concerning prosthetic-related variables including attitude of patients towards the previous dentures, and personal feelings towards tooth loss and edentulousness. The last question was about the causes of refusal of complete denture claimed by the patients themselves.

The Arabic version of "Patient Denture Satisfaction Questionnaire (PDSQ)" had been used for the selection of the control group. The third instrument was an Arabic version of the Crown-Crisp Experiential Index to assess the psychoneurotic status of both study and control groups.

The questionnaires were tested on a pilot of 10 denture refusers and 10 denture wearers to test the applicability and feasibility, and if any necessary modifications are to be carried out.

Statistical analysis of the findings was done; frequency distribution for selected variables was assessed by chi-square test. Difference in means of continuous variable was assessed by independent samples t-test, while between more than 2 groups was assessed by ANOVA.

In addition, multiple logistic regression model was then used to assess the risk of being a denture user, while adjusting for other variables included in the model.

Results:

Out of a total of 576 copies of the questionnaires, which were distributed to edentulous patients, there were only 175 respondents, 81 refusers who had constituted "the study sample" in comparison with 94 matched wearers constituted the "control sample".

Table (1) revealed that most of control group 91.5% were highly satisfied about the acceptability of denture by other people according to "Patient Denture Satisfaction Questionnaire (PDSQ)". This is because of the personal and social meanings of dentures.

Table (1): Degree of satisfaction of the complete denture users(control group) according to the PDSQ:

Question	1		2		3		Total	
	N	%	N	%	N	%	N	%
Satisfaction with denture	10	10.6	22	23.4	62	66.0	94	100
Satisfaction with the outlook of denture	9	9.6	22	23.4	63	67.0	94	100
Satisfaction with the stability of upper set of denture	8	8.5	21	22.3	65	69.1	94	100
Satisfaction with the stability of lower set of denture	13	13.8	36	38.3	45	47.9	94	100
Satisfaction with the performance of fitted denture in chewing food	10	10.6	40	42.6	44	46.8	94	100
Satisfaction with the performance of fitted denture during talking	4	4.3	18	19.1	72	76.6	94	100
The degree of comfort ness with the upper set of denture	4	4.3	31	33.0	59	62.8	94	100
The degree of comfortness with the lower set of denture	13	13.8	36	38.3	45	47.9	94	100
The acceptability of denture by family, relatives and other people	0	.0	8	8.5	86	91.5	94	100

*Fairly satisfied = 1, moderately satisfied = 2, totally satisfied = 3.

While table (2) shows the mean score of the psychoneurotic profile of the study group in the "CCEI" was 52.6 significantly higher than the control group 46.7.

Table (2): The degree of the study group in "CCEI" compared to control group.

Scores in CCEI (total: 96)	Study	Control	P (t-test)
Minimum	18.00	19.00	
Maximum	79.00	68.00	
Mean	52.60	46.70	0.001
SD	12.60	10.50	
SE	1.40	1.10	
N	81.00	94.00	

According to the items of CCEI when separately considered, phobic anxiety (P<0.001), somatic (P<0.02) and depression (P<0.03) were statistically more significant in the refusal group than wearers table (3).

Table (3): The psychoneurotic profile of the complete denture refusers group(study sample) compared to the control group according to the CCEI.

Scale	Study	Control	P (t-test)
Anxiety (score/16)			
Minimum	1.00	1.00	
Maximum	16.00	16.00	
Mean	9.1	8.3	0.17(NS)
SD	3.9	3.5	
SE	.4	.4	
N	81	94	
Phobic anxiety (score/16)			
Minimum	2.00	.00	
Maximum	14.00	12.00	
Mean	8.7	6.9	<0.001
SD	2.9	2.7	
SE	.3	.3	
Obsess ional symptoms and traits (score/16)			
Minimum	.00	4.00	
Maximum	15.00	15.00	
Mean	9.8	9.2	0.12(NS)
SD	2.9	2.4	
SE	.3	.2	
Somatic (functional psychosomatic complaints) - (score/16)			
Minimum	1.00	.00	
Maximum	15.00	16.00	
Mean	9.5	8.3	0.02
SD	3.3	3.4	
SE	.4	.4	
Depression (score/16)			
Minimum	2.00	1.00	
Maximum	14.00	12.00	
Mean	8.5	7.7	0.03
SD	2.6	2.3	
SE	.3	.2	
Hysterical personality (score/16)			
Minimum	.00	.00	
Maximum	14.00	12.00	
Mean	7.0	6.3	0.11(NS)
SD	3.0	2.1	
SE	.3	.2	

Table (4) revealed no significant difference was noticed in most items of sociodemographic and medical variables on the study and control groups. While the proportion of illiterate among the study group was significantly higher (50.6%) than that in control group (30.9%).

Table (4): Role of the various sociodemographic and medical characteristics of the study group compared to the control group in relation to the complete denture use.

Sociodemographic and medical variables	Study		Control	
	N	%	N	%
Age in years (P χ^2= 0.42$^{(NS)}$)				
<65	42	51.9	43	45.7
65+	39	48.1	51	54.3
Gender (P χ^2= 0.36$^{(NS)}$)				
Female	48	59.3	62	66.0
Male	33	40.7	32	34.0
Educational level (P χ^2= 0.04)				
Illiterate	41	50.6	29	30.9
Primary	20	24.7	26	27.7
Secondary	14	17.3	30	31.9
Higher education	6	7.4	9	9.6
Occupation (P χ^2= 0.99$^{(NS)}$)				
Not working	68	84.0	79	84.0
Working	13	16.0	15	16.0
General health (any systemic disease) (P χ^2= 0.72$^{(NS)}$)				
No	23	28.4	29	30.9
Yes	58	71.6	65	69.1

The results in table (5) also revealed that the proportion of bad attitude of a patient towards previous dental treatment, towards complete denture and towards tooth loss scored significantly higher in study than that for the control group.

Table (5): Role of the various prosthetic characteristics of the study group compared to the control group in relation to the complete denture use.

Prosthetic related variables in order of importance	Study		Control	
	N	%	N	%
Attitude of a patient towards previous dental treatment (P χ^2 <0.001)				
Favorable	47	61.8	85	93.4
Indefinite	11	14.5	3	3.3
Unfavorable	18	23.7	3	3.3
Patient attitude towards complete denture (P χ^2 <0.001)				
Negative	67	82.7	50	53.2
Positive	14	17.3	44	46.8
Personal feelings towards tooth loss and edentulousness (P χ^2<0.001)				
Uncomfortable	48	71.6	30	37.5
Comfortable	19	28.4	50	62.5
Total	80	100	94	100

Table (6) shows that from the patients point of view, it had been reported that the most obvious refusing reasons of complete denture treatment was the financial cause, the others reported factors unacceptability of denture as a foreign body.

Table(6): Reasons for complete dentures refusal as reported by the study group.

Reported reasons for refusing the denture	N	%
Don't need the denture (can live without it)	22	27.2
Unacceptability of denture (as a foreign body)	34	42.0
Unavailability of dentist who can design a good denture	14	17.3
Economical causes	40	49.4
Other reasons	12	14.8
Total	81	

According to the multiple logistic regression model table (7), we can substantiate the neat effect of several explanatory variables together with elements of psychoneurotic profile scoring system on the risk of being a denture user.

We can predict the group of individuals (being user of denture or refuser) with 86.1% accuracy depending on the result of these variables included in the model

Table (7): Multiple logistic regression model with the risk of being a denture user as the dependent (response) variable and several explanatory variables as independent variables.

	Independent explanatory variables	OR	Partial r	*P
►	Favorable attitude of patient towards the previous dental treatment compared to unfavorable	53.9	0.26	<0.001
►	Positive patient's attitude towards complete denture compared to negative	15.8	0.23	<0.001
►	Comfortable personal feelings towards tooth loss and edentulousness compared to uncomfortable	7.0	0.19	<0.001
►	Education		0.15	0.02
	Primary school (compared to illiterate)	1.4		
	Secondary school (compared to illiterate)	8.8		
	Higher education (compared to illiterate)	16.5		
►	Having a chronic disease (compared to those with no such history)	2.1	0.00	0.28 [NS]
►	Age in years	1.5	0.00	0.46 [NS]
►	Male gender (compared to female)	0.9	0.00	0.85 [NS]
►	Psychoneurotic profile scoring system			
►	Obsession profile score	0.7	0.12	0.03
	Phobic anxiety profile score	0.8	0.09	0.06
	Depression profile score	1.1	0.00	0.65 [NS]
	Anxiety profile score	1.1	0.00	0.58 [NS]
	Somatic profile score	0.9	0.00	0.47 [NS]
	Hysteria profile score	1.0	0.00	0.73 [NS]

* Predictive power of the model = 86.1%
* P (model) <0.001

Discussion:

Causes of complete denture refusal in edentulous patients were not previously evaluated in Iraq; this is in part due to insufficient psychological services and partly because of the serious ignorance of such patients by their families and community. Edentulous elderly were described, over a decade ago, as a population with poor dental visits recorded [19].

Others considered edentulousness as a non-fatal disease or as a non-urgent complaint like chronic disorders; this is despite the problem of loss of an integral part of the face that cannot be hidden [20]. So, those patients are in need of a greater understanding of the importance of dentures to finish up with the dilemma of their refusal of treatment for self-esteem [21].

The findings revealed that the more psychoneurotic are the study group, these findings were related to the fact that those patients (refusal) have poor tolerance for stress and show additional symptoms of higher anxiety, fearfulness, irritability and hypersensitivity, rigid behavior with limited insight, inadequate social and interpersonal relationship and dissatisfaction accompanied by unhappiness [22].

Compared with denture wearers, they are more proud of themselves than the patients who refuse to wear the denture with the feeling of inferiority [23].

Patients' attitudes were acquired early in life and are strongly influenced by their cultural background [24]. Such attitude has a significant role in acceptance and satisfaction with complete denture therapy. The communication between the dentist and the patient plays a strong role in the success of treatment other than the mere quality of care. These findings were in agreement with other studies [25-28] who concluded that patient-dentist relationship is the vital variable in such a study.

The mean score of the psychoneurotic profile of the study group according to (CCEI) was in agreement with Bat et al (1971), Moltzar (1996) and disagrees with Berg (1982).

A negative patient's attitude towards dentures was highly significant in the study group compared to the control group. This is in agreement with Straus et al [8] who concluded that wearing dentures was very difficult for a nervous person who had difficulty in adjusting to other problems in their everyday life. Added to that dentures might also symbolize advancing a which a neurotic patient is attempting to deny [13], also their denial personality for any difficult realities and new

Situation in their life as being edentulous and a denture use is one of them [6].

Golebiewska et al [29] suggested that in the elderly a major source of psychological and emotional stresses may be related to failure of individuals to reconcile themselves to the limitation of old age.

From the patient's point of view, we expect a patient never directly expresses his feelings in words [25].

From the patient's point of view, as it had been reported, one of the most important causes for refusal of dentures is the financial status [30-31] so the patient must be made to understand that his mouth must be restored to proper dental health in order to maintain his general health. He will then find a way to meet his dental financial obligation. Another important factor for refusal, as reported by patients, was that the denture represents a foreign body that the

patient may be associating the denture with an unpleasant experience of a member of his family who gags with his denture [17]

Conclusions and suggestions:

It may be concluded that denture refusers had significantly more psychoneurotic traits when compared to satisfied complete denture wearers.

The most prominent psychoneurotic traits in denture refusers were phobic, obsessive and to a lesser extent depression traits.

Iraqi complete denture refusers scored significantly higher in psychoneurosis when compared with denture wearing in the general population. Non-educated individuals scored significantly higher in psychoneurosis in the denture-refusing group compared to denture wearers.

The psychoneurotic profile of the study sample is influenced by other variables such as attitude towards previous dental treatment, attitude towards complete denture and feeling towards edentulousness.

Subjective reasons for refusal as reported by the patients were mainly financial and anticipation of a denture as a foreign body in the mouth.

It is recommended that educational program for the community is important including psychological approaches to dental ... in the dental college currently provision of group therapy based on the philosophy of self-helping group geriatric dental patients and those at the climacteric age need special consideration.

Dentists in general should be made more aware of the importance of doctor-patient relationship when they deal with edentulousness.

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