

# Effect of sociodemographic variables on complete denture satisfaction

Balendra Pratap Singh<sup>1\*</sup>, MDS, Kedar Nath Pradhan<sup>2</sup>, MDS, Arvind Tripathi<sup>3</sup>, MDS, Reema Tua<sup>4</sup>, MD, Shuchi Tripathi<sup>5</sup>, MDS

<sup>1</sup>Department of Prosthodontics, Faculty of Dental Sciences, CSM Medical University, Lucknow, India

<sup>2</sup>Gangtok hospital, Gangtok, Sikkim, <sup>3</sup>Department of prosthodontics, Saraswati dental college, Lucknow, India

<sup>4</sup>Department of social and preventive medicine, Faculty of medicine, CSM Medical University, Lucknow, India

<sup>5</sup>Department of Prosthodontics, CSM Medical University, Lucknow, India

**PURPOSE.** The objective of this study was to evaluate the effect of sociodemographic factors on quality of satisfaction towards denture treatment. **MATERIALS AND METHODS.** One hundred subjects (filling inclusion criteria) who were wearing a denture for at least two months were enrolled and divided into five groups on the basis of sociodemographic variables (age, gender, literacy level, socio-economic and marital status). Questionnaires consisting of 38 questions (positive and negative attitude towards denture satisfaction) related to patients' perception of clinical outcome in different domains such as mastication, appearance, speech, comfort, health, denture care and social status were scored by the subjects. Questions reflecting positive attitude were scored as 2, 1, or 0 (yes, uncertain and no, respectively) and reversely for the negative questions. Statistical analysis was done by using Statistical Package for Social Sciences ( $\alpha = .05$ ). **RESULTS.** Level of denture satisfaction was higher in age subgroup belonging to 45 - 65 years of age in relation to comfort, health and denture care. Female and male showed significant priority for denture treatment because of esthetic and function respectively. Level of satisfaction was statistically significant with literacy level. Upper high income group showed significantly higher level of satisfaction only in case of social status. Married group showed significantly higher satisfaction level only with comfort. **CONCLUSION.** Patients' sociodemographic variables were influential factors on denture satisfaction. [J Adv Prosthodont 2012;4:43-51]

**KEY WORDS:** Dentures; Satisfaction; Compliance; Socio-economic status; Educational status

## INTRODUCTION

Although the prevalence of edentulism is falling in all age groups,<sup>1</sup> the number of older people is still increasing. India, being a developing country and having a huge population, lacks awareness and management about edentulous state.<sup>2,3</sup> Rehabilitating edentulous patients with complete dentures has been the treatment of choice. Study by van Waas<sup>4</sup> showed that statistically insignificant correlation exists between clinical variables and satisfaction in complete denture wearer. It was also found that only features of denture-supporting area assessed by clinician are poor predictors of satisfaction with complete denture wearer.<sup>5</sup> Because edentulism is a chronic disease so functional improvement is more important than cure; that's why outcomes based on patient are most important.<sup>6</sup> This is also supported by other published literature that sensitivi-

ty of patient-based measure are more than functional measured to differentiate between treatments.<sup>7-9</sup> Patient's perception about subjective experience of their denture is also important for dentists to motivate complete denture wearers.

The success of complete dentures is dependent on the multiple factors.<sup>10</sup> Patient perception is important for successful treatment. The author of the present study hypothesized that apart from biological and technical considerations in fabrication of complete dentures<sup>11,12</sup> different socio-demographic variables such as age, gender, literacy level, socio-economic and marital status may affect satisfaction towards complete dentures. To evaluate this, a standardized questionnaire that included questions from domains such as mastication, appearance, speech, comfort, health, denture care and social status was used to determine level of complete denture satisfaction with socio-demographic variables.

Corresponding author: Balendra Pratap Singh

Department of Prosthodontics, Faculty of Dental Sciences, CSM Medical University  
Flat no. 101, new teachers apartment, TG Hostel, chowk, Lucknow, 226003, India  
Tel. 91 09839121151; e-mail, balendra02@yahoo.com

Received January 14, 2012 / Last Revision January 31, 2012 / Accepted February 10, 2012

© 2012 The Korean Academy of Prosthodontics

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## MATERIALS AND METHODS

All the recruitment for the study was done from Prosthodontics clinic of Medical University, Lucknow. The subjects who fulfilled the inclusion criteria were enrolled in this study. The inclusion criteria were; without systemic diseases (on the basis of medical history and physician consultation) which affected oral functions, first time denture wearer, period of edentulousness between six months to one year and class 1 completely edentulous patient according to classification of completely edentulous state by American College of Prosthodontists.<sup>13</sup> Patients were excluded if they belonged to class 2, 3 or 4 types, single arch complete denture and TMJ disorder. Approval for two study was taken from ethical committee of institution. Subjects had the opportunity to withdraw at anytime and were voluntarily involved in this study with informed consent form signed. 45 - 79 years of subjects were included and asked for their socio-demographic variables such as age, gender, literacy level, socio-economic and marital status. The socio-economic status was divided into upper high, upper middle and poor class based on the monthly income of the subjects.<sup>14</sup>

In this study, a total number of 136 subjects were enrolled that had fulfilled the inclusion criteria and had received complete dentures. All the included subjects were divided into five groups on the basis of age, gender, literacy (illiterate subjects were questioned orally by a lay person and ticked choice on behalf of subjects), socio-economic and marital status (Table 1).

Complete Denture was fabricated by post graduate student with four years clinical experience under guidance of the faculty member of the department using standard clinical and laboratory procedures. Their quality was assessed on the basis of quantifying method for denture quality by Sato *et al.*<sup>15</sup> as per which only good quality dentures were selected for the study. Before starting denture therapy, treatment eagerness (own will or advised by others) and priority for denture treatment esthetics, phonetics or function were questioned. At the denture insertion appointment, printed and verbal post insertion instructions were given to each patient with particular emphasis to report to the Prosthodontic clinic after two months for follow up. Those patients who had been wearing their denture regularly (everyday for at least 8 hours) were included in the study. A standardized questionnaire of 38 questions was given. Particular questions were related to either positive or negative attitudes. This questionnaire had 20 and 18 number of positive and negative attitudes questions. The questionnaire had domains of mastication, appearance, speech, comfort, health, denture care and social status. Questions (1 - 38) were recorded as yes, no or uncertain. All the items of positive nature were scored as 2, 1, or 0 (yes, uncertain and no, respectively) and reversely for the negative items.

**Table 1.** Groups and Subgroup of recruited subjects

Group		Sub-group	
A	Age	1	45 - 65 years
		2	Above 65 years
B	Gender	1	Male
		2	Female
C	Education level	1	Illiterate
		2	Primary level
		3	Secondary level
		4	Graduate level
		5	Post-graduate level
D	Socio-economic status	1	Socio-economic status
		2	Upper-middle
		3	Poor
E	Marital status	1	Married
		2	Widow/widower

Statistical analysis was done by using Statistical Package for Social Sciences (version 15.0) (SPSS Inc., Chicago, IL, USA). Significance of percentage error of two groups was tested by Student "t" test and for level of significance "P" value was used. "P" value of less than .05 was considered statistically significant.

## RESULTS

This study was conducted on 100 subjects who had received their complete dentures and were administered with questionnaires containing questions related to quality of satisfaction towards complete dentures. After completion of the questionnaires the scoring was done as per groups on the basis of different domains.

Table 2 showed that esthetics and function were significant priority for denture treatment for subgroup 1 and subgroup 2, respectively. Level of satisfaction was higher in subgroup 2 subjects regarding their mastication, appearance, comfort, health, denture care and social status except speech in which subgroup 1 subjects showed more satisfaction (Table 3).

Literate sub-group of subjects were self motivated and more aware for motivated and more aware for esthetic and function in comparison to illiterate sub group (Table 6). Level of satisfaction in mastication, appearance, speech, comfort, health, denture care and social status were found statistically significant with literacy level. Majority of illiterate patient showed partial satisfaction or dissatisfaction (Table 7).

Poor income subjects were advised by others to get denture treatment and their priority was eating properly with complete denture (Table 8). Level of satisfaction was higher in upper high income group regarding appearance, speech, comfort, denture care and social status but significantly only in case of social

**Table 2.** Age-wise distribution of patients regarding their denture compliance

		Group 1		Group 2		
		45 - 65 years (n = 50)		Above 65 years (n = 50)		
		Number	%	Number	%	
Treatment eagerness	Own will	41	82	33	66	$X^2 = 3.33, P=.06$
	Advised by others	9	18	17	34	
Priority	Good looks	38	76	14	28	$X^2 = 23.08, P<.001$
	Eating	12	24	36	72	
	Speech	0	0	0	0	

**Table 3.** Age-wise distribution of patients regarding quality of satisfaction towards complete denture

Satisfaction		Sub-group 1		Sub-group 2		
		45 - 65 years (n = 50)		Above 65 years (n = 50)		
		Number	%	Number	%	
Mastication	a. Satisfactory	24	48	25	50	$X^2 = 0.22, P=.89$
	b. Partially Satisfactory	14	28	13	26	
	c. Not Satisfactory	11	22	13	26	
Appearance	a. Satisfactory	3	26	17	34	$X^2 = 1.53, P=.46$
	b. Partially Satisfactory	10	20	6	12	
	c. Not Satisfactory	27	54	27	54	
Speech	a. Satisfactory	18	36	16	32	$X^2 = 0.15, P=.94$
	b. Partially Satisfactory	10	20	12	24	
	c. Not Satisfactory	22	44	32	44	
Comfort	a. Satisfactory	18	36	35	70	$X^2 = 13.47, P<.001$
	b. Partially Satisfactory	14	28	10	20	
	c. Not Satisfactory	18	36	5	10	
Health	a. Satisfactory	12	24	23	46	$X^2 = 5.37, P=.07$
	b. Partially Satisfactory	13	26	10	20	
	c. Not Satisfactory	25	50	17	34	
Denture care	a. Satisfactory	36	72	42	84	$X^2 = 2.10, P=.35$
	b. Partially Satisfactory	5	10	3	6	
	c. Not Satisfactory	9	18	5	10	
Social status	a. Satisfactory	23	46	25	50	$X^2 = 0.22, P=.90$
	b. Partially Satisfactory	16	32	14	28	
	c. Not Satisfactory	11	22	11	22	

**Table 4.** Gender-wise distribution of patients regarding their denture compliance

		Male (n = 50)		Female (n = 50)		
		Number	%	Number	%	
Treatment eagerness	Own will	61	76.3	16	80	$X^2 = 0.13, P=.72$
	Advised by others	19	23.7	4	20	
Priority	Good looks	6	7.5	10	50	$X^2 = 21.50, P<.001$
	Eating	74	92.5	10	50	
	Speech	0	0	0	0	

status. Upper middle income group was more satisfied with mastication and significantly satisfied with health (Table 9).

## DISCUSSION

Limited number of documented literature was present on complete denture satisfaction on Indian population. Therefore, this study was planned to assess the level of satisfaction of the subjects wearing complete denture prosthesis reporting to the Prosthodontic Department of CSM Medical University,

Lucknow. This study would help subjects to show their satisfaction with the prostheses and it may help prosthodontists to pay increased attention to the factors of patient concern.

This study was carried out in one hundred edentulous subjects on the basis of questionnaires pertaining to level of satisfaction with complete dentures two months after dentures insertion. Quality of satisfaction questionnaires includes the domains of mastication, appearance, speech, comfort, health, denture care and social status of the subjects.

Regarding eagerness of subjects towards denture treatment

**Table 5.** Gender-wise distribution of patients regarding quality of satisfaction towards complete denture

Satisfaction		Male (n = 80)		Female (n = 20)		
		Number	%	Number	%	
Mastication	a. Satisfactory	40	50	9	45	$X^2 = 0.24, P=.89$
	b. Partially Satisfactory	20	25	5	25	
	c. Not Satisfactory	20	25	6	30	
Appearance	a. Satisfactory	24	30	5	25	$X^2 = 1.39, P=.50$
	b. Partially Satisfactory	13	16.25	3	15	
	c. Not Satisfactory	43	53.75	12	60	
Speech	a. Satisfactory	28	35	4	20	$X^2 = 1.94, P=.48$
	b. Partially Satisfactory	16	20	6	30	
	c. Not Satisfactory	36	45	10	50	
Comfort	a. Satisfactory	43	53.75	10	50	$X^2 = 0.74, P=.60$
	b. Partially Satisfactory	17	21.25	6	30	
	c. Not Satisfactory	20	25.00	4	20	
Health	a. Satisfactory	34	42.50	3	15	$X^2 = 5.19, P=.07$
	b. Partially Satisfactory	16	20.00	6	30	
	c. Not Satisfactory	30	37.50	11	55	
Denture care	a. Satisfactory	55	69.30	15	75	$X^2 = 1.39, P=.50$
	b. Partially Satisfactory	10	11.95	3	15	
	c. Not Satisfactory	15	18.75	2	10	
Social status	a. Satisfactory	40	50	9	45	$X^2 = 0.84, P=.66$
	b. Partially Satisfactory	20	25	7	35	
	c. Not Satisfactory	20	25	4	20	

**Table 6.** Educational status-wise distribution of patients regarding their denture compliance

		Illiterate (I)		Primary level (PL)		Secondary level (SL)		Graduate level (GL)		Post-graduate level (PGL)		
		(n = 24)		(n = 11)		(n = 34)		(n = 17)		(n = 14)		
		Number	%	Number	%	Number	%	Number	%	Number	%	
Treatment eagerness	Own will	13	54	7	64	28	82	10	59	12	86	$X^2 = 8.21, P<.08$
	Advised by others	11	46	4	36	6	18	7	41	2	14	
Priority	Good looks	3	12.5	1	9.1	5	15	3	18	-	-	$X^2 = 2.75, P<.60$
	Eating	21	87.5	10	90.9	29	85	14	82	14	100	
	Speech	0	0	0	0	0	0	0	0	0	0	

**Table 7.** Educational status-wise distribution of patients regarding quality of satisfaction towards complete denture

Satisfaction	Illiterate (I)		Primary level (PL)		Secondary level (SL)		Graduate level (GL)		Post-graduate level (PGL)		Total no. of patients: L-24, PL-11, SL-34, GL-17, PGL-14
	Number	%	Number	%	Number	%	Number	%	Number	%	
<b>Mastication</b>											
a. Satisfactory	8	33.3	7	63.64	14	41.2	9	52.94	11	78.6	$X^2 = 20.12,$ $P < .01$
b. Partially Satisfactory	4	16.7	2	18.2	14	41.2	6	35.3	2	14.3	
c. Not Satisfactory	12	50	2	18.2	6	17.65	2	11.76	1	7.14	
<b>Appearance</b>											
a. Satisfactory	2	8.33	4	36.36	8	23.53	6	35.3	10	71.43	$X^2 = 36.52,$ $P < .001$
b. Partially Satisfactory	2	8.33	1	9.09	4	11.76	8	47.1	1	7.14	
c. Not Satisfactory	20	83.3	6	54.55	22	64.71	3	17.65	3	21.43	
<b>Speech</b>											
a. Satisfactory	9	37.5	2	18.2	8	23.53	7	41.2	8	57	$X^2 = 8.06,$ $P = .43$
b. Partially Satisfactory	4	16.7	3	27.3	10	29.41	4	23.53	1	7.14	
c. Not Satisfactory	11	45.83	6	54.55	16	47.1	6	35.3	5	35.71	
<b>Comfort</b>											
a. Satisfactory	9	37.5	6	54.55	15	11	11	64.7	11	78.6	$X^2 = 15.07,$ $P < .05$
b. Partially Satisfactory	4	16.7	2	18.2	12	3	3	17.65	3	21.43	
c. Not Satisfactory	11	45.83	3	27.3	7	3	3	17.65	-	-	
<b>Health</b>											
a. Satisfactory	3	12.5	4	36.4	15	49.12	5	29.4	9	64.3	$X^2 = 15.21,$ $P = .05$
b. Partially Satisfactory	7	29.2	2	18.2	7	20.6	7	41.2	3	21.43	
c. Not Satisfactory	14	58.3	5	45.5	12	35.3	5	29.4	2	14.13	
<b>Denture care</b>											
a. Satisfactory	11	45.85	8	72.73	31	91.2	16	94.12	9	64.3	$X^2 = 25.11,$ $P < .001$
b. Partially Satisfactory	3	12.5	1	9.1	2	5.9	1	5.9	3	21.43	
c. Not Satisfactory	10	66.7	2	18.21	21	61.8	10	-	2	14.3	
<b>Social status</b>											
a. Satisfactory	7	29.2	5	45.5	16	27.1	10	58.18	10	71.43	$X^2 = 9.23,$ $P = .31$
b. Partially Satisfactory	8	33.3	3	27.3	12	35.3	4	23.53	3	21.43	
c. Not Satisfactory	9	37.5	3	27.3	6	17.65	3	17.65	1	7.14	

**Table 8.** Socio-economic status-wise distribution of patients regarding their denture compliance

		Upper high (n = 24)		Upper middle (n = 26)		Poor (n = 50)		
		Number	%	Number	%	Number	%	
Treatment eagerness	Own will	21	87.5	21	80.8	35	70	$X^2 = 3.09, P = .21$
	Advised by others	3	12.5	5	19.2	15	30	
Priority	Good looks	2	8.4	4	15.4	1	2	$X^2 = 3.85, P < .15$
	Eating	2	91.6	22	87.62	49	98	
	Speech	0	0	0	0	0	0	

in age group category, it was found that maximum number of subgroup 1 subjects was self-motivated whereas subgroup 2 subjects were motivated by others for the treatment. In this finding, it is obvious that the subgroup 1 subjects at this age are socially active, professionally engaged and most of them are economically sound, for which the treatment is mandatory whereas in subgroup 2, age compromised, social and economic dependence and in some cases medically compromised con-

ditions like diabetes mellitus, hypertension, retinopathy etc. limited for seeking denture treatment. In priority for denture treatment, subgroup 1 subjects were more conscious about their esthetics and subgroup 2 subjects were concerned towards functions. Subgroup 1 subjects consisted of potentially active age group which require social and professional acceptance in which esthetic concern is of utmost important. On the other hand, the subgroup 2 conscious of retired persons, age-wise and social-

**Table 9.** Socio-economic status-wise distribution of patients regarding quality of satisfaction towards complete denture

Satisfaction		Upper high		Upper middle		Poor		Total no. of patients Upper high-24, Upper middle-26, Poor-50
		Number	%	Number	%	Number	%	
Mastication	a. Satisfactory	12	50.0	15	57.7	22	44.0	$X^2 = 7.12, P=.13$
	b. Partially Satisfactory	10	41.7	5	19.2	12	24.0	
	c. Not Satisfactory	2	8.3	6	23.1	16	32.0	
Appearance	a. Satisfactory	13	54.2	9	34.6	8	16.0	$X^2 = 12.26, P=.016$
	b. Partially Satisfactory	2	8.3	3	11.5	11	22.0	
	c. Not Satisfactory	9	37.5	14	53.8	31	62.0	
Speech	a. Satisfactory	11	45.8	9	34.6	13	26.0	$X^2 = 4.06, P=.40$
	b. Partially Satisfactory	3	12.5	7	26.9	11	22.0	
	c. Not Satisfactory	10	47.7	10	38.5	26	52.0	
Comfort	a. Satisfactory	18	75.0	14	53.8	1	42.0	$X^2 = 7.76, P=.101$
	b. Partially Satisfactory	4	16.7	5	19.2	14	28.0	
	c. Not Satisfactory	2	8.3	7	26.9	15	30.0	
Health	a. Satisfactory	12	50.0	14	53.8	11	22.0	$X^2 = 20.47, P=.001$
	b. Partially Satisfactory	7	29.2	8	30.7	8	16.0	
	c. Not Satisfactory	5	20.8	4	15.3	31	62.0	
Denture care	a. Satisfactory	24	100	18	69.2	35	70.0	$X^2 = 9.49, P=.05$
	b. Partially Satisfactory	-	-	3	11.5	5	10.0	
	c. Not Satisfactory	-	-	5	19.2	10	20.0	
Social status	a. Satisfactory	16	66.7	12	46.2	22	44.0	$X^2 = 11.71, P=.02$
	b. Partially Satisfactory	8	33.3	9	34.6	11	22.0	
	c. Not Satisfactory	-	-	5	19.2	17	34.0	

**Table 10.** Marital status-wise distribution of patients regarding their denture compliance

		Married (n = 82)		Widow/widower (n = 18)		
		Number	%	Number	%	
Treatment eagerness	Own will	69	84.15	15	83.3	$X^2 = 0.07, P=.78$
	Advised by others	13	15.85	3	16.7	
Priority	Good looks	15	18.3	2	11.11	$X^2 = 0.54, P=.46$
	Eating	67	81.7	16	88.89	
	Speech	0	0	0	0	

ly compromised for which functional aspect is more concerned.

While considering the quality of satisfaction towards complete denture therapy, subgroup 2 subjects were more satisfied with their dentures regarding all domains except speech where the subgroup 1 subjects were more satisfied. This finding may be due to the fact that the ageing population has overwhelming desire for satisfaction at all level of functions in their daily life which have been fulfilled by their dentures. Other reasons might be due to older subjects do not prefer to go to dentist regarding poorly fitting denture and satisfied with their poorly fitting dentures.<sup>16</sup> It was also supported by the

fact that stereognostic ability is poor in older subjects than younger ones. It was found that presence of prosthesis improve stereognostic ability so subjects having poorer stereognostic ability showed more satisfaction than those having better stereognostic ability.<sup>17</sup>

Regarding eagerness towards denture treatment in gender category, female were self-motivated whereas the male were advised by others for the same (Table 4). This finding clearly showed that females are more aware and concerned about their denture treatment to restore their lost esthetic, social wellbeing and function. There were equal number of opinions of female towards function and esthetics for priority of making dentures where-

**Table 11.** Marital status-wise distribution of patients regarding quality of satisfaction towards complete denture

Satisfaction		Married (n = 82)		Widow/ widower (n = 18)		
		Number	%	Number	%	
Mastication	a. Satisfactory	49	56.76	10	55.6	$X^2 = 0.16, P=.92$
	b. Partially Satisfactory	22	26.83	5	27.8	
	c. Not Satisfactory	11	13.41	3	16.7	
Appearance	a. Satisfactory	25	30.5	5	22.8	$X^2 = 2.18, P=.34$
	b. Partially Satisfactory	15	18.3	1	5.6	
	c. Not Satisfactory	42	51.22	12	66.7	
Speech	a. Satisfactory	46	56.09	8	44.44	$X^2 = 0.99, P=.60$
	b. Partially Satisfactory	17	20.73	4	22.22	
	c. Not Satisfactory	19	23.17	6	33.33	
Comfort	a. Satisfactory	52	63.41	6	61.11	$X^2 = 9.19, P=.01$
	b. Partially Satisfactory	23	28.05	2	11.11	
	c. Not Satisfactory	7	8.54	5	27.8	
Health	a. Satisfactory	48	58.54	8	44.44	$X^2 = 1.56, P=.46$
	b. Partially Satisfactory	17	20.73	6	33.33	
	c. Not Satisfactory	17	20.73	4	22.22	
Denture care	a. Satisfactory	65	79.3	13	72.22	$X^2 = 0.92, P=.63$
	b. Partially Satisfactory	6	7.32	1	5.6	
	c. Not Satisfactory	11	13.41	4	22.22	
Social status	a. Satisfactory	41	50	8	44.44	$X^2 = 0.19, P=.91$
	b. Partially Satisfactory	24	29.3	6	33.33	
	c. Not Satisfactory	17	20.73	4	22.22	

as the male were more concerned for the function. This showed that unlike males females were equally conscious about their esthetic as well as function after denture treatment.<sup>18</sup>

While considering the genders in this study, the majority of the denture wearer was male. It is because most of the Indian females are housewives. They have limited social interaction and the male/female ratio was also higher in the study population.<sup>19</sup> The quality of satisfaction in this study have been found that male were more satisfied than female in mastication, appearance, speech and health (Table 5). There was equal satisfaction level in comfort and social status of both the groups. In denture care, female were found more satisfied than male. It may appear because male patients are more complied towards denture treatment and satisfaction than their female counterparts. Taylor and Doku<sup>20</sup> surveyed 29 male and 30 female complete denture patients ranging from 52 - 92 years of age and found that male patients were more satisfied with dentures than female, which is similar to the present finding. Awad and Feine<sup>21</sup> and Baer *et al.*<sup>22</sup> also documented that satisfaction is also depend upon gender. The eagerness of treatment of post-graduate/professional level of literate group of subjects was found to be self-motivated followed by others literate groups, whereas the illiterate group of subjects has to be motivated by others for the denture treatment (Table 6). This finding revealed that with the increase in literacy rate there is increase in

treatment motivations, which may be related to awareness towards denture treatment. The need for denture treatment for esthetics as well as function was found higher with increased literacy level, whereas illiterate group was mainly concerned about their functions. This showed that with the increase in literacy rate there is awareness for esthetics as well as function towards denture treatment.

While studying quality of satisfaction of denture treatment of illiterate group of patients with the different levels of literate group, the level of satisfaction was found different in different literacy level. The overall level of satisfaction was found significantly higher in maximum literate level. Therefore, the level of satisfaction is higher with the increase in literacy rate. This finding revealed that literate subjects may easily understand the instruction and limitation of the artificial replacement of teeth.<sup>23</sup> With the increase in literacy rate there is increase in treatment motivation, which may be related to awareness towards denture treatment.

While studying the compliance of subjects, towards denture in different socio-economic status regarding motivation, the upper high income group subjects were self-motivated, whereas the poor income group of subjects was motivated by others for treatment (Table 8). This finding revealed that the denture treatment is directly related to the income status of subjects. Regarding priority for denture treatment, maximum number

of poor income group subjects made their denture for function followed by upper high income group subjects were found maximum in esthetics as well as function. These findings showed that poor income group subjects are more concerned about function for their denture treatment, whereas the upper high and upper middle income group subjects were concerned about both esthetics and function.

The satisfaction level towards denture treatment in different economic status level revealed that in appearance and health, the upper and middle income group patients were found significantly higher in satisfaction than lower income group (Table 9) whereas in mastication, speech comfort, denture care and social status, satisfaction levels were increased with increase in socio-economic status. This finding revealed that the levels of satisfaction is increased with increase in socio-economic status, which may be due to either better awareness or better income status so that they can fulfill their desires.<sup>24</sup>

While considering the marital status of subjects regarding compliance towards treatment motivation, the present study has shown that there were no significant difference in married and widow/widowers. Both married and widow/widower were found equally self-motivated and also have been motivated equally by others for denture treatment (Table 10). This similarity may be due to smaller sample size in widow/widower group, which may require further research on a larger sample size in female. While considering the priority for denture treatment, the concern for esthetics was found slightly higher in married and the concern for the function was found higher in widow/widower group. This finding revealed that the widow/widower are least concerned about their esthetics rather they want to restore the function due to various psychological problems whereas the married groups were concerned about both esthetics and function, as they may have been socially and professionally engaged.<sup>25</sup>

While considering the satisfaction levels of different marital status group of patients towards their complete denture, it is observed that mostly the married group of patients was more satisfied in all levels of satisfaction, whereas the widow/widower group was either partially or dissatisfied (Table 11). This variation in marital status regarding satisfaction level reveals that the widow/widower group of patients was psychologically depressed in all satisfaction levels.

In this study, few limitations are present. Few subjects have complained to their dentist during the follow-up visit, thus introducing bias. This study have small sample size and short follow-up period. Further studies need to target more and diverse population.

## CONCLUSION

Socio-demographic characteristics such as age, gender, socio-economic, educational and marital status were associ-

ated with denture satisfaction variables, but not significant with every variable. Although these variables may represent important co-factors in the patient's acceptance of dental prosthesis, they may affect the way a patient perceives dental prosthesis outcomes. Aged over 65 years, male, higher income level, higher literacy and married status are significantly associated with denture satisfaction with many but not all domains.

## REFERENCES

1. Steele JG, Treasure E, Pitts NB, Morris J, Bradnock G. Total tooth loss in the United Kingdom in 1998 and implications for the future. *Br Dent J* 2000;189:598-603.
2. Shigli K, Hebbal M, Angadi GS. Attitudes towards replacement of teeth among patients at the Institute of Dental Sciences, Belgaum, India. *J Dent Educ* 2007;71:1467-75.
3. Shigli K, Angadi GS, Hebbal M. Knowledge of prosthodontic treatment among denture-wearers and non-denture-wearers attending a dental institute in India: a survey report. *Gerodontology* 2007;24:211-6.
4. van Waas MA. The influence of clinical variables on patients' satisfaction with complete dentures. *J Prosthet Dent* 1990;63:307-10.
5. Heydecke G, Locker D, Awad MA, Lund JP, Feine JS. Oral and general health-related quality of life with conventional and implant dentures. *Community Dent Oral Epidemiol* 2003;31:161-8.
6. Silverman WA. Doing more good than harm. *Ann N Y Acad Sci* 1993;703:5-11.
7. Feine JS, de Grandmont P, Boudrias P, Brien N, LaMarche C, Taché R, Lund JP. Within-subject comparisons of implant-supported mandibular prostheses: choice of prosthesis. *J Dent Res* 1994;73:1105-11.
8. Feine JS, Maskawi K, de Grandmont P, Donohue WB, Tanguay R, Lund JP. Within-subject comparisons of implant-supported mandibular prostheses: evaluation of masticatory function. *J Dent Res* 1994;73:1646-56.
9. Awad MA, Lund JP, Shapiro SH, Locker D, Klemetti E, Chehade A, Savard A, Feine JS. Oral health status and treatment satisfaction with mandibular implant overdentures and conventional dentures: a randomized clinical trial in a senior population. *Int J Prosthodont* 2003;16:390-6.
10. van Waas MA. Determinants of dissatisfaction with dentures: a multiple regression analysis. *J Prosthet Dent* 1990;64:569-72.
11. Vervoorn JM, Duinkerke AS, Luteijn F, van de Poel AC. Assessment of denture satisfaction. *Community Dent Oral Epidemiol* 1988;16:364-7.
12. Ntala PC, Niarchou AP, Polyzois GL, Frangou MJ. Screening of edentulous patients in a dental school population using the prosthodontic diagnostic index. *Gerodontology* 2010;27:114-20.
13. Mazurat RD, Mazurat NM. Communicating complexity: Using a diagnostic classification system for edentulous patients. *J Can Dent Assoc* 2003;69:511-4.
14. Agarwal A. Social classification: the need to update in the present scenario. *Indian J Community Med* 2008;33:50-1.
15. Sato Y, Tsuga K, Akagawa Y, Tenma H. A method for quantifying complete denture quality. *J Prosthet Dent* 1998;80:52-7.
16. Müller F, Wahl G, Fuhr K. Age-related satisfaction with complete dentures, desire for improvement and attitudes to implant treatment. *Gerodontology* 1994;11:7-12.
17. Mantecchini G, Bassi F, Pera P, Preti G. Oral stereognosis in edentulous subjects rehabilitated with complete removable dentures. *J Oral Rehabil* 1998;25:185-9.
18. Baran I, Ergün G, Semiz M. Socio-demographic and economic factors affecting the acceptance of removable dentures. *Eur*



- J Dent 2007;1:104-10.
19. Central Statistical Organisation. "Women and men in India 2004", ministry of Statistics and Programme Implementation, CSO, Government of India, New Delhi, 2005.
  20. Taylor RG, Doku HC. Dental survey of healthy older persons. J Am Dent Assoc 1963;67:63-70.
  21. Awad MA, Feine JS. Measuring patient satisfaction with mandibular prostheses. Community Dent Oral Epidemiol 1998; 26:400-5.
  22. Baer ML, Elias SA, Reynolds MA. The use of psychological measures in predicting patient satisfaction with complete dentures. Int J Prosthodont 1992;5:221-6.
  23. Celebić A, Knezović-Zlatarić D, Papić M, Carek V, Baucić I, Stipetić J. Factors related to patient satisfaction with complete denture therapy. J Gerontol A Biol Sci Med Sci 2003;58:M948-53.
  24. Berg E, Johnsen TB, Ingebretsen R. Social variables and patient acceptance of complete dentures. A study of patients attending a dental school. Acta Odontol Scand 1985;43:199-203.
  25. Diehl RL, Foerster U, Sposetti VJ, Dolan TA. Factors associated with successful denture therapy. J Prosthodont 1996;5:84-90.