

Complete Denture Acceptance Among Newly Rehabilitated Elderly Population In Retirement (Old Age) Homes In Vadodara, Gujarat, India

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Abstract: Background: Elders in retirement (old age) homes are mainly those who have been abandoned by their family and have one or more physical or mental disabilities. It is a major challenge for the dental professional to plan oral health strategy for this group of patients. Methodology: This cross-sectional study was conducted using a survey proforma. Information regarding their experience with the new denture, 1 month, 3 months and 6 months after denture insertion was gathered. Statistical analysis of the data was done using the Chi-square test with $P < 0.05$ considered significant. Results: One hundred and eighty-three residents out of a total of 400 residents in 3 retirement (old age) homes were denture wearers. Among them, 101 (55.2%) were females and 82 (44.8%) were males. Dental prosthesis whether worn regularly, discomfort, retention, cleansing of denture during a period of 1 month, 3 months and 6 months was found to be significant satisfaction with the prosthesis, denture adhesives used, food accumulation during a period of 1 month, 3 months and 6 months was found to be non significant. Conclusion: The emotional characteristics of the patient must be taken into consideration during the entire procedure. We must understand that the success and failure of the prosthesis depends mainly on the patient's confidence in the dentist rather than the quality of the prosthesis. [Malik S MNJIRM 2015; 6(5):58-61]

Key Words: Complete denture, denture acceptance, discomfort, retirement (old age) homes.

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Introduction: Oral health is of paramount importance for the general health of an individual. Poor oral health and loss of teeth adversely affects the dietary intake and nutritional status and thereby compromises the general health. Tooth loss often substantially reduces the quality of life.¹ The elders in retirement (old age) homes are mainly those who have been abandoned by their family and have one or more physical or mental disabilities, such subjects experience anxiety, depression and loss of self-esteem. Their nutrition, diet, sleep, psychological status and social interaction are all affected. It is a major challenge for the dental professionals to plan oral health programme or approach for this group of patients.

The aim of this study was to examine and determine intra oral complaints of subjects aged 50 years and above, living in retirement (old age) homes in Vadodara who were rehabilitated recently with complete denture prosthesis and their satisfaction with their complete dentures. Very few studies have been conducted concerning the rehabilitation and frequency of problems and discomfort in denture wearers, therefore an effort was made to gather information in order to

formulate, monitor and evaluate oral health services.

Material and Methods: This cross-sectional study was conducted to determine the acceptance of new dental prosthesis (complete denture) among the institutionalized elderly residing as inmates of 3 retirement (old age) homes in Vadodara City, Gujarat State, India.

The investigator visited these retirement homes and met the concerned authorities.

The aim of the study was explained, confidentiality of the participants was assured. Subjects were informed reasons for the investigation and their consent was obtained.

A predesigned and structured proforma was used for data collection. It consists of two parts, the first part included recording data on sociodemographic factors viz; age, gender and period of stay in the old age home and in second part, information regarding their experience with the new complete denture prosthesis, 1 month, 3 months and 6 months after denture fit in. Subjects were asked for their experience with the new complete denture prosthesis. During each visit, the subjects were

taught how to use the denture, motivated and educated them about the denture maintenance and cleaning of the oral cavity.

Results: One hundred and eighty-three residents out of a total of 400 residents in 3 retirement homes were denture wearers. Among them 82 (44.8%) were males and 101 (55.2%) were females. Minimum age was 50 and maximum age was 80 so the mean age is 62.6 ± 6.88 years.

On examination of the alveolar ridge, 41 (22.5%) had resorbed ridge and 142 (77.5%) had adequate ridge. On examination of the denture bearing area, (101) 55.2% had healthy denture bearing area and (82) 44.8% had inflamed denture bearing area.

When period of stay of inmates was checked, 23 (12.6%) stayed from 0 to 3 years, 57 (31.1%) stayed from 3 to 6 years, 62 (33.9%) stayed from 6 to 12 years and 41 (22.4%) stayed for more than 12 years. Distribution of subjects according to their age group and gender is given in Table 1. Distribution of subjects according to experience with new dentures after 1 month, 3 months and 6 months is given in Table 2.

Dental prosthesis whether regularly worn during a period of 1 month, 3 months and 6 months was found to be significant. Gradual improvement was seen over a period of 6 months.

Satisfaction with the prosthesis during a period of 1 month, 3 months and 6 months was found to be nonsignificant. Satisfaction level was the same in the first 3 months. In the 6th month, there was progress in the satisfaction level.

Denture adhesives used by subjects during a period of 1 month, 3 months and 6 months was found to be nonsignificant. In the 6th month, there was a decline in the use of denture adhesives.

Discomfort during a period of 1 month, 3 months and 6 months was found to be significant. There was a gradual decline seen over a period of 6 months.

Retention during period of 1 month, 3 months and 6 months was found to be significant. In the 2nd month, patients satisfied with retention declined,

but in the 6th month there was a good improvement.

Food accumulation during period of 1 month, 3 months and 6 months was found to be nonsignificant. There was a gradual decline seen over a period of 6 months.

Cleansing of denture during a period of 1 month, 3 months and 6 months was found to be significant. There was a gradual increase seen over a period of 6 months.

Table 1: Distribution of study subject according to their age group and gender

Age group	Gender (%)		Total (%)
	Male	Female	
50-55	7 (23.5)	13 (76.4)	20(100.00)
56-60	24 (46.1)	27 (53.9)	51 (100.00)
61-65	21 (32.1)	36 (67.9)	57 (100.00)
66-70	11 (46.6)	12 (53.4)	23 (100.00)
71- 75	14 (55.5)	9 (44.5)	23 (100.00)
76-80	5 (42.8)	4 (57.2)	9 (100.00)
TOTAL	82(39.3)	102(60.7)	184(100.00)

Discussion: There are several factors beyond the dentist's control that affect a patient's ability to achieve a successful denture outcome. Numerous factors associated with aging, that is, xerostomia, tissue fragility, muscle weakness, osteoporosis, arthritis and depression have been reported as possible causes for denture failure. Experience with a denture usage is another determinant of patients' acceptance of their new dentures.^{2,3}

It has been suggested the patient's personality and his or her relationship with the dentist play a substantial role in overall success and psychological attributes are as important for success as a patient's anatomical features as well as the dentist's skill in providing complete denture therapy.⁴

Table 2: Distribution of subjects according to experience with new dentures after 1 - month, 3 months and 6 months.

	Period (%)			Total (%)	Significance
	1 month	3 months	6 months		
Wear					
Yes	145(7)	158(86)	171(93)	474(86)	0.0

	9.2)	3)	4)	.3)	01
No	38(20.8)	25(13.7)	12(6.6)	75(13.7)	
Total	183(100)	183(100)	183(100)	549(100)	
Denture Cleansing					
Yes	86(47.0)	171(93.4)	174(95.1)	474(86.3)	0.001
No	97(53.0)	12(6.6)	9(4.9)	118(21.5)	
Total	183(100)	183(100)	183(100)	549(100)	
Satisfaction					
Yes	159(86.9)	159(86.9)	167(91.3)	485(88.3)	0.322
No	24(13.1)	24(13.1)	16(8.7)	64(11.7)	
Total	183(100)	183(100)	183(100)	549(100)	
Food accumulation					
Yes	95(52.2)	86(47.0)	84(45.9)	265(48.4)	0.438
No	87(47.8)	97(53.0)	99(54.9)	283(51.6)	
Total	183(100)	183(100)	183(100)	549(100)	
Retention					
Yes	42(23.0)	26(14.2)	85(46.4)	153(27.9)	0.001
No	141(77.0)	157(85.8)	98(53.6)	396(72.1)	
Total	183(100)	183(100)	183(100)	549(100)	
Denture adhesion					
Yes	132(72.1)	132(72.1)	117(63.9)	381(69.4)	0.145
No	51(27.9)	51(27.9)	66(36.1)	168(30.6)	
Total	183(100)	183(100)	183(100)	549(100)	
Discomfort					
Yes	58(31.7)	31(16.9)	15(8.2)	104(18.9)	0.001
No	125(68.3)	152(83.1)	168(91.8)	445(81.1)	
Total	183(100)	183(100)	183(100)	549(100)	

In this study, majority of the subjects had adequate alveolar ridge and as time progressed the subjects gave better rating to the retention and comfort of wearing the denture, which was in accordance with the study by Magnusson⁵ who found significant correlations between denture satisfaction and qualities of the residual alveolar ridge in a 5 years follow-up study. But the study by Asjaet *al*⁶ showed that subjects with a better quality mandibular denture bearing area gave lower rating to the retention and comfort of wearing the denture.

By the 6th month, 8.7% of subjects were unsatisfied with the prosthesis and they were those who stayed for more than 12 years in the old age home and were mentally disturbed and dissatisfied in life and according to Bolenderet *al*⁷ patients with a high probability of emotional problems were not as satisfied with their dentures as those patients with less probability of problems. About 8.7% of subjects who were dissatisfied with the prosthesis were all in the age range of 76 – 80 years.

According to Makila⁸, 71% of the elderly aged 65 years and over had some adaptation problems after 1year wearing of new complete dentures. A patient's general adaptive capacity tends to deteriorate with increasing age. Based on this hypothesis, authors Bergman and Carlsson⁹ have reported that older patients require more adjustment visits and also exhibit a poorer denture acceptance than younger patient. Kotkinet *al*¹⁰ also found that an increase in the patient's age decreased the ability to accommodate dentures.

It was found that patients who had worn dentures previously were able to stabilize their denture better than the patients who had no previous experience, which is in agreement with the study by Narainet *al*¹¹ wherein the patients with previous denture experience were slightly more satisfied than new denture wearers. As suggested by Narainet *al.*, the neuromuscular control of those who acquire additional sets of dentures becomes more highly developed. Their ability to stabilize new dentures in the mouth may be relearned more quickly than who underwent this rehabilitation for the first time.

In the 1st month, 31.7% of the subjects complained of discomfort with the prosthesis and Heydeckeet *al*¹² found that 1 month after treatment almost half of the patients reported pain. As time progressed, it was found that the subjects were habituated to the denture and similar result was found by Rise and Heloe¹³ who suggested that the longer dentures are worn, the better they are tolerated, despite a poor fit. Kandil¹⁴ reported that the complete denture wearers were the less satisfied group, related obviously to the difficulty to gain the retention in relation to the partial once, as well as the uncomfortable feelings.

Conclusion: The emotional characteristics of the patient must be taken into consideration during the entire procedure. We must understand that the success of the prosthesis depends mainly on the patient's confidence in the dentist rather than the quality of the prosthesis. Therefore, we must educate the patient and make him understand that the efficiency of the prosthesis is depended on the condition of his or her alveolar ridge and his attitude to adapt to the prosthesis. Constant assurance needs to be given to the subjects in old age homes as they are mentally disturbed and need emotional support.

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