PROSTHETIC NEED AND ORAL HEALTH RELATED QUALITY OF LIFE IN A RURAL ELDERLY POPULATION OF INDIA

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Abstract

Background: This study was conducted to find out the effect of prosthetic need on the oral health related quality of life of rural elderly people residing in India.

Methods: A total of 368 elderly subjects from eight villages were included in the study. OHRQoL was measured by using a validated Hindi version of Geriatric Oral Health Assessment Index (GOHAI). Clinical assessment of the subjects was done regarding prosthetic status and need.

Results: The mean GOHAI score was found to be 18.14 ± 5.71. Majority of study subjects were not using any prosthesis inspite of edentulousness. Maximum required multi-unit prosthesis followed by complete dentures. Those subjects who were in need of multi-unit prosthesis or full prosthesis had significantly poorer OHRQoL.

Conclusion: The results revealed prosthetic needs as significant indicator of compromised oral health related quality of life. As the degree of prosthetic need increases the OHRQoL deteriorates.

Key Words: Quality of life, Oral health, Elderly, Prosthetic need, Rural

Introduction

Oral health-related quality of life (OHRQoL) may be defined as a "self-report specifically pertaining to oral health – capturing both the functional, social and psychological impacts of oral disease".[1] This evaluation is made by subjective and clinical indicators, and they offer information on the impact of the oral conditions on quality of life.

The elderly represent a special category in the population, not only because of the consequences of specific disease and conditions but also because they often have restricted access to medical care, including dental care. The group experiences certain restrictions due to the condition of their teeth or dentures which may lead to a modification in their social interactions and life styles, thus affecting their OHRQoL.[2]

A large proportion of the elderly is edentulous with small proportions having few remaining teeth. Elderly with multiple missing teeth, apart from experiencing problems with chewing food, also tend to have problems with social situations and interpersonal contacts which may affect their well-being and quality of life. Dentists frequently recommend removable or fixed prostheses to support impaired masticatory function which in turn aid in maintaining a role in the nutritional status of these elderly.[3]

There are several challenges being faced in delivery of oral health care to the rural population. Moreover there is no data pertaining to OHRQoL of rural population of India which is essential for planning oral health services for the population. Thus in the light of above situation, it is essential to assess the oral health related quality of life, among rural populations.

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Method

A cross-sectional epidemiological study was carried out to assess the prosthetic need and oral health related quality of life among elderly residents of rural areas of Dehradun, India.

Ethical clearance was sought from the Ethical Committee of „Uttaranchal Dental and Medical Research Institute, Dehradun" explaining the aim & importance of the study. Informed consent was obtained prior to the examination from each participant.

The clinical examination of all the subjects was done by a single examiner who was trained before conducting the survey to limit the intra examiner variability.

Study Population

A pilot study was conducted among the rural elderly population to check the feasibility of the methodology so as to estimate the sample size of the main study and also to check the feasibility of the questionnaire which lead to a final sample size of 368. Elderly people residing in the rural areas of Dehradun and who were willing to participate were included. Physically challenged, mentally compromised people and those with cognitive impairment or any terminal illness were excluded.

Assessment Form

OHRQoL was measured by using a validated Hindi version of Geriatric Oral Health Assessment Index (GOHAI). Clinical assessment of the participants was done based on a modified version of the WHO Oral Health Assessment Form (1997).[4]

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 17.0, IBM Inc. Descriptive data was reported for each variable. One way ANOVA was used when comparing more than two groups on continuous, normally distributed variables.

Results

A total of 368 elderly subjects from eight villages of Dehradun were included in the study out of which 192 (52.17%) were males and 176 (47.83%) were females (Table 1).

Age Groups	Male		Female	
	n	%	n	%
60-69 Years (N=264)	133	50.37	131	49.63
70-79 Years (N=78)	39	50.00	39	50.00
80 Years & Above (N=26)	20	76.92	6	23.08
Total (N=368)	192	52.17	176	47.83

Table 1: Gender wise distribution of study population in various age groups

Overall, 43 (11.68%) and 37 (10.05%) subjects required multi-unit prosthesis, 138 (37.5%) and 164 (44.56%) subjects required combination of one and multi-unit prosthesis and 44 (11.95%) and 48 (13.04%) subjects required full prosthesis in the upper and lower arches respectively. Age wise distribution of prosthetic need with respect to both arches among different age groups were found to be significantly different (p<0.05).

The bivariate analyses (Table 2) showed that prosthetic need was significantly associated with GOHAI scores but not the prosthetic status. Mean GOHAI scores were not significantly different among those subjects who were wearing partial dentures or complete dentures or not wearing any prosthesis at all. But, when the relationship between different prosthetic needs with GOHAI scores was analysed, it was found that those who were in need of multi-unit prosthesis or full prosthesis had significantly poorer oral health related quality of life as compared to those without any need or need of single unit prosthesis.

Discussion

No statistical significant difference was observed in mean GOHAI scores of subjects with different prosthetic status. This is in agreement with some studies (Alcarde et al, 2010[5]; Naito et al, 2010 [6]) conducted in different parts of

the world. This finding is contradictory to the findings of other studies conducted by Hassel et al (2008)[7] and Zainab et al (2008)[3].This could be probably due to the fact that very less number of subjects was wearing partial or complete dentures in this rural elderly population indicating high unmet prosthetic needs. The results of this study have revealed prosthetic needs as significant indicator of compromised oral health related quality of life. As the degree of prosthetic need increases i.e. from no prosthetic need to need for single unit prosthesis, multi-unit prosthesis and combination of single unit with multi-unit prosthesis, the oral health related quality of life deteriorates (increase in GOHAI scores). This finding is in agreement with another recent study conducted by Alcarde et al (2010)[5] in Brazilian elderly population.

	MEAN ADD-GOHAI SCORES (SD)	TEST	SIGNIFICANCE (p-value)
Upper Prosthetic status			
Wearing RPD (n=6)	16.66 (3.84)	ANOVA	0.282
Wearing complete denture (n=23)	19.23 (3.96)		
Not wearing any denture (n=339)	18.1 (5.83)		
Lower Prosthetic status			
Wearing RPD (n=19)	17.97 (4.61)	ANOVA	0.407
Wearing complete denture (n= 23)	19.23 (3.96)		
Not wearing any denture (n=326)	18.08 (5.87)		
Upper Prosthetic need			
No need (n= 115)	14.93 (5.08)	ANOVA	<0.001
Need for single unit (n=28)	14.96 (5.33)		
Need for multi-unit (n=43)	18.50 (4.93)		
Need for combination of 1 or multi-unit (n= 138)	20.09 (5.61)		
Need for full prosthesis (n= 44)	22.12 (2.11)		
Lower Prosthetic need			
a)No need (n=82)	14.66(5.26)	ANOVA	<0.001
b)Need for single unit (n=37)	13.80(5.14)		
c)Need for multi-unit (n=37)	18.13(4.44)		
d)Need for combination of 1 or multi-unit (n=164)	19.57(5.42)		
e)Need for full prosthesis(n=48)	22.58(2.41)		

Table 2: Bivariate analysis showing the relationship between the Mean Add-GOHAI scores and prosthetic status & need of study population

Conclusion

Those subjects who were in need of multi-unit prosthesis or full prosthesis had significantly poorer oral health related quality of life as compared to those without any need or need of single unit prosthesis.

Conflict of Interest: None

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