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ORAL HEALTH RELATED QUALITY OF LIFE AMONG INSTITUTIONALIZED AND NON INSTITUTIONALIZED ELDERLY POPULATION IN INDIA- A STRUCTURED REVIEW

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ABSTRACT:

Dental care and treatment is a greater problem for the institutionalized elderly than for people in the same age group who are not in institutions, which sets them at a greater risk of deterioration in dental and oral health. This is due to a combination of difficulties which include the costs incurred, the lack of oral hygiene offered by homes, the complications of transporting the elderly and the fear of the participants themselves. Aim of the review is to assess the literature existing on Oral health related quality of life of Institutionalized and Non

Institutionalized elderly population in India. Data from original scientific papers published in PubMed, PubMed Central and Google Scholar were taken for review. Search was accompanied with keywords like Aged, Geriatrics, Oral health, Institutionalized persons etc and non-MesH terms like Treatment needs, Residential homes. Articles published in English language only were included. References from the identified publications were manually searched to identify additional relevant articles. The systematic search resulted in 953 papers, of which 4 were suitable for the present review.Thus oral health quality of life of elderly residents was poor with more oral disease like caries, gingivitis, periodontitis and most of the residents were edentulous with no dentures.

INTRODUCTION

Aging is a normal biological phenomenon. Currently, India has around 100 million elderly and is expected to increase to 323 million by 2050. Ettinger and Beck divided geriatric patients into two types namely frail elderly and functionally dependent[1] With oral health being considered an indicator of quality of life in geriatric patients and oral diseases being complex progressive and cumulative it is important to maintain and improve oral health. In addition, improved oral health allows geriatric persons to gain self-confidence, increase social networking, and restores one's physical and mental ability[2]. Common oral health problems in elderly populations include periodontal diseases, dental caries, edentulism, xerostomia, and wasting diseases[3–5.]

Moreover, the elderly people face barriers to oral health care including fear and apprehension, illness, impaired mobility, financial status, transportation, and poor attitudes to oral health may deter them from visiting a dentist[5]. Dental care and treatment is a greater problem for the institutionalized elderly than for people in the same age group who are not in institutions, which sets them at a greater risk of deterioration in dental and oral health. This is due to a combination of difficulties which include the costs incurred, the lack of oral hygiene offered by homes, the complications of transporting the elderly and the fear of the participants themselves[6].

Nutrition has an important role in quality of life, especially among the elderly, and food intake has a tremendous influence on morbidity and mortality[7]. In the department of public health dentistry , we have successfully completed numerous epidemiological studies for the betterment of our community [8–25]. Although there is a vast literature available related to oral health and oral health related quality of life, the strength of such evidence and summarized inference is much needed for bridging the gap between the disadvantaged population and the stakeholders in providing health care delivery. Hence this structured review was planned with an aim to assess the Oral health related quality of life of Institutionalized and Non Institutionalized elderly population in India.

MATERIALS AND METHODS

Studies assessing the oral health related quality of life in the institutionalized and noninstitutionalized elderly population in India. These were investigated by the means of Geriatric Oral Health Assessment Index (GOHAI). The criteria for inclusion was Observational , Comparative and descriptive studies available on in Oral health related quality of life between Institutionalized and Non-Institutionalized elderly population.and studies conducted on elderly at or above 60 years of age was included irrespective of cultural or ethnic

background.There was a restriction with regard to language of the publication. Only studies which were published in the English language were included. Studies which were done on mentally and physically challenged elderly population and grey literature were excluded. Electronic search was carried out using the keywords in the Search engines- PubMed, Science Direct, Cochrane, LILACS , Google scholar till August 2019 which yielded a total of 102 articles. Based on preset inclusion and exclusion criteria, the titles of the studies identified from the search were assessed independently by two review authors (C.Lalitha Rani and Dr.I.MeignanaArumugham). Five articles were excluded for duplications. Conflicts concerning inclusion of the studies were resolved by discussion. Twenty one articles titles were identified from the search after reading the titles and selected for reading abstracts. Abstracts of selected articles were reviewed independently. Sixteen were excluded after reading the abstract. Full text articles were retrieved for five relevant studies. One study was excluded after reading the complete article. After reviewing the articles independently, Finally 4 articles were selected based on eligibility criteria [26–29] .The flowchart of the procedure of article selection was given in figure 1. Quality Assessment criteria to evaluate the studies were decided by two review authors in accordance with NewCastle Ottawa assessment guidelines[30]. It uses a star rating system by which stars are allocated across three categories, including five stars for participant selection, two stars for comparability and three stars for measurement of outcome in cohort studies. If fewer than six stars were scored, the study was considered to be at a high risk of bias.

Two authors independently extracted the following data from each of the included studies: Author and Journal citation details, Study Design, Sample Size, Participants and Group, Methodology, Parameters, Statistical Analysis, Results

RESULTS AND DISCUSSION

A systematic literature search yielded 102 publications from various databases. Five articles were excluded for duplications. Conflicts concerning inclusion of the studies were resolved by discussion. Twenty one articles titles were identified from the search after reading the titles and selected for reading abstracts. Abstracts of selected articles were reviewed independently. Sixteen were excluded after reading the abstract. Full text articles were retrieved for five relevant studies. One study was excluded after reading the complete article. After reviewing the articles independently, Finally 4 articles were selected based on eligibility criteria . The studies were characterisedbased on factors such as the study location, type of study design, study setting, year of publication, age of the study population, measurement tool and the duration of the study. Table 1 describes the general characteristics and data of all the included studies

Among the included studies 50% studies were conducted in Institutions and 50% were Non Institution based studies Among the included studies, 2 studies are from Maharashtra, 1 is from Karnataka, and 1 from Uttar Pradesh . There were many included studies done in different areas of Maharashtra. It was also found that there were no available studies among the included studies from the other states.Various parameters analysed are oral health related quality of life by Geriatric Oral Health Assessment Index(GOHAI), Oral

hygiene status, DMFT, Plaque status, Denture plaque status , WHO proforma , Salivary flow and denture stomatitis. In all the 4 studies , nutritional status was also assessed by Mini Nutritional Assessment form .

The included studies were assessed for quality according to the Newcastle-Ottawa scale modified for cross sectional studies(1999). One category under 'comparability' (non-respondents) was not applicable for studies included in this review and hence was not considered for scoring. The scale assessed studies under mainly 3 domains: selection, comparability and outcome. The maximum number of stars that could be awarded for each domain was 4, 2 and 3, respectively. The risk of bias rating for each study can be found in Table 2 .

The oral health status in the elderly population has been addressed increasingly in the past years across the globe, but the oral health of institutionalized elder's has not received a proper attention[2,31–33]. Most of the studies proved that Poor oral hygiene and oral health related quality of life is present in elderly population in India [4,34–37]. The evidence suggests that poor oral hygiene among institutionalized elders is a much greater problem than commonly realized.[38]

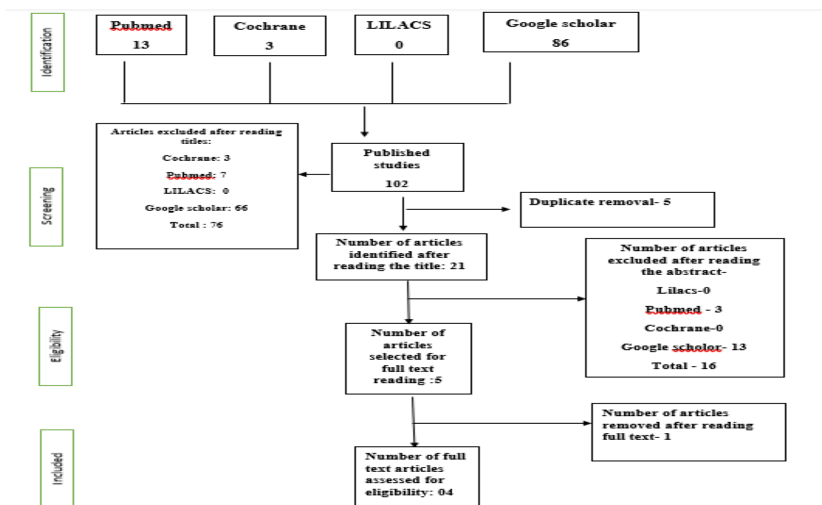

Figure 1 : Flowchart of search

Table 1: Data extraction table and summation of the included studies

S. No	Article	Author and journal	Study design	Sample size	Methodology	Parameter	Outcome	Inference
1	Association of oral health-related quality of life and nutriti	Parth Patel, K.et al Journal of Indian association of	Cross sectional study	200 59 % males and 41 % fem	Questionnaires- Geriatric Oral Health Assessment Index (GOHA	GOHAI index scores Mini nutritional assessment (MNA)	95% needed dental care, 36.5 %= maln	There was a significant correlation between GOH

	onal status among elderly population of Satara district, Western Maharashtra, India	public health dentistry.2015;13(3):269-73		ales	I) and mini nutritional assessment (MNA) index.	index scores	ourished	AI and MNA scores.
2	Evaluation of Relationship between Nutritional Status and Oral Health Related Quality of Life in Complete Denture Wearers	Rajlakshmi Banerjee et al. Indian Journal of Dental Research. 2018;29(5):562-567.	Cross sectional study	200 elderly denture wearers 55% males and 45% females	Questionnaires- Geriatric Oral Health Assessment Index (GOHAI) and mini nutritional assessment (MNA) index.	GOHAI index scores Mini nutritional assessment (MNA) index scores	95% needed dental care, 19.5% =malnourished	There was a significant correlation between GOHAI and MNA scores
3	Oral health-related quality of life and nutritional status of	NanditaKshetrimayum et al. The Gerodontology 2013 Jun;30	Cross sectional study	141 41.1% men 58.9% women	Questionnaires- Geriatric Oral Health Assessment Index (GOHAI) ,	GOHAI index scores Mini nutritional assessment (MNA) index	Mean GOHAI = 47.03±9.2 15.6% =	A strong association was found between the mean

	institutionalized elderly population aged 60 years and above in Mysore City, India	(2):119-25			mini nutritional assessment (MNA) index and DMFT index	scores DMFT index scores	malnourished	GOHAI and MNA scores
4	Assessment of oral health related quality of life (OHRQOL) and it's association with malnutrition risk in the elderly	Neha Agarwal et al. TMU J Dent.2015;2(2)	Cross sectional study	247 41.7% men and 58.3% women.			70.5%, needed dental care. Higher mean MNA score was found in women as compared to the men ($p < 0.05$).	A strong association was found between the mean GOHAI and MNA scores

Table 2: Risk of bias (Quality assessment of studies using Newcastle-Ottawa scale)

S. No	Author and year	Selection				Comparability	Outcome		Summary scores
		Represen-tativeness	Sample size	Ascertainment of the exposure	Non responders	The subject in different outcome groups are comparable based on the study design or analysis.confounding factors are controlled	Assessment of outcome	Statistical tests	
1	Parth Patel et al, 2015	*	*	**	NR	*	**	*	8
2	Rajalakshmi Banerjee et al, 2018	*	*	**	NR	*	**	*	8
3	Nandita K Shetrimayum et al , 2013	*		**	NR	*	**	*	7

4	Neha Agarwal et al, 2015	*		**	NR	*	**	*	7

CONCLUSION

The major block in oral health care of elderly and the residents would be the underestimation of the oral health care needed by them. The dental care of the residents is often limited to emergency care and is not aimed at retaining teeth.

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CONFLICT OF INTEREST

Nil

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