

## Building Attitudinal Competencies in Undergraduate Dental Students

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### Abstract

The ageing of populations worldwide is a phenomenon that has led to transformations in health care. The need for geriatric dental education was realized in the late 1970s. Efficient treatment requires correct attitude on the part of the dental students towards the geriatric population and their perception of the treatment of geriatric patients influences patient satisfaction and treatment success. *Materials and Methods:-* A need assessment survey was planned on 350 dental students including both undergraduate students and interns in dental colleges of central India. The survey was done through an online questionnaire and the results were calculated to find out the attitude of dental students towards geriatric population. Geriatric Attitude Scale questionnaire for measuring attitudes toward older patients given by University of California, Los Angeles (UCLA) was used in the study to assess the perception and knowledge. *Results:* - The mean GAS score in the present study was found to be 3.48 with a mean SD of 0.95. It was found that the dental students in the central India region have a neutral to positive attitude about the geriatric population. *Conclusion:* - The study concluded that neutral to positive attitude exists in dental students towards the geriatric population and emphasizes on the fact that geriatric dental education needs to be imparted to the dental students with more impetus to improve geriatric oral healthcare and to bring about a positive change in the quality of life of the elderly population.

**Keyword:** Geriatric Patients; Geriatric Attitudinal Scale; Dental Students.

### Introduction

The ageing of populations worldwide is a phenomenon that has led to transformations in health care.<sup>1</sup> Geriatric dentistry or Gerodontics can be defined as the delivery of oral health care to older adults, which involves diagnosis, prevention and treatment of problems associated with normal ageing and age related diseases.<sup>2</sup> The need for geriatric dental education was realized in the late 1970s. Yellowitz and Saunders<sup>3</sup> and Kress and Vidmar<sup>4</sup> were the pioneers who championed for the cause for special education needs for geriatric

dentistry. Geriatric dentistry is better developed in most of the developed nations such as the USA, Canada, UK, Australia, and the European nations, as compared to the developing world.<sup>5-8</sup> However it has not received much attention of dental professionals and policymakers in countries like India, though one-sixth of the total world population of elderly now lives in the developing countries.<sup>9</sup> The report, by the United Nations Population Fund, found the number of over-60s in our country will increase from around 100 million today to more than 300 million by 2050 and will require special dental healthcare management. In

the billion plus population of India there are 76.6 million elderly people (above 60 years of age) and it is predicted that the elderly population in India will increase to make up 12.5% of the total population by 2026. It also predicted the number of over-80s will increase seven fold. The link between oral health and general health are particularly pronounced in older populations and impairs their quality of life. Efficient treatment requires correct attitude on the part of the dental students towards the geriatric population and their perception of the treatment of geriatric patients influences patient satisfaction and treatment success. Kress and Vidmar<sup>4</sup> surveyed 50 experts in geriatric dentistry to determine the major areas of competence for a geriatric dentist (Table1). Without adequate training and due to the huge generation gap, young graduates may not be able to understand the physical, socioeconomic, and psychological problems of the older adults and the complexities involved in treatment planning for patients with multiple chronic diseases and medication. Awareness and knowledge would facilitate the setting up of separate health care units for the elderly along with oral health care clinics and involvement of multidisciplinary teams, mobile oral health services, domiciliary services in the urban and rural areas, and provision of systematic oral health care.<sup>2</sup> Therefore a need was felt to evaluate the attitude and perception of dental students towards geriatric population and to assess the need for education about the special needs of oral health care of the elderly population.

## Materials and Methods

*Geriatric Attitude Scale questionnaire* for measuring attitudes toward older patients given by University of California, Los Angeles (UCLA) was used in the study to assess the perception and knowledge of 450 dental students currently studying in 3 dental institutions in central India region. The samples were randomly selected in the form of 30 students from each batch from 1<sup>st</sup> to 4<sup>th</sup> year and 30 interns from all 3 institutions. The GAS is a 14-item scale developed to assess health care providers' attitudes toward older persons and caring for older patients.<sup>7</sup> The instrument contains five positively and nine negatively worded statements that are rated on a scale from 1 (strongly disagree) to 5 (strongly agree) with 3 representing a neutral rating. Scores on the negatively worded items are reversed when calculating the total score. The questions were divided into three groups (a) General Social Statements (1, 4, 10, 13, 14); (b)

Statements about financial support of the elderly (2, 5, 10); (c) statements about the physical situations and health care of the elderly (3, 6, 7, 8, 9,11). The UCLA questionnaire consisted of a mixture of 14 positively and negatively worded statements answered on a five-point scale ranging from 'Strongly disagree' (one point) to 'Strongly Agree' (five points) and a rating of 3 indicated a neutral response. The scores were tabulated in accordance with Ruben et. al.'s original article<sup>7</sup> in which scores on negatively worded statements were reversed before being added to the score on positively worded statements, to produce a total score. This produced a mean UCLA questionnaire score. The scores were calculated as positive (a mean score higher than 3) or negative (a mean score lower than 3). The gas is easy to administer and score.

## Results

The demographic data has been presented in Fig. 1 and 2. The surveyed population consisted of 85% female students and 15% male students. The responses obtained were 2.7% from 1<sup>st</sup> year, 6.2% from 2<sup>nd</sup> year, 38.1% from 3<sup>rd</sup> year, 24.6% from IV<sup>th</sup> year undergraduate students and 28.5% from interns. The mean GAS score in the present study was found to be 3.48 with a mean SD of 0.95. The scores and percentages of responses for individual questions have been tabulated in Table 2. The scores indicate a statistically significant ( $p < 0.05$ ) neutral to positive response of the dental students in the central India region. There was statistically significant difference in the mean scores of preclinical, i.e 1<sup>st</sup> and 2<sup>nd</sup> year students and clinical i.e III<sup>rd</sup> year, IV year and interns ( $P < 0.05$ ). The graphical representation of responses to each

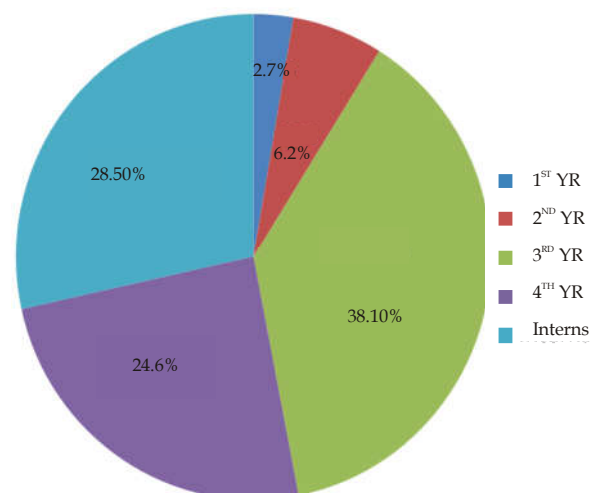


Fig. 1- Demographic data of sample

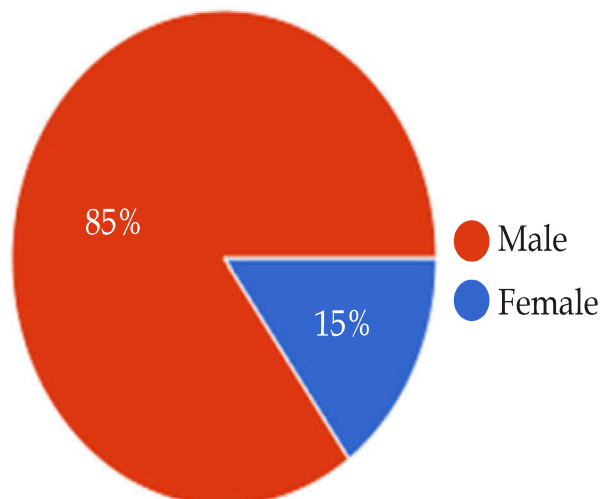
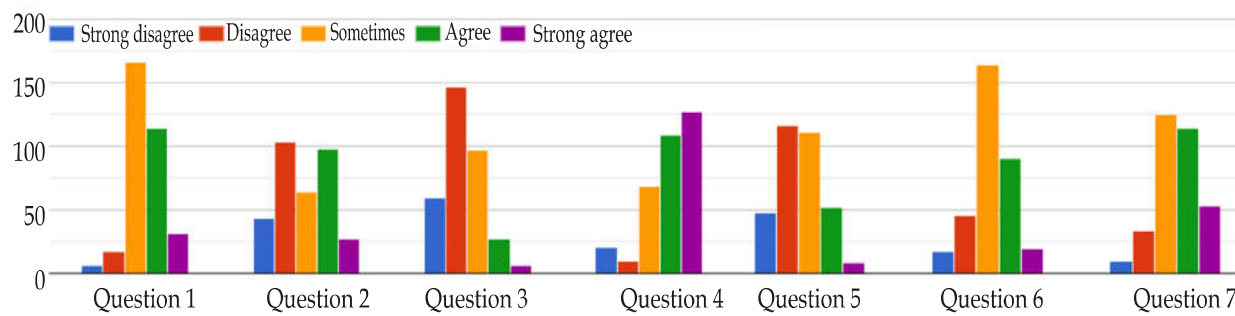


Fig. 2: Male to Female ratio of sample

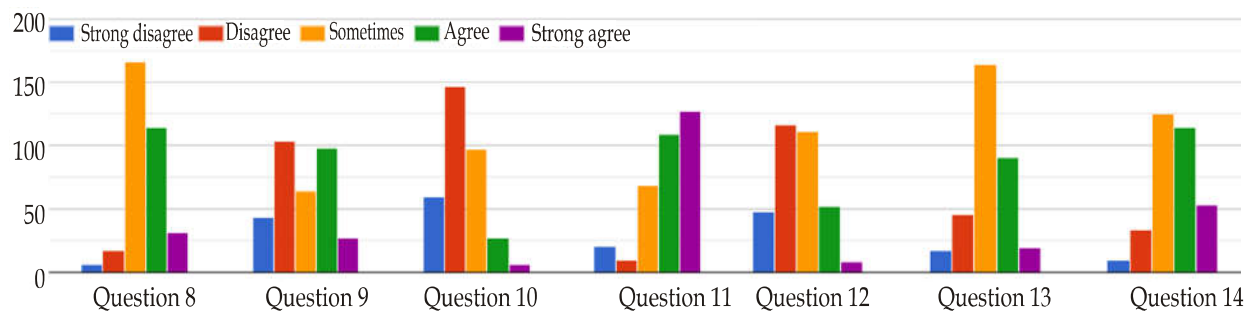
question is shown in Graph 1 and 2.

### Discussion

The need for geriatric dental education was realized in the late 1970s. Yellowitz and Saunders<sup>3</sup>, Kress<sup>4</sup> and Vidmar and Ettinger were the pioneers who championed the cause for special education needs for geriatric dentistry. Geriatric dentistry is better developed in most of the developed nations such as the USA, Canada, UK, Australia, and the European nations, as compared to the developing world. Geriatric dentistry has not received the attention of dental professionals and policymakers, though one-sixth of the total world population of elderly now lives in the developing countries.<sup>4-8</sup> Measures



Graph 1:



Graph 2:

to help older people remain healthy and active are a necessity in developing countries such as India for effective social and economic development.<sup>9</sup> In order to address the increasing health challenges and demands of a growing geriatric population, undergraduates and graduate students in dental schools should be given comprehensive or holistic health assessment training. Older dentate people utilize dental services less than any other dentate age group due to either patient related factors like age, socioeconomic factors, fear and access constraints<sup>10</sup>. The educational programme should therefore not only empower professionals with the knowledge and skills to provide oral health services with empathy but also create awareness of the special

needs of the elderly: for example, transportation to a dentist's office requires assessment of activity levels, continence and transfer, time, communication, appointment timings, duration of appointment and legal and ethical considerations<sup>1</sup>. Polsani LR et al<sup>6</sup> have described the use of a special geriatric treatment plan worksheet for effective psychological management of the geriatric patients.

The mean GAS score in the present study was found to be 3.48 with a mean SD of 0.95. The scores indicate a statistically significant ( $p < 0.05$ ) neutral to positive response of the dental students in the central India region. The results of the current study show a marginally better attitude of the cohort included in the study, as compared with the study

**Table 1:** Major Areas of Competence for A Geriatric Dentist<sup>4</sup>

Domain	Areas of competence
Knowledge	Psychology and sociology of aging
	Disease of aging
	Pharmacology and drug interaction
	Biology and physiology of aging
	General medicine/systemic diseases.
Skills	Ability to communicate with elderly patients and other providers
	Ability to adapt treatment plans for the elderly
	Ability to diagnose treatment needs of aging patients
	Ability to perform specialized procedures (especially prosthodontic treatment)
	Management of the elderly.
Attitude	Empathy/understanding
	Caring/compassion
	Positive attitude toward, and enjoyment of, older patients
	Respect for the elderly patient
	Flexibility in treatment planning (keeping treatment plan realistic)

by Gupta *et al*<sup>12</sup> which also suggests that the overall attitude of undergraduate dental students was found to be satisfactory but the knowledge about geriatric pharmacokinetics and drug interactions and skills in geriatric patient handling need to be improved. In contrary to the study by Gupta *et al*<sup>12</sup> where there was no statistically significant difference between the 3<sup>rd</sup> and final yr students, in the current study, there was statistically significant difference in the mean scores of preclinical, i.e I<sup>st</sup> and 2<sup>nd</sup> year students and clinical i.e III<sup>rd</sup> year, IV year and interns ( $P < 0.05$ ) which also substantiates the study by Patil P and Ueda T *et al*<sup>13</sup> that clinical exposure helps in improving the attitude as well as knowledge of undergraduate dental students about geriatric patient management. The study<sup>13</sup> showed that early clinical exposure had a positive effect on the student's self-perception of different aspects of geriatric dental care including subject knowledge, communication skill with geriatric patients, and diagnosis and treatment planning. In the West, geriatric dentistry is a subject that is spread across the dental undergraduate curriculum and pertains to every aspect of oral health needs of the young old (65–74 years); old (75–84 years), and the oldest old (85 + years). Careful consideration of all coexisting medical problems before initiating treatment is a cardinal rule in geriatric care.<sup>14–20</sup> Shah<sup>14</sup> *et al* described that gerodontology is not structured as an independent specialty at postgraduate level, and the undergraduate curriculum does not have any significant component about the subject in India. The lack of training results in poor understanding

of special needs of older adults. Even in Japan, there is no such official training program that exists in the undergraduate curriculum.<sup>13</sup> Oral care guidelines designed to assist elderly should consider not only prevention and treatment modalities but also the means of implementing such therapies in varying settings and utilizing the whole dental team.<sup>21</sup> Any preparation toward the provision of oral health care should not be limited to treatment alone but more importantly focus on empowering this elderly community with information and education programs.<sup>22–25</sup> Anehosur and Nadiger<sup>26</sup> studied the attitude of students towards the elderly population in 98 5<sup>th</sup> year students and concluded that there is a need to change the perspective of the students toward elderly by the inclusion of geriatric dentistry in the dental curriculum. Increasing numbers of older people and decreasing rates of edentulism highlight the importance of dental education that focuses on oral health and aging. Exposure of students to didactic and clinical setting appears to be a critical element toward positive knowledge and attitude of the elderly.<sup>13</sup>

It has been reported that the attitude of dental students toward elderly patients is more or less neutral when the regular dental curriculum is followed. It was felt that the curriculum needed to be developed to try to modify students' attitude from neutral to positive, to enhance health care delivery.<sup>26,27</sup> Without adequate training and personal experience of growing old, young graduates may not be able to understand the physical, socio-



**Table 2:** Response rates of dental students according to Geriatric attitude scale:-

Sr.No	Statements	strongly disagree	disagree	sometimes	agree	strongly agree	Mean Score Std Deviation
1	'Most old people are pleasant to be with	2.08	5.05	49.40	34.22	9.22	3.44 0.81
2	'The government should reallocate money from care of the elderly to research on AIDS or pediatric diseases'	12.79	30.95	19.04	29.16	8.03	3.11 1.19
3	'If I have a choice, I would rather see younger patients than elderly ones'	17.55	43.75	28.86	8.03	1.78	3.67 0.91
4	'It is society's responsibility to provide care for its elderly persons'	06.25	2.97	20.23	32.44	38.09	3.93 1.12
5	'Medical care for old people uses up too many human and material resources'	13.98	34.82	33.03	15.47	2.67	3.41 0.99
6	'As people grow older they become less organized more confused'	5.05	13.39	48.80	27.08	5.65	2.85 0.90
7	'Elderly patients tend to be more appreciative of the medical care they receive than are younger patients'	2.97	10.11	37.20	33.92	15.77	3.49 0.97
8	'I believe that taking a medical history from elderly patients is hard'	86.90	19.04	54.46	18.45	4.16	3.0 0.83
9	'I tend to pay more attention and have more sympathy toward elderly patients than younger patients'	3.86	9.52	33.92	34.22	18.45	3.53 1.02
10	'Old people do not add much to the society'	35.11	45.23	14.28	4.16	1.19	4.08 0.87
11	'Treatment of chronic diseases in the elderly is hopeless'	24.10	40.77	29.76	3.86	1.48	3.82 0.89
12	'Old people cannot pay enough for their proportion of health costs'	8.63	29.16	49.40	11.60	1.19	3.32 0.83
13	'In general, old patients are too slow according to modern society'	0.22	33.63	40.77	14.58	1.78	3.33 0.89
14	'Listening to past experiences of old people is interesting'	4.16	5.05	28.57	31.54	30.65	3.78 1.08

economic, and psychological problems of the elderly and the complexities involved in treatment planning for patients with multiple chronic diseases and medication. It is emphasized that geriatric dentistry should be included in each of the preclinical, paraclinical, and clinical subjects at the undergraduate level. Graduate students should be encouraged to treat elderly patients in clinics under supervision using a multidisciplinary approach.<sup>28</sup> The knowledge and skills required for oral health care of elderly may improve the attitude to treat them more carefully and tenderly. The positive attitude of dental students without any formal training can be attributed to the cultural and traditional Indian family values and can be further strengthened with knowledge and practice of geriatric oral healthcare.

The limitation of the study can be stated that it the cohorts representing the student population was obtained from one limited area of the country and similar large scale studies from different parts of the country needs to be undertaken to bring about a change in the dental curriculum so as to meet the needs of the growing geriatric population in India.

### Conclusion

The educational goal of gerodontology is to raise awareness of barriers to care and to prepare dental students, in terms of knowledge, attitudes, ethics, and skills to provide appropriate oral health care for the older adults. Part of the problem is related to the limited training of undergraduate dental students in all the factors relevant to the oral care

of the elderly. Modifications are required in the dental undergraduate and postgraduate curricula to provide appropriate knowledge, attitudes, and skills. The study revealed that knowledge and attitude of dental students towards the geriatric population to emphasize on the fact that geriatric dental education needs to be imparted to the dental students with more impetus to improve geriatric oral healthcare and to bring about a positive change in the quality of life of the elderly population.

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