

REVIEW ARTICLE

Emphasising Geriatric Dental Education at the Undergraduate Level in India: A Review

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ABSTRACT

The ageing population represents a significant milestone in human progress. However, with increasing age comes a rise in chronic diseases, many of which have oral health implications. The worldwide increase in the geriatric population has reshaped healthcare systems, but the oral health care system is still lacking in most of the developing and underdeveloped countries. This is due to the dearth of trained dentists in this field. The late 1970s first acknowledged the need for geriatric dental education. It highlighted the importance of oral health in the geriatric population. Therefore, it is necessary to introduce geriatric dental education right from the graduate level so that the future dentists can deliver not only efficient oral health services to the geriatric patients without any apprehension or hesitation but also have empathy and a proactive mindset when addressing the needs of older adults. Training is necessary for dental students, as their perspective significantly impacts treatment success and patient satisfaction. This can be achieved by introducing new curricula and trained faculty to ensure that the students are confident and well-trained when they graduate from a dental college.

KEYWORDS

• Geriatric dentistry • Geriatric dental education • Dental students • Ageing

INTRODUCTION

Geriatric dentistry, also known as Gerodontics, refers to the provision of oral healthcare for older adults. It encompasses the diagnosis,

prevention, and treatment of issues linked to the natural ageing process as well as age-related medical conditions.¹ The recognition of the necessity for geriatric dental education

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emerged in the late 1970s. Pioneers such as Yellowitz, Saunders, Kress, and Vidmar, along with Ettinger, were instrumental in advocating for specialised educational requirements in the field of geriatric dentistry.²⁻⁴ Life expectancy at birth has seen a rise, reaching 62 years in 2004.⁵ Currently, the geriatric population in India, individuals aged over 60 years, accounts for 7.7% of the total population, amounting to approximately 77 million people.⁶ It is anticipated that the population of elderly individuals in India will increase from 7.4% in 2001 to 8.6% by 2031, eventually reaching 19% by 2051.⁷ According to the UN Population Division, the geriatric population in Africa is projected to double, while in Asia it is expected to triple by 2050. Estimates suggest that this demographic will make up one-sixth of the global population.⁶

In India, the field of geriatric medicine is still in its early stages, with geriatric dentistry being the least advanced speciality.⁷ Currently, prosthodontics modules primarily integrate geriatric dental education. Therefore, we must develop geriatric dental education as a separate branch by transforming the existing dental curriculum from an exam-centric approach to a community-orientated education model, with a focus on addressing the health issues and challenges faced by elderly patients.^{8,9} Therefore, it becomes essential to familiarise dental students with unique oral health care needs, special requirements, and patient-specific treatment approaches for the elderly. This ensures that they are not only well-trained as competent dentists but also develop the empathy required to provide compassionate care.

Oral Health Challenges Faced by Older Adults¹⁰⁻¹²

Older adults often encounter distinct oral health issues, which are influenced by both ageing and underlying medical conditions, socioeconomic conditions, and a lack of education; these include:

- **Xerostomia (dry mouth):** Often linked to ageing or medication use, it can heighten the risk of cavities and oral infections.
- **Periodontitis (gum disease):** Common among older adults, this condition can lead to tooth loss if neglected.
- **Root caries:** Refers to decay on exposed root surfaces due to gum recession, more prevalent in older individuals.

- **Tooth sensitivity:** This is due to worn enamel and sensitive nerves exposed by receding gums, which are more sensitive to temperature variations.
- **Oral cancer:** The risk of oral cancer increases with age, which highlights the need for routine screenings to detect it at an early stage.
- **Edentulism (tooth loss):** It is a consequence of untreated dental conditions and can limit the oral intake of nutrients and hence the quality of life.
- **Medical comorbidities:** Other diseases like diabetes, heart problems, or arthritis can lead to special needs in dental therapy and special consideration for safe and proper therapy.

Geriatric Dentistry Education: Global Overview¹³⁻¹⁷

- **Global Trends:** A review of the literature reveals that 67.5% of the dental schools surveyed have mandatory education in this field. However, the depth and structure of these programmes are quite varied.
- **Challenges:** The world is short of dentists trained in geriatric dentistry. Lack of formal recognition as a speciality in many countries is an impediment to the growth of detailed training programmes.
- **Regional Insights:**
 - In Europe, 86.2% of dental schools offer gerodontology at the undergraduate level.
 - In other regions, geriatric dentistry is being addressed within the context of wider oral health policies and healthcare schemes.
 - In countries with high ageing populations such as Japan, geriatric dentistry is often thoroughly addressed as a field within the dental curricula.
 - Some countries have no form of specialised education in this area, while others include it in broader dental practice courses.

Creating a framework for geriatric dental education:¹⁸⁻²¹

As for now, there is an urgent need to improve the geriatric dental education in order to meet

the specific oral health concerns of the elderly in the given environment of the increasing older population in India. Today, many dental practices do not have the necessary level of professionalism and training to address these needs of this population, resulting in a noticeable decline in the quality of care provided to them.

- **Curriculum Development:** To this end, introduce specialised modules on geriatric dentistry into the dental education curriculum to enable graduates and postgraduate students to effectively meet the oral health needs of the elderly.
- **Continuing Education Programs:** Offer regular training for dental students and practitioners to update them on the new developments in the management of oral health in the elderly.
- **Community Outreach Initiatives:** Create awareness for older adults on oral health and also ensure that they are able to easily get dental care services.
- **Interdisciplinary Approach:** Geriatric dental care can be quite complex and often needs the input of other healthcare professionals e.g. geriatricians, social workers to mention but a few in order to meet the multifaceted needs of the elderly.
- **Faculty Training:** Ensure that dental educators are trained in geriatric dentistry to guarantee that students learn from the best in the field.
- **Hands-On Training:** Offer clinical practice with the elderly through collaboration with old age homes, community groups and hospitals to enable students understand the specific problems of this generation.
- **Technology Integration:** Use virtual simulation and case-based learning to teach students about the geriatric dental practice simulations.
- **Research Opportunities:** Encourage research on geriatric oral health in order to establish trends, problems, and possible solutions that are relevant to the Indian situation.
- **Electives and Specializations:** Offer electives and fellowships in geriatric dentistry to develop a focused workforce.

Role of Empathy in Dental Education²²⁻³¹

Empathy significantly impacts dental education, shaping future professionals to deliver patient-centered care, especially to vulnerable groups like the elderly.

Building Trust and Rapport: Empathy deepens dentists' understanding of patients, fostering trust and rapport essential for strong dentist-patient relationships.

- **Improving Communication:** It helps dentists address concerns, fears, and anxieties, enabling better communication and improved adherence to treatment plans.
- **Reducing Dental Anxiety:** Empathetic care alleviates patient anxieties, creating a more comfortable experience and enhancing patient cooperation.
- **Enhancing Treatment Outcomes:** When patients feel understood and cared for, they are more likely to adhere to recommendations, resulting in improved treatment outcomes.
- **Promoting Patient Satisfaction:** Empathy enhances patient experiences, increasing satisfaction and fostering loyalty.
- **Including Empathy in the Curricula:** Dental schools are presenting empathy via lectures, group discussions, and simulations to ensure that students grasp its significance.
- **Measuring Empathy:** Researchers are creating surveys to determine the level of empathy among dental professionals, which will be helpful in enhancing training programs.

Reasons for Combining Geriatric Dentistry in the Curricula³²⁻³⁵

- **For Patients:**
 - **Better Oral Health:** Involves managing conditions such as tooth loss, dry mouth, and gum diseases that are more frequent with age.
 - **Improved Quality of Life:** Improves overall health, nutrition, communication, and self-esteem.
 - **Accessible Care:** Promotes community programs and clinics for the elderly, increasing the chances of seeking treatment.

- **For Dental Professionals:**
 - **Specialized Expertise:** Prepares dentists to manage complications related to ageing patients.
 - **Career Opportunities:** The increasing need for geriatric dentistry creates new career choices.
 - **Holistic Understanding:** The interdisciplinary training provides an understanding of how systemic health affects oral health and vice-versa.
- **For Healthcare Systems:**
 - **Reduced Healthcare Costs:** Oral preventative care reduces the expenses of treating diseases like diabetes and heart problems.
 - **Comprehensive Elder Care:** Consistency with elder care policies results in better co-ordinated healthcare.
 - **Public Health Impact:** Better oral health can lead to an improvement in the health of an ageing population.
- **Educational Benefits:**
 - **Empathetic Dentists:** Training with exposure to elderly patients cultivates empathy and patient-centered care.
 - **Research Advancement:** Encourages innovations in treatment and care models through geriatric oral health research.

CONCLUSION

India's increasing elderly population requires undergraduate dental programs to include geriatric dentistry education. Dental curricula reform serves as a critical need to train professionals who will meet the oral health requirements of an ageing population. The implementation of geriatric dentistry training will help resolve the difference between population oral health needs and dental graduate training capabilities. The partnership between policymakers who provide funding for curriculum changes and educational institutions that implement structured geriatric modules and clinical training is essential. Dental professionals should pursue ongoing education and mentorship programs to prepare students for elder care practice. The

collective efforts of stakeholders will establish a solid base to enhance oral health services for ageing Indians which will improve their quality of life.

REFERENCES

1. P. Finbarr Allen, Gerald McKenna, Nico Creugers. Prosthodontic care for elderly patients. *Dent Update* 2011; 38: 460-470.
2. Yellowitz J., Saunders M.J. The need for geriatric dental education. *Dent Clin North Am.* 1989; 1:11-15.
3. Kress G.D., Vidmar G.C. Critical skills assessment for the treatment of geriatric patients. *Spec Care Dent.* 1985; 5(3): 127-129.
4. Ettinger R.L. (1983) Geriatric dental curricula and the needs of the elderly. Paper presented at the symposium on clinical geriatric dentistry: biomedical and psychosocial aspects, Chicago, June
5. Population Reference Bureau. <http://www.prb.org/pdf04/04WorldDataSheet-Eng.pdf>
6. United Nations Population Division. World population prospects: The 2000 revision. Population database. New York: Department of Economic and Social Affairs, United Nations Population Division; 2001
7. Khan S., Itrat M. Current Issues in Geriatric Health Care in India-A Review. *J Community Med Health Care* 2016; 1:1003
8. Lagali-Jirge V. Need for paradigm shift in Indian dental education:A case for change toward competencybased education. *J Indian Acad Oral Med Radiol* 2015; 27:230-6.
9. Greenberg S.A., Hartnett E., Berkowitz G.S., Schenkel A.B., Chong C, Cipollina J., *et al.* Senior oral health:A community-based, interprofessional educational experience for nursing and dental students. *J Gerontol Nurs* 2020; 46: 37-45.
10. Patel J., Wallace J., Doshi M., Gadanya M., Yahya I.B., Roseman J, Srisilapanan P. Oral health for healthy ageing. *Lancet Healthy Longev.* 2021;2(8): e521-e527.
11. Bethesda M.D.: National Institute of Dental and Craniofacial Research (US); 2021 Dec.
12. Janto M., Iurcov R., Daina CM, Neculoiu D.C., VenterAC, Badau D, *et al.* Oral Health among Elderly, Impact on Life Quality, Access of Elderly Patients to Oral Health Services and Methods to Improve Oral Health: A Narrative Review. *J Pers Med.* 2022 Feb 28; 12(3):372.

13. Jiang C.M., Chu C.H., Duangthip D., Ettinger R.L., Hugo F.N., Pruksapong M.K. *et al.* Global Perspectives of Oral Health Policies and Oral Healthcare Schemes for Older Adult Populations. *Front Oral Health*. 2021 Aug 16; 2: 703526
14. Kitagawa N., Sato Y., Komabayashi T. Graduate and Undergraduate Geriatric Dentistry Education in a Selected Dental School in Japan. *Eur J Dent Educ*. 2011 Jan 31; 15(4): 231-235
15. Xavier I., Ettinger R.L., Proença L., Botelho J., Machado V., Rua J., *et al.* Geriatric Dentistry Curriculum in Six Continents. *IJERPH*. 2020; 17 (13): 4672
16. Shigli K., Nayak S.S., Jirge V., Srinagesh J., Murthy V., Gali S. Current status of gerodontology curriculum in India and other parts of the world: A narrative review. wileyonlinelibrary.com/journal/ger | 1 © 2020 Gerodontology Association and John Wiley. *Gerodontology*. 2020; 00: 1-22.
17. N. Shah. Geriatric oral health issues in India. *Int Dent J* 2001 Jun; 51(3 Suppl): 212-8.
18. Prosser G.M., Louca C, Radford D.R. Potential educational and workforce strategies to meet the oral health challenges of an increasingly older population: a qualitative study. *BDJ*. 2022; 8: 6.
19. Gambhir R.S., Brar P., Singh G., Sofat A., Kakar H. Utilization of dental care: An Indian outlook. *J Nat Sci Biol Med*. 2013 Jul-Dec; 4(2): 292-297.
20. Ara S.A., Ayesha H., Roohi U., Shastri S, Priyanka. Geriatric Dentistry-An overview. *Annals of Geriatric Education and Medical Sciences*, January-December, 2016; 1(1): 5-9
21. Sherman J.J., Adam Cramer B.S. Measurement of changes in empathy during dental school. *J Dent Educ*. 2005; 69(3): 338-45.
22. Riess H. The science of empathy. *Journal of Patient Experience*. 2017; 4(2): 74-77
23. Eikeland H.L., Ornes K., Finset A., Pedersen R. The physician's Role and empathy – a qualitative study of third year medical students. *BMC Med Educ*. 2014; 14: 165.
24. Hojat M., *et al.* The Jefferson scale of empathy: a nationwide study of measurement properties, underlying components, latent variable structure, and national norms in medical students. *Advances in Health Sciences Education*. 2018; 23(5): 899-920.
25. Kumar P.M., Praveen D., Praveen G., Bhupathi P.A., Kanth M.R., Uloopi K.S. Awareness, knowledge, attitude and empathy levels of dental postgraduates towards their patients during practice and research-a questionnaire-based survey. *J Patient Exp*. 2021; 8:23743735211056521.
26. Patel, S. *et al.* Curricula for empathy and compassion training in medical education: A systematic review. *PLOS ONE* 14(8), 0221412. <https://doi.org/10.1371/journal.pone.0221412> (2019).
27. Ancuta Mioara Banu, Sorin Ursoniu, Smaranda Laura Gotia, Salomeia Putnoky, Costela Lacrimioara Serban. Understanding empathy and theory of mind in Romanian dental students for improved educational strategies. *Scientific Reports* | (2025) 15: 3880
28. Yarascavitch C., Regehr G., Hodges B., Haas D. A. Changes in dental student empathy during training. *Journal of Dental Education*. 2009; 73(4): 509-517.
29. Nunes P., Williams S., Bidyadhar S., Stevenson K. A study of empathy decline in students from five health disciplines during their first year of training. *International Journal of Medical Education*. 2011; 2:12-17.
30. Fields S.K., Mahan P., Tillman P., Harris J., Maxwell K., Hojat M. Measuring empathy in healthcare profession students using the Jefferson Scale of Physician Empathy: health provider - student version. *Journal of Interprofessional Care*. 2011; 25(4):287-293.
31. Kataoka H.U., Koide N., Ochi K., Hojat M., Gonnella J.S. Measurement of empathy among Japanese medical students: psychometrics and score differences by gender and level of medical education. *Academic Medicine*. 2009; 84(9): 1192-1197.
32. Garcia R.I., Sohn W. The paradigm shifts to prevention and its relationship to dental education. *J. Dent Educ*, 76 (1) (2012), pp. 36-45.
33. Yu CH, Chou M.Y. Implementation of domiciliary dentistry curriculum in dental education: 5-year experience. *J Dent Sci*. 2022 Feb 11; 17(2): 1083-1084.
34. Roshni M., Rahim A. Small group discussions as an effective teaching-learning methodology for learning the principles of family medicine among 2(nd)-year MBBS students. *J Family Med Prim Care*. 2020; 9(5): 2248-2252.
35. Thomas S. The need for geriatric dental education in India: the geriatric health challenges of the millennium. *Int Dent J*. 2020 Nov 5; 63(3): 130-136.