

**Knowledge, perception, attitude and skills of dental graduates of Kashmir on geriatric dentistry: A whatsapp based questionnaire survey**

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**Abstract**

**Background:** Geriatric dentistry or Gerodontology delivers dental care to older adults and involves the diagnosis, prevention and treatment of problems associated with aging and age related disease as a part of an interdisciplinary team with other health care professionals.

**Aim:** This study aimed to evaluate the knowledge, attitude, skills and preparedness of dental graduates in Kahmir regarding the concepts of geriatric dentistry.

**Materials And Methodology:** A cross-sectional survey was carried out in March 2020 on 84 dental graduates of Government Dental College and Hospital, Srinagar . A questionnaire was developed using literature research and previously administered surveys to assess knowledge, perception, attitude, awareness pertaining to geriatric

patients. Data were subjected to appropriate statistical measures and analyzed.

**Subjects And Methods:** Data were collected through an online whatsapp based survey questionnaire based on awareness, knowledge ,skills and practice of geriatric dentistry amongst dental graduates.

**Results:** 80% (n=84) of the dental surgeons were well aware and had knowledge about age changes taking place in the oral tissues of geriatric patients. 62.5% of the dental graduates said they have well equipped seniority friendly dental operatory for delivering dental care to older adults .A total of 19.51% of dental graduates said that they advise elderly patients to use an oscillating/rotating toothbrush.

**Conclusion:** This survey stressed the need of having oral medicine staff specially trained in geriatric dentistry who can address oral concerns of this distinct population and

also the need of educating the undergraduates on this subject.

**Keywords:** Geriatric dentistry, Palmore's FAQ'S on aging

### **Introduction**

Gerodontology or geriatric dentistry is defined as a portion of predoctoral dental curriculum that deals with special knowledge, attitudes and technical skills required in the provision of oral health care to older adults. Its considered to be a part of Special Care Dentistry (SCD) by Commission on Dental Accreditation. The Special Care Dentistry Association (SCDA) formed the American Society of Geriatric Dentistry (ASGD) in 1965 which was later renamed in 2013 as SCDA Council of Geriatric Dentistry.<sup>1</sup> According to a statement released by US Department of Health and Human Services (DHHS) it is projected that by 2020 there will be a need of 6000 dental practitioners specialized in geriatric dentistry.<sup>2,3</sup>

Government of India announced National policy for Older persons (NPOP) on January 1999 with the aim of providing food, shelter, healthcare, finance and security to elderly people which constitute 7.7% of Indian population.<sup>4</sup>

At the undergraduate level there is a lack of training and understanding about the socioeconomic, physical and psychological problems and various complexities in managing elderly patients with systemic ailments. So to address such needs of elderly population of India specialized courses in geriatric dentistry like oral medicine advanced education program and fellowship in geriatric dentistry is need of hour.

This study was done to evaluate the knowledge attitude, skills and preparedness of dental graduates in Kashmir regarding the management of geriatric patient and also with the aim to educate them.

### **Materials And Methodology**

A cross-sectional study was conducted on 84 dental surgeons who had completed their rotational clinical posting of the dental education programme in Government Dental College and Hospital Srinagar and were exposed to didactic and clinical setting and their knowledge and attitude towards elderly patients was seen. All the specialized dentist, postgraduates and dentist who had done some courses and attended workshops were excluded. The study was conducted in two phases (survey tool development and data collection) for a period of 3 days through a whatsapp based survey to contacts of the invigilator on dental graduates from Government Dental College and Hospital, Srinagar.

#### **Survey tool development**

After a thorough literature search a survey tool questionnaire was designed in form of whatsapp based questionnaire using an app "Survey monkey" A 9-item questionnaire was devised which was a blind survey where the invigilator had no clue what the dentist had answered as the name and gender was not disclosed. A 3-point scale was made to analyze the attitude, perception, knowledge and skills of dental surgeons educational experiences and clinical skills by giving option A as yes, B as No and C as may be. The settings of the survey were such that one phone could take the survey only once hence removing the chances of bias.

**Data collection**

Questionnaire	A	B	C
1.Are you well aware of age changes taking place in the oral tissues?	Yes	No	I am aware of oral changes of the pediatric patients but not the geriatric patients
2. Do you practice know about Palmore’s FAQ’S (facts) On Aging quiz?	Yes	No	I have heard of it
3.Is your dental operatory’Seniority Friendly operatory’”?	Yes	No	I have heard of it
4.Do you know geriatric patient can tolerate shorter dental appointments?	Yes	No	I only know that the duration of pediatric cases needs to be short
5.Do you specifically give late morning appointments to geriatric patients?	Yes	No	Never planned
6. Do you know about and have instructed patients about various age wise brushing techniques?	Yes	No	I know about Fones technique but am unaware about other brushing techniques of older patients
7. Are you well versed about systemic conditions where you use local anesthesia without adrenaline?	Yes	No	I only know a few conditions where local anesthesia is used without vasoconstrictor
8. Do you modify your etching time according to age changes of the tooth tissue?	Yes	No	Sometimes
9. Do you advise oscillating /rotating toothbrush to an elderly patient?	Yes	No	Seldom

**Statistical Analysis**

The dental graduates knowledge, awareness, skill, empathy and attitude as well as newer approaches in

management was expressed in 3-point scale for each of the 9 questions.

**Result**

S.No	A	%Age	B	% Age	C	% Age	Skipped
Q1	80	95.24	0	0	4	4.76	0
Q2	18	21.43	56	66.67	10	11.9	0

Q3	50	62.5	22	27.5	8	10	4
Q4	76	90.48	4	4.76	4	4.76	0
Q5	14	17.07	30	36.59	36	46.34	2
Q6	60	71.43	6	7.14	18	21.43	0
Q7	60	73.17	0	0	22	26.83	2
Q8	18	21.95	48	58.54	16	19.51	2
Q9	16	19.51	30	36.59	36	43.9	2

Table 1 : The percentage of dental surgeons that choose option A,B and C for particular questions.

80% (n=84) of the dental surgeons were well aware and had knowledge about age changes taking place in the oral tissues (Figure 1)(Table 1).

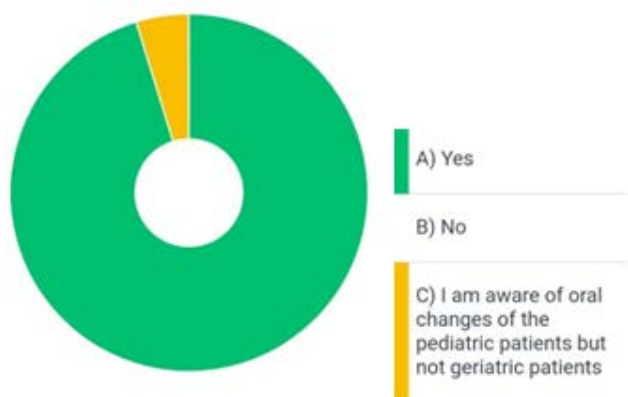


Figure 1  
56 dental graduates (66.67%) weren't aware of Palmore's Facts on aging quiz.(Figure 2).

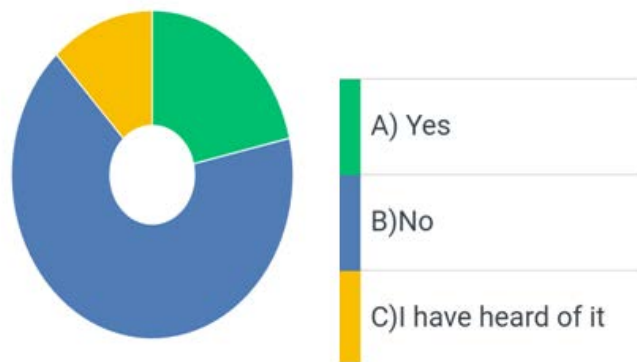


Figure 2  
10% were totally unaware of a Seniority Friendly operator while as 62.5% of the dental graduates of Kashmir said that dental operator in which they were working was well equipped for delivering dental care to older adults (Figure 3).

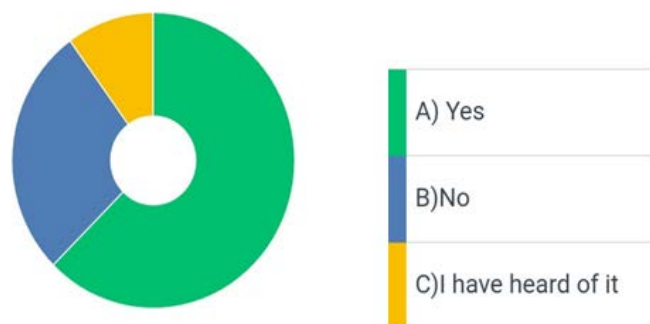


Figure 3

90.48% planned shorter dental appointment for geriatric patients while as 4.76% were aware of shorter appointments for pediatric patients but totally unaware of the geriatric ones. (Figure 4)

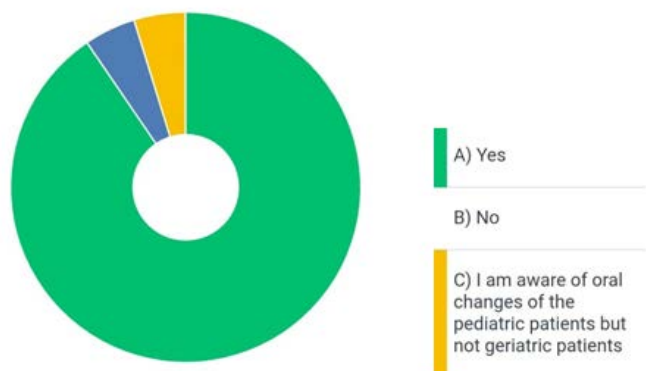


Figure 4

17.07% (n=14) of the dental surgeons planned late morning appointments for geriatric patients which is a protocol (Figure 5).

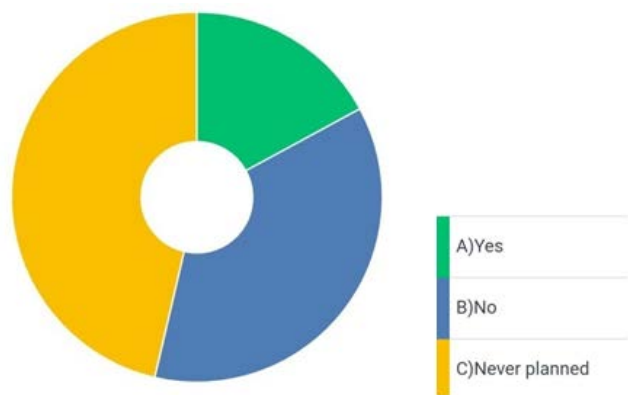


Figure 5

71.43% of dental surgeons had instructed older adult patients about the most suitable brushing technique for them while as 21.43% were aware of Fones technique for children but not about brushing technique for geriatric patients (Figure 6).

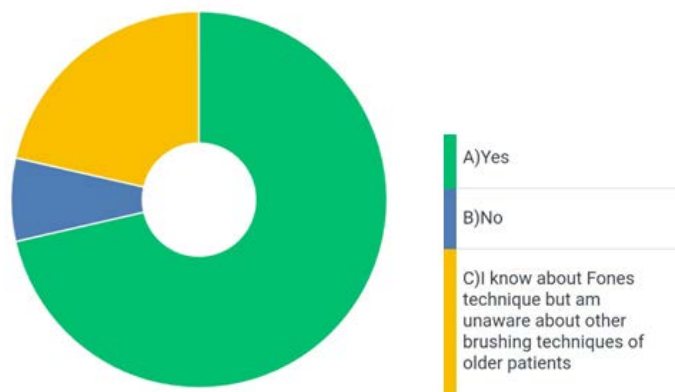


Figure 6

73.17 % of dentists were well aware when to inject adrenaline with local anesthesia in systemic conditions while as 26.83 % were only sure of few conditions and 2 dentists skipped this question.(Figure 7).

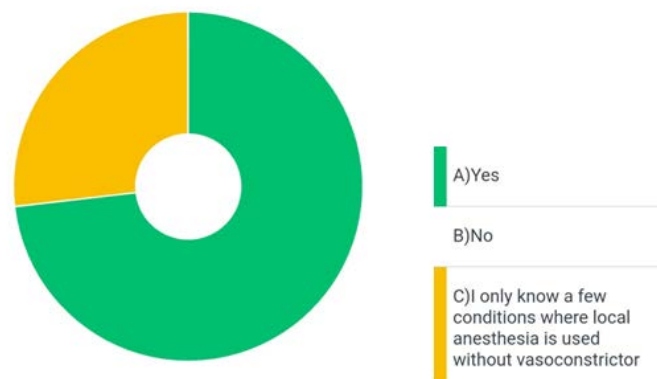


Figure 7

58.54% dentists were totally unaware that they need to modify etching time according to age of the patient while doing restorative treatment (Figure 8) (Table 1).

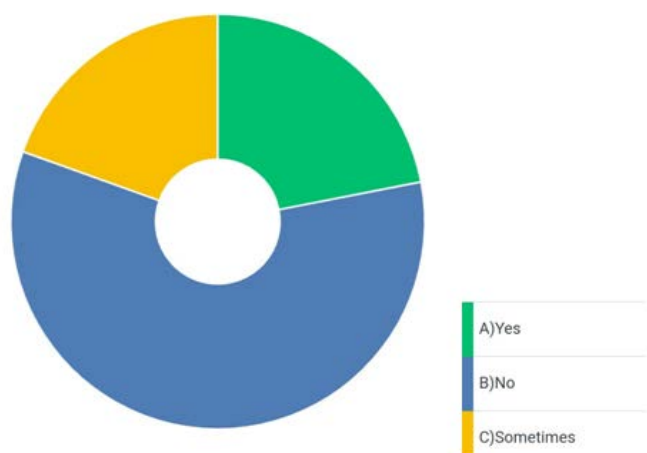


Figure 8

43.9% dentists said they seldom advise elderly patients to use an oscillating/rotating toothbrush (Figure 9)(Table 1)

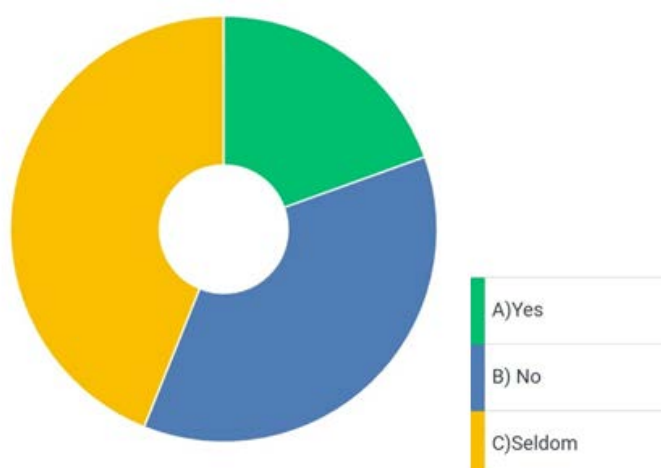


Figure 9

### Discussion

Xerostomia, altered taste perception, attrition and wear facets of teeth, edentulism, problems with dentures, root surface caries, reduced keratinisation, resorbed and knife edged alveolar ridges, periodontal diseases and potentially malignant diseases are commonly seen problems in elderly patients with poor dental hygiene.<sup>4</sup>

The presence of gingival recession leads to higher incidence of root caries especially in teeth with crowns and bridges. Silver diamine fluoride is seen to be effective

in management of caries in older adults and is seen to prevent and arrest root caries.<sup>5</sup>

The changes in oral mucosa is caused by factors like medication, trauma, systemic diseases, poor nutrition and advancing age as they delay the healing capacity and regeneration of oral tissues. There is also loss of mineral content due to severe osteoporosis leading to attachment loss resulting in tooth loss and mobility.

With advancing age there is change in thickness of enamel and dentin leading to loss of transparency and gradual obliteration of the dentinal tubules referred to as dental sclerosis and physiological secondary dentin formation is seen.<sup>6</sup> Pulpal calcifications, narrowing of root canals and hypercementosis may be seen which is a biomarker of age for forensic specimens.<sup>6</sup>

The preferred method of brushing in elderly patients is sulcular brushing with soft toothbrush (Bass method) with remineralizing/therapeutic rinses and in severe cases of gingival recession extra soft tooth brush with use of light pressure is advised.<sup>7</sup> The patients with diminished manual dexterity may use rotatory electric tooth brushes/ oscillating toothbrush or manual brush customized for each patient

Tell, show, do technique has to be followed where the elderly patient is to be explained about the procedure followed by demonstration and the patient needs to practice it till one masters the skills and the use of non verbal communication like smiling and eye contact by dental professional is important.<sup>8</sup>

Amongst the various survey used by dental professionals Palmore's Facts on Aging quiz was developed to assess the knowledge of healthcare professional about older adults. It is a simple instrument to help educators for widely assessing their knowledge and attitude towards elders (International academy nursing alliance, 2010; Ming

et al 2004,Palmore 1977) where 25 statements are to be answered as true and false and a score is calculated.<sup>9</sup>

The dental operatory should be Seniority friendly operatory where the wheelchair bound patients wheelchair needs to be very close to the dental chair so that the dental staff has full access to the dental equipments. In severe cases where patient cannot be transferred to the dental chair special head and neck support systems need to be employed to minimize patient discomfort.<sup>10</sup> The working staff should be trained in providing assistance during movement of patients and understanding the Safe patient handling (SPH). They can use transfer boards, pivot discs, transfer belts, EZ lift or Hoyers lift and one person transfer or two person transfer should be employed depending upon the severity of disability of the patient.<sup>11</sup>

The dental team should be skilled, knowledgeable, organized and at the end of completion of appointment regardless of the duration the elderly patients shouldn't be allowed to sit erect from a supine position and walk straight out of the operatory as they have a tendency for orthostatic hypotension if they change postures in quick succession. It is advisable not to schedule elderly patients for dental appointments with multiple procedures planned in a single session.<sup>12</sup> The appointment time has to be in late morning hours as the stress level is low at that time, they have taken their morning dose of medication and elderly patients have reduced lung capacity.<sup>12</sup>

In future the best option to serve is by Home dentistry or domiciliary dental care where surveys in old age homes, ashrams, secure units, community households, nursing homes needs to be done.

This study has thrown light also on the importance of educating the dentists on whatsapp and paving way to an emerging branch of dentistry in the near future called "WhatsApp Dentistry".

## Conclusion

Due to less number of government dental colleges and sharing of dental resources with the general population the long waiting period of dental treatment to elderly population subject them to neglect. The management of oral diseases in elderly patients requires thorough knowledge and interplay of dentistry, medicine, psychology and pharmacology and the geriatric patients need to be given separate attention just like the pediatric and preventive dentistry. So the oral medicine staff specially trained in geriatric dentistry can provide optimum dental care to this distinct group of population and address and handle their oral concerns.

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