

**Dentistry – Known to Unknown, A qualitative study**

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**Abstract**

**Introduction:** Nearly 28,000 dentists newly graduate in India every year resulting in a surplus. Many young dentists lack competency, get less work and a meagre pay. Before the system collapses, we have to identify the lacunae and hence this study aimed to explore the Challenges of Dentistry in Kerala, to arrive at potential solutions

**Methods:** A qualitative study was conducted among 31 dentists and 6 key administrative officials in Kerala through in depth-interviews, strictly adhering to the COREQ guidelines. The interviews were transcribed, translated and analyzed manually. Thematic analysis was employed and an Attride-Stirling thematic network model was developed.

**Results:** Five Major themes emerged for the Global theme ‘Challenges for Dentistry in Kerala’, which were

Decline of Quality in Dentistry owing to Surplus Dentists, Lack of a Strong Political Will for Dentistry, increasing cost of setting up a new dental clinic despite low returns, Lack of Specific Awareness among Beneficiaries, and Negligence of Dental Research. Decline of Quality in Dentistry owing to Surplus Dentists was derived from the Declining Quality of Dental Education, Declining Clinical Exposure and Experience among Young Dentists and Declining Remuneration for Young Dentists. Lack of a Strong Political Will for Dentistry was derived from Lack of a Strong Dental Administrative Set up, Deficiency of Government Posts for Dental Health Care Workers at all Levels of Health Care and Lack of a Quality Assurance Mechanism for Dental Practice. Lack of Specific Awareness among Beneficiaries was emerged from Lack of awareness about dental specialties among

beneficiaries and Lack of awareness about Oral disorders among vulnerable groups.

**Conclusion:** Surplus of dental graduates leads to fewer opportunities, less competency, less clinical exposure, and less remuneration and hence should be addressed at the earliest. Standardized pay for Private Dental teachers needs to be implemented. A strong dental administration needs to be set up and Government dental health care worker posts need to be created at all levels of health care. A strong Dental Practice Quality Assurance Mechanism has to be implemented and Dental research needs to be promoted.

**Keywords:** Dentistry, Challenges, Quality

### **Introduction**

From the era when tooth ache was considered a curse of God, Dentistry has come a long way to be one of the most sophisticated specialties in modern medicine. Dentistry made significant progress during the sixteenth to eighteenth centuries, largely owing to the contributions of great men like Pierre Fouchard, Claude Mouton, Paul Revere, John Greenwood, Crawcours, Horace Hayden and Chapin Harris, who together laid the foundation of modern dentistry as we know it<sup>1</sup>

As of March 2020, there are 2.7 lakh dentists in India and nearly 28,000 are added to this pool every year by 313 dental colleges having a total of 35,512 teaching faculty<sup>2</sup>. At this rate, Saturation of opportunities seem imminent and hence lack of job security and a good remuneration are serious issues in dental field. About 13.55 % deviate from dentistry after graduation<sup>3</sup>. Competency of many fresh graduates is also unsatisfactory, seemingly diffident in carrying out many dental procedures. The quality of dental education is showing a declining trend over the years owing to multitude of reasons.

Kerala is one among the 3 states in India having the highest number of dental colleges. Dentists' growth in

numbers, in Kerala, is at an exponential rate. If this continues, the future of dentistry seems to be highly unpredictable. There exists ample number of challenges in Dental education and Dental Practice.

Even though the age-standardized prevalence of oral conditions have remained relatively stable between 1990 and 2015, the burden of untreated oral conditions throughout the world have seen a dramatic rise owing to factors like population growth and aging<sup>4</sup>. This is all the more important when we consider surplus availability of dentists during this period. It is high time the key officials introspect on this and take adequate measures. Efficient utilization of existing dental manpower is highly needed. Before the system collapses, we have to identify the lacunae and arrive at potential solutions. This study aims to explore the challenges in dentistry through the opinions of Dentists and Key Administrative Officials (KAOs) in Kerala. We hope this can pave the way forward, making the future of dentistry more secure.

### **Methods**

A qualitative study using in-depth interview technique was done on practicing Dentists and KAOs in Kerala, strictly adhering to the COREQ guidelines. Three groups of Dentists – Dentists owning a Clinic, Specialist Dentists working as consultants, and Dentists working in Government sector were included to capture the differences in opinion based on their sectors of employment. Higher officials holding key positions in Indian Dental Association and Kerala state administration were included as a separate group called Key Administrative Officials (KAOs). Kerala state was operationally divided into 3 regions- Northern Kerala, Central Kerala and Southern Kerala. A minimum of 3 dentists from each group from each region and 2 KAOs from each region was selected for the study to start with but enough participants were interviewed until data

saturation was attained. Thus, we had conducted in-depth interviews on 31 dentists and 6 KAOs. An interview schedule was prepared after a thorough literature search and situation analysis. Ethical clearance was obtained from the Institutional Ethics Committee. The study was explained in detail to the study participants, before taking informed audio consents. In depth interviews were conducted in Malayalam as per the comfort of the participant. The average duration of the in-depth interview was 45 minutes. The in-depth interviews were recorded using Call X- Mobile phone call recorder application. The audio files were then transcribed and translated to English. All statements related to each domain were identified and similar statements were grouped into categories as free-listings, coded and analyzed using Microsoft excel by the Principal investigator. Minor and Major themes were derived. Quotations were selected to illustrate the emerged themes.

## Results

In depth interviews with 31 dentists and 6 KAOs were coded and analyzed, and minor themes and major themes were derived. Five Major themes emerged for the Global theme 'Challenges in Dentistry'.

### Decline of Quality in Dentistry owing to Surplus Dentists

#### Declining quality of Dental Education

In 2003, there has been a considerable increase in the number of dental colleges in Kerala. When the number of colleges increased, patients visiting each college decreased, resulting in students not getting required clinical exposure and competency. Moreover, due to the low salary offered to the teaching faculty, especially in the private sector, quality of teachers is not guaranteed.

“When I went as an external examiner in a college, a final year student had done only 3 extractions, 10 years back,

we have done nearly 100 extractions. That is the scenario...and as a result they are not confident enough to work in a private set up”- Participant No:22

### Declining clinical exposure and experience among Young Dentists

Though WHO recommends a dentist population ratio of 1:7500, in Kerala it's nearly 1:3000 as per records. This may even go up to 1:500 if this scenario continues for a few more years. Increased number of graduates per year leads to less patients and clinical exposure per dentist. This in turn results in less clinical experience for freshers. A saturation point is expected in near future. Currently, most of the female students deviate from dentistry or settle down with dental academics. If they too start their own clinics owing to less opportunities and less pay in academics and elsewhere, this will become even worse.

“Fresh graduates have less clinical exposure. To get good exposure, they have to either work for free or at very less salary; Clinics are not being benefitted by their service”- Participant No:12

### Declining Remunerations for Young Dentists

Increased number of dental graduates leads to more supply and less demand, thereby resulting in less remunerations offered for their services. More dental clinics also lead to less number of patients per clinic resulting in less income. There are clinics paying less than even 5000 per month. In many clinics, freshers are ready to work for free and is termed as Clinical Observer.

“Many places fresh graduates are being utilized. They work from 9am -5pm and are being paid less than 5000 rupees. To address this, IDA should put forth a minimum standardized pay for fresh graduates working in clinics at least a minimum of 20,000 rupees” – Participant No: 4

Also in Kerala Health services, there is a disparity of pay between Assistant Surgeons and Assistant Dental

Surgeons which is demotivating since Medical Education and Dental Education share the same pay scale.

#### **Lack of a strong Political Will for Dentistry**

#### **Lack of Strong Dental Administration in the state**

Only one Deputy Director of Health Services (Dental) exists for the entire state of Kerala. More key administrative posts are required for proper human resource management in dentistry and proper implementation of dental health care planning and delivery

#### **Deficiency of Government Dental Health Care worker posts at all levels**

Creation of posts is highly needed to deliver Primary Dental Care. Though there has been an increase in posts as compared to previous years, still there are no dentists in PHCs and many CHCs. There is absolute shortage of dental auxiliaries in many health centers which results in decreased quality of treatment. Also there are less specialist consultant posts in government sector. Due to the risk of frequent transfers, most of the specialists prefer working as Assistant Dental surgeon. They opine that it would be good if each district has Specialist consultants from all nine dental specialties.

“Though I am an endodontist, I work as a dental surgeon in health services as there are less specialist consultant posts in Kerala and risk of transfer is greater.”-Participant No: 30

#### **Lack of proper Dental Practice Quality Assurance Mechanisms**

National Health Mission does a quality check on government dental health care centres and submit a report to the central ministry every year. However, this does not seem enough to guarantee top quality dental health care delivery across the country. A mechanism to ensure quality dental practice called ‘IDA-CAN’ is about to be implemented by Indian Dental Association, the

provisional phase of which had been successfully launched in 2019. The need of a mechanism to enhance standardization of Dental clinics to assure quality care is long overdue.

#### **Increasing cost of setting up a new Dental Clinic despite low returns**

Initial set up costs including building advance, instruments, interiors and designing for a single chair dental clinic varies from 7 lakhs in remote rural areas to 12 lakhs in Urban areas. Usually dentists opt Dental clinic with 2 dental chairs and total amount comes to nearly 20 lakhs in cities. Building rent and advance is high in Ernakulam and Trivandrum, hence setting up a clinic in own building will be better than rented building. A minimum of 2 dental assistants were needed in majority of Clinics and their pay varied from 6000-9000 depending on the work load in each clinic. MUDRA scheme loan, personal savings and family support were the financial aids utilized by dentists for setting up clinics. Since patient load is also lower due to large number of clinics, this leads to financial stress, especially when a loan is involved.

“I started my Clinic in Jan 2020.... took MUDRA loan and savings of my husband who is a specialist since 2 years.....There were one or two patients initially as expected...after March...literally zero patients.....now 1-3 patients are coming....but repaying loan is always a stress due to higher interest rate and less number of patients...”Participant No: 16

#### **Lack of Specific Awareness among Beneficiaries**

#### **Lack of Awareness about Oral Health Specialties among beneficiaries**

Lay men are aware of the medical specialties, but when it comes to dentistry even well educated people are not aware of the 9 specialties catering to oral health. This

awareness among people is highly needed to ensure quality treatment.

“Even the common man know who a cardiologist is....but when it comes to dentistry, they don't know there is a pedodontist for children's teeth etc...all they know is dentists extract teeth....”Participant No:1

#### **Lack of Awareness about oral diseases among vulnerable groups.**

Oral health awareness has been increased compared to earlier times especially in Urban areas. People have started preserving the tooth and opting preventive procedures. But awareness and willingness to utilize dental care is less among tribal populations in Wayanad and Kasaragod. Pre-cancerous oral lesions are seen more among them but identification of the case is difficult because of their unwillingness for dental check-up.

“Tribal people are anemic; areca nut chewing is more among them, they will run away seeing health care workers, Somehow we have to catch them. ASHA workers help us in bringing them for dental treatment”- Participant No: 10

#### **Negligence of Dental Research**

Research is highly ignored among Dental Fraternity. In the run for establishing a financially secured life, research is ignored. Even the support mechanisms in colleges are not satisfactory. Dental proposals rarely apply for external funding. Most of the Dental Professionals are unaware of basics of research and the financial grants available for research.. The attitude of Dentists towards research need to change.

“Hard to find genuine researchers in our field ,no new innovations, even post graduate thesis are replications.. we need to do good quality research.. What I feel is that after a few years the importance of research will be known to all and slowly attitude towards research will change”- Participant No: 29

#### **Discussion**

Nearly 1910 new graduates enter dentistry in Kerala every year from 24 dental colleges<sup>5</sup>. The changing trends in Indian dental education was clearly reflected with an increase in number of dental colleges over the years. There were only 3 dental colleges in 1947, 95 in 1997 and 313 in 2020<sup>6</sup>. But with the increase in number of dental colleges, quality of dental education is questionable. The dental students need to be evolved as oral physicians capable of working with an interdisciplinary team. They should be competent to do critical thinking and problem solving. Literature elicited necessity of measures to implement and improve quality initiatives at each step of curricular process in maintaining the professional integrity<sup>7</sup>.

A study on assessing the competence profile in undergraduate dental education has shown that clinical practice management and a minimum of 40% clinical education need to be addressed as an additional competence in dental education. The study also highlighted the need to adapt to the dynamic nature of dentistry<sup>8</sup>.

Dentistry was chosen as a career by the students owing to its professional status, financial benefits, job security, flexibility and independence and good quality of life<sup>9</sup>. But in the recent times, all these motivating factors seem to be in doubt.

Geographical uneven distribution of dental colleges is seen in India. It is high time to address the imbalances in accessing dental education. Moreover, literature has shown a need for mushrooming of dental colleges. This will help in attaining quality education to the deserved ones<sup>10</sup>.

It is high time dentists realized the importance of evidence- based research and start implementing it. Clinical Translational research needs to be promoted.

Recent reports point to an acute lacunae in proper ethical based research settings<sup>11</sup>. A study done in Saudi Arabia to assess the research interest among final year students manifested that 61.6% felt that clinical experience is most important<sup>12</sup>. The misconception that clinical experience is superior to evidence based dentistry needs to be removed and this is possible only by encouraging the students to do good quality research.

Indian model of health care system has been accepted worldwide. But we often fail to identify the lacunae in our health system especially dental health care. There is only one DDHS (Deputy Director of Health Service) in the dental sector in Kerala whereas there are 7 DDHS and 7 ADHS (Additional Director of Health Service) in medicine and more than one DDHS and ADHS in nursing. There are only 200 dentists in DHS as compared to more than 1000 Ayurveda and Homeopathy doctors<sup>13</sup>. This may be considered as a major administrative pitfall and clearly reflects the negligence shown towards dentistry.

Government has come forth with many policies for the health of vulnerable sections of the population. But most of the tribal populations in Wayanad, Attapaddi and Kasargod are not availing the benefits of these health care policies. Their oral health care awareness level is low compared to other sections of society, resulting in low utilization of oral health care. There is a great deal of variation in the Oral health care awareness and utilization between states in India, between urban and rural areas and scheduled tribes and the scheduled caste population<sup>14,15</sup>

Setting up a dental clinic and starting own practice requires strategic planning and attention to minute details. Awareness of the marketing industry, Communication skills, Business expertise and high level of commitment have to be thoroughly learnt before the start of the clinic. A balance between good professional life style and desired

life style need to be attained through right choice of clinical practice<sup>16</sup>

The common men are aware of the various specialties in medicine to a great extent. But when it comes to dentistry, even medical practitioners are not aware of dental specialties. A study done among medical teaching faculty showed that 96.11% were not aware of the nine dental specialties and 89.44% referred their patients to the general dentists<sup>17</sup>.

If the existing scenario continues, the future of dentistry seems to be dark. To maintain the professional integrity, measures to overcome the challenges should be addressed by the stakeholders at national and state ministry level.

We look forward to a time with less prevalence of oral diseases and equitable distribution of quality oral health care services. To attain this, efficient and effective manpower planning is highly essential.

### **Conclusion and Recommendations**

The existing number of undergraduate seats in Dental colleges need to be reduced in a systematic way to prevent excess supply of dental graduates into the pool, leading to less opportunities, less competency, less clinical exposure, and less remuneration. Dental Council should devise and implement strict verification protocols to ensure competency of fresh graduates. Standardized pay for Private Dental teachers needs to be implemented for ensuring quality faculty. A strong dental administration needs to be set up at the state level and Government dental health care worker posts need to be created at all levels of health care. A strong Dental Practice Quality Assurance Mechanism has to be implemented and Dental research needs to be promoted.

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## Legend Figure



Fig 1: Attridge-Sterling Thematic Framework for the global theme- Challenges in Dentistry