

A Guide to Young Pediatric Dentists in the Globally Changing Era

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ABSTRACT

The specialty of pedodontics has a long history in South Asia as it started in Government College Amritsar by Punjab University in 1950. In the south Asian countries, India has 204 dental institutions offering postgraduation in pedodontics and preventive dentistry. A postgraduate degree in pediatric dentistry opens doors to diverse sectors of research or work opportunities at the national and international levels. This article aims at summarizing all the possible options available for a pediatric dentist at the National and International levels.

Keywords: Academia, Career, Pediatric dentistry, Research.

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INTRODUCTION

Pedodontics, as the term suggests, concerns the complete oral health of children and young adolescents with an emphasis on children with special healthcare needs. Pediatric and preventive dentistry is one of the most versatile branches of specialized dentistry and as a discipline deals with providing primary and comprehensive preventive and therapeutic oral healthcare to infants and children through adolescence. A postgraduate in pediatric dentistry in South Asia can persuade to nurture the potential in clinical, academic, or research fields.

The first reported postgraduation course in pediatric dentistry started in 1979 in the Government College Amritsar. Now there are 204 dental institutions in India and 4 dental colleges in Nepal offer this course to dental graduates while Sri Lanka and Bangladesh have started in one institute each recently. Bhutan and Maldives are yet to find a foundation to flourish for specialists in pediatric dentistry.

A special section of the branch also deals with oral diagnosis and treatment of children with special healthcare needs.¹ A postgraduate degree in pediatric dentistry opens doors to diverse sectors of research or work opportunities at the National and International levels. A next step after achieving the MDS degree in pediatric dentistry can traverse the path to a career focusing on either clinical, academic, or research sectors. In India, career options may include job opportunities by central or state government, advanced training and research programs, pursuing an auxiliary course, or setting up a dental clinic. Opportunities in a foreign land may include country-specific undergraduate and postgraduate degree programs, research and clinical training programs, licensure programs, or doctoral and fellowship programs. This present narrative article aims at summarizing all the possible options available for a pediatric dentist at the National and International levels with advantages and challenges in selecting a career option after masters in pediatric dentistry in South Asia. The domain of pediatric dentistry can be expanded with the advancement in technologies and collaboration with other specialties.

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FUTURE OPPORTUNITIES AFTER MDS IN PEDIATRIC DENTISTRY

National Level—Future Opportunities in India

There is a vast career opportunity for the candidates who have completed their MDS in various branches of dentistry. Gaining a specialization degree in pediatric dentistry determines a good scope in the field of research and advanced clinical practice. Few opportunities to grab a post-MDS degree are:

- Pediatric Dental Practice and Consultancy—After completion of MDS in pediatric dentistry, a specialized clinical dentist can start up their own private practice. A pediatric dentist can set up a dental home or clinic especially for children and young adolescents. As a pediatric dentist possess the skill of understanding child behavior and anxiety and is capable of effectively communicating and managing children showing apprehensive behavior, the private setup can be a good attraction to anxious parents looking for a friendly and experienced dentist for their child. A pediatric dentist can install advanced technologies; conscious sedation unit, small size radiovisiography, endodontic microscope, etc., specifically adapted to treat children. This approach adds to their market

relevance. To avoid the challenges of setting and maintaining a personal private practice, pediatric dentists can also serve as on-visit consultants in different clinics seeking help in a special treatment case.

- **Senior Resident**—A senior resident is a clinical and academic working specialist doctor hired by government hospitals and institutes. An MDS postgraduate can become a resident doctor after clearing institute-based examinations and peer interview. It is a paid position for a tenure of 3 years. A senior resident can work as a specialist clinical dentist in the hospital as well as teach and train postgraduate dental students in the institute or college. Senior residency is a key addition to the curriculum vitae for future academic posts of professors and mentors.
- **Lecturer/Tutor**—An MDS postgraduate interested in academics can choose the career post of a senior lecturer in various government or private dental colleges. They can train and teach dental professional graduates and become part of the academic curriculum in the dental institute.
- **PhD Program**—PhD programs add to the research training received by an MDS pediatric dentist and can be pursued in India as well as abroad. PhD in Dental Sciences is a full-time 3-year doctorate course. Many colleges offer PhD Dental Sciences course in India. Every college has their own eligibility criteria, admission process, and fee structure. The average fee for this course ranges between INR 10,000 and INR 15 lakhs based on the candidate's marks obtained in their master's degree or entrance exams. PhD programs are offered at large in the foreign land and their specifications differ in each university or school. MDS postgraduates aspiring to attain a doctorate degree abroad must go through the course details entailed by the respective universities.
- **Short Service Commission (SSC) Officer with the Defense**—An MDS postgraduate can also join the Indian Armed Forces (The Army, Navy, or Air Force) Dental Corps too as SSC Officers. It is a remarkable opportunity with a good salary and privileges along with the pride of donning the Armed forces uniform.
- **Research Opportunities**—A pediatric dentist can opt for research work in their field. Research careers offer opportunities to generate new knowledge and be on the cutting edge of scientific discoveries that ultimately impact patient care. Many researchers are faculties at universities while others work in federal facilities, such as the National Institute of Dental and Craniofacial Research (NIDCR),² the National Institutes of Health (NIH),³ or in the private industry.
- A research career requires an advanced degree or additional training beyond the dental degree. There are various funding agencies in a different sector which can help financially by providing grants for a young researcher. Funding agencies are government or non-government bodies providing monetary grants for scientific research areas.

Few funding agencies in India which generously motivate young researchers are:

- **Department of Science and Technology (DST)**—The DST plays a crucial role in the advancement of Science and Technology in the country. Science and Technology Policy (2003) states that “Special emphasis will be placed on equity in development, so that the benefits of technological growth reach the majority of the population, particularly the disadvantaged sections, leading to an improved quality of life for every citizen of the country”.

The DST reinforces research through a wide array of schemes that meet the requirements of different sections of the scientific and engineering community.⁴

- **Department of Biotechnology (DBT)**—The DBT was established under the Ministry of Science and Technology in 1986. It gave a new impetus to the development of the field of modern biology and biotechnology in India. In the areas of agriculture, healthcare, animal sciences, environment, and industry, the department has made significant achievements in the growth and application of biotechnology.⁵
- **University Grants Commission (UGC)**—University Grants Commission promotes teaching and research in emerging areas in Humanities, Social Sciences, Languages, Literature, Pure Sciences, Engineering and Technology, Pharmacy, Medical, Agricultural Sciences, etc.⁶
- **Indian Council of Social Science Research (ICSSR)**—Indian Council of Social Science Research was established by the Government of India in 1969 to promote research in social sciences in the country. It provides grants for projects, fellowships, international collaboration, capacity building, surveys, publications, etc., to promote research in science in India.⁷
- **Council of Scientific and Industrial Research (CSIR)**—Council of Scientific and Industrial Research helps in the establishment or development of and assistance to existing special institutions or departments. It promotes scientific and industrial research in India by guidance and coordination with institutions. The CSIR aims to promote research in the field of agriculture, engineering, and medicine. Multidisciplinary projects which involve inter-organizational cooperation (including that of CSIR Laboratories) are supported by the cooperation.⁸
- **Indian Council of Medical Research (ICMR)**—The primary aim of the ICMR is to promote research in the country in the fields of medicine, public health, and allied areas. Through intramural research, the council promotes biomedical research in the country (through Institutes totally funded by ICMR) and extramural research (through grants-in-aid given to projects in non-ICMR Institutes).⁹
- **Indian National Science Academy (INSA)**—Indian National Science Academy was established in January 1935 and promotes science in India and increasing scientific knowledge for the cause of humanity and national welfare. It modified its program to support individual scientists.¹⁰
- **Biotechnology Industry Research Assistance Council (BIRAC)**—It encourages academia to develop technology/product [up to proof-of-concept (PoC) stage] of societal/national importance and its subsequent validation by an industrial partner.¹¹

This scheme has two components, namely—

- **Academic Innovation Research (AIR)**: Academic Innovation Research scheme aims to promote the development of PoC for a process/product by academia with or without the involvement of industry.
- **Contract Research Scheme (CRS)**: Contract Research Scheme aims at the validation of a process or prototype (developed by the academia) by the industrial partner.
- **The DBT/Wellcome India Alliance**—It is an independent, dynamic public charity. It funds research in health and biomedical science in India.¹²

- Fellowship Programs—Various fellowship programs are offered by different institutions on different specialties. The duration, of course, varies in each institute or organization. Fellowship programs offer fixed tenure for a specific research program with annual pay and associated perks.

One of the fellowship programs from the Hospital for Sick Children (SickKids), Canada, is a healthcare community dedicated to improving the health of children.¹³ The mission is to provide the best in the family centered, compassionate care, to lead in scientific and clinical advancement, and to prepare the next generation of leaders in child health. The hospital offers fellowships to procure specialty in special care dentistry.

Another fellowship program for conscious sedation by the Dental Organization for Conscious Sedation (DOCS) is committed to educating dentists on how to safely and effectively treat high-fear patients. Dental Organization for Conscious Sedation aims to provide a schedule of coursework taught by a wide range of experts who have developed protocols based on studies in pharmacology, physiology, and patient psychology.¹⁴

International Level—Future Opportunities Abroad

Pediatric dentists await a bright future on foreign grounds. It is a glorious career opportunity to pursue the profession abroad. Pediatric dentists can serve for international agencies such as the World Health Organization (WHO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the Food and Agricultural Organization of the United Nations (FAO) as special consultants and advisors. After 2–3 years of clinical experience as a general dentist, one can apply for the post of a dentist abroad. In most countries, it is mandatory to fulfill the eligibility criteria and clear the Dental Board or Ministry of Health examinations of the concerned country before one gets the license to practice. But each country has separate rules and exams to be eligible for practice and postgraduation degree. Few countries that attract a pediatric dentist are:

Australia

- Practicing dentistry—To work as a licensed dentist in Australia one has to go through the Australian Dental Council (ADC) Examination. This assessment process checks and reviews the candidate's eligibility, dental subject knowledge, and clinical expertise in dentistry. This assessment is under the three stages:
 - Initial assessment,
 - Written examination.
 - Practical examination.
- For a licensed dentist in Australia, one has to pass all the three stages and finally apply for a dentist license with the Dental Board of Australia (DBA).¹⁵
- Practicing Pediatric Dentistry—Australian institutes too offer Doctor of Clinical Dentistry (DClinDent) degree in pedodontics. It is a 3-year course with all the advanced clinical and research training curriculum of pediatric dentistry. Specifications of the course are distinct to different institutions and an aspirant must go through their specific brochures for the same. Indian MDS degree has no professional value in Australia and a pediatric dentist must procure an Australian DClinDent degree in pedodontics to practice pediatric dentistry in the country.

United States of America

- Practicing Dentistry—A dentist must clear the National Board of Dental Examination (NBDE). This exam is conducted in two academic parts: part 1 and part 2. After clearing NBDE, one can join a foreign national dental college and complete their bachelor's degree, i.e., Doctor of Dental Surgery (DDS). Doctor of Dental Surgery is a valid dental degree in the USA. American Association of Dental Schools Application Service (AADSAS) is the central application service for dental schools. A newer pattern of examination Integrated National Board Dental Examination (INBDE) has launched and replace the NBDE parts 1 and 2.¹⁶
- Practicing Pediatric Dentistry—Dental schools in the USA offer Master of Science (MS) degree for pediatric dentistry residence. It is a 2- to 3-year certificate course, depending on the distinctive guidelines of different schools or universities. To pursue MS from the USA, an aspirant must have a DDS or equivalent degree in the USA. Details on the program can be availed from respective college/school websites. An MDS postgraduate degree from India does not guarantee a degree in the USA for working as a licensed pediatric dentist. They also offer residency programs for pediatric dentists involving the utilization of various clinical skills for treating children and young adolescents.

UAE

- To work in Dubai particularly, one must have a license provided by the Dubai Health Authority (DHA). Professionals who wish to provide their services in Dubai must clear interviews with the Health Authority. The interview assesses the clinical knowledge, competence, and skills of each registered professional.¹⁷

Canada

In Canada, dentistry is a regulated and superlative profession with more job opportunities and high income. One can work as an Associate Dentist, Dental Assistant, Dental Service Director, General practitioner, or Research Assistant.

- Practicing Dentistry—The National Dental Examining Board of Canada (NDEB) oversees the general dentist certification process of both Canadian graduates and those trained outside of Canada. In addition to obtaining the NDEB's certification, all practicing dentists in Canada must also be licensed with the Dental Regulatory Authority (DRA), a regulatory or licensing body, in the province or territory where they want to work.¹⁸
- Practicing Pediatric Dentistry—The Royal College of Dentists in Canada offers a licensing exam for pediatric dentists. Canadian universities offer similar courses as the dental schools in the USA. Master of Science and Diploma courses are available in the field of pediatric dentistry.

European Countries

- It is often challenging to attain work in Europe after getting an MDS degree in India. An aspirant must clear the Overseas Registration Examination (ORE) part 1 and part 2 to enroll in any dental school in Europe or the UK. Dental schools, under the supervision of the European Academy of Pediatric Dentistry (EAPD), in the European subcontinent offer certificate and masters of Science in Dentistry (MScD) courses in pediatric

dentistry. It is a rigorous 3-year program to polish clinical and academic skills in pediatric dentistry.

Pediatric dentists are well versed with all practical aspects of dentistry and are valued professionally at the National and International levels. A pediatric dentist can avail of any of the above-mentioned opportunities depending on their clinical and academic skills, and financial conditions.

CONCLUSION

Pediatric and preventive dentistry is an artistic branch of dental science involving the diagnosis and treatment of diseases related to oral and maxillofacial structures in children and young adolescents. It involves a long, rigorous clinical and academic training course with a multitude of future prospects and opportunities. Owing to the high scope of pediatric dentistry across the globe, there is a millennium of career opportunities for MDS graduates in India and abroad.

In India, a pediatric dentist is generously paid and can join a government/private hospital or institution as a senior resident doctor or senior lecturer, set up a private practice, offer consultancy, join research projects and fellowship programs. At the international level, a pediatric dentist is highly valued. The aspirant must attain a degree accepted by the dental authority of the country to get a practice license abroad. The career options at the international level are as welcoming as that at the national level. An aspirant must collect the details of the interested course from authentic channels and work hard toward achieving their goal to grab the opportunity of their interest.

This article supremely focuses on the prospects of various career opportunities after becoming a pediatric dentist, thereby ameliorating the dilemma of choice felt by a postgraduate. Each career prospect needs to be carefully assessed before making a choice. The options are many but the choice to make is one.

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