Medical Education

Loss of interest for training in paediatric surgery in India

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ABSTRACT

Background. Despite the sizeable Indian paediatric population, few students have opted for postdoctoral (Magister Chirurgiae [MCh]/Diplomate of the National Board of Examinations [DNB]) courses in the past decade. We analyse the apparent loss of interest for training in paediatric surgery in India and suggest remedies.

Methods. We did a combination of an online questionnaire-based survey and several interviews among students, teachers and practitioners of paediatric surgery. The results were collated and analysed.

Results. Information from 238 questionnaires, 35 interviews and 75 feedbacks were distilled. About 83% of respondents agreed to a definite loss of interest among students in paediatric surgery, largely because of poor exposure during undergraduate/postgraduate courses and absence of a department in medical colleges. The blanket increase in seats has led to vacancies. The low saleability of paediatric surgery is linked to high personnel and infrastructure investment, modest remunerative potential and poor insurance cover for patients. Besides increasing public awareness, strategic governmental patronage in postdoctoral training (e.g. establishing a department in medical colleges, moderating the number of seats, encouraging performing training centres and rationalizing the bond after the training course) and facilitation of patient care (e.g. insurance cover for congenital conditions and paediatric surgeon in neonatal care units in district hospitals) is suggested.

Conclusions. The loss of interest in paediatric surgery among medical trainees is real and urgently requires a multipronged strategy by the medical fraternity, professional organizations and regulatory bodies across government and non-governmental sectors to facilitate a revival and cater to the sick surgical child in the future.

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INTRODUCTION

Paediatric surgical training in India is at a critical juncture with few students opting for the postdoctoral (Magister Chirurgiae [MCh]/Diplomate of the National Board of Examinations [DNB]) courses. In 2018–2019, the media headline *'Surgical super-specialty courses fail to attract doctors in the current times'* summed it all! The Medical Council of India (MCI) noted that 189/2029 seats for superspecialty surgical courses were vacant after the national eligibility-cum-entrance test (NEET), 168 were from four disciplines—cardiothoracic and vascular surgery (CTVS), paediatric surgery (PS), plastic surgery and neuro-surgery. Earlier (2017–2018), 290/571 seats in these disciplines had no takers, PS and CTVS being the most affected.[1] Despite a slash in the qualifying cut-off to 20th percentile, subsequent years saw several seats remaining vacant in PS—81 in 2019–2020 and 105 in 2020–2021.[2] Surprisingly, seats have gone vacant in premier national institutes too, including the several All India Institute of Medical Sciences (AIIMS) in the country!

Paediatric surgical training in India has reached this impasse over time and is threatening the dispensation of care to the sick child. There is an increasing neonatal and paediatric surgical burden due to a rising population, advances in infertility and perinatal care, increased survival of neonates with congenital anomalies and diminishing mortality due to infectious diseases—all typical of a developing country. In contrast, there is a drop in the number of trainees being groomed to cater to the demand.

Is there a loss of interest in training for PS in India? If so, why and what are the remedies? To answer these questions, we conducted an online survey to gather the perspectives of prospective trainees, trainees, teaching faculty and practitioners of the specialty across India.

METHODS

We conducted an online questionnaire-based survey with a mix of binary and open-ended questions. It had three sections on curriculum and training (24 questions), loss of interest in training for PS (17 questions, Table I) and remedial measures (5 questions). A Google form was created and the link (*https://forms.gle/tZx3DMpomZNxQzSK9*) was circulated through email among teachers (faculty at medical colleges with or without MCh/DNB course), current trainees (MCh, DNB trainees), prospective trainees (final year General Surgery postgraduate (PGs), interns) and paediatric surgeons in private practice. The responses were collated and analysed. In addition, opinions from interviews of senior teachers and students at various national academic meets (continuing medical education programmes, updates) and MCh entrances and exit examinations over the past decade were included in the study. We elaborate on the loss of interest for training in PS in India and suggest remedies. The perspectives of the current MCh/DNB PS curriculum and training are presented elsewhere.

RESULTS

The data presented were distilled from 238 questionnaires, 35 interviews and 75 feedbacks. A qualitative and quantitative analysis was adopted.

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TABLE I. Loss of interest in training in paediatric surgery (PS) for the subspecialty questionnaire

Question number	Questions	Yes/no	Descriptive answer
1	Is there a loss of interest for training in PS?		
2	Is the specialty needed for our country at all? If yes, why?		
3	Is there governmental patronage for training in PS? If yes, how is it evident?		
4	Does the average MBBS student get exposed to PS as a specialty? Is this a factor in the loss of interest in the specialty?		
5	Does the paediatric postgraduate (PG) get suitably exposed to PS during the training? Is this a factor in the lack of awareness about the scope of the specialty later in practice?		
6	Does the general surgical PG always get a rotation in PS?		
7	Do the physicians (paediatricians and neonatologists) support the specialty? Does this vary from teaching hospital to private/ corporate practice?		
8	Are adult surgeons interested in operating on children? Why?		
9	Is the medical fraternity generally more interested in organ-specific (e.g. urology) than age-specific (PS) specialization?		
10	Is there a loss of interest in training for the subspecialty among the surgical PGs?		
11	Is 'aptitude' not the main criterion for the choice of a subspecialty anymore? If not, what is the most important criterion?		
12	What are the three most important factors that deter a surgical PG from opting for PS?		
13	What percentage of post-doc trainees in PS have it as their first choice?		
14	The modest earning of a paediatric surgeon discourages entrants to the field. Do you agree?		
15	The bond clause (serve the state for 1–3 years after Magister Chirurgiae [MCh]) in several states has been removed, yet several seats remain vacant. Was it actually a deterrent in joining the course?		
16	The requirement for paediatric critical care deters many from opting for MCh PS. Is it true?		
17	Senior paediatric surgeons do not patronize/mentor their juniors sufficiently for fear of loss of monopoly. Do you agree?		

Is there a loss of interest in the specialty?

Eighty-three per cent (83%) agree that there is a loss of interest among students in PS. Yet, 98% reiterate a definite need for such training as 30%–40% of the Indian population is children and their unique needs can be catered to only by paediatric surgeons.

Exposure of students to PS in medical colleges

Overall, 88% opine that medical undergraduates (UGs) do not get adequate exposure to PS and 72% believe this to be a key factor for not considering it for specialization. The proportion of trainees exposed to PS during their courses varied—UGs (10%), PGs in paediatrics (20%) and general surgery PGs (49%). The major reason for poor exposure was absence of a department/faculty member of PS in the medical college.

Governmental facilitation

Eighty-three per cent (83%) perceive a lack of governmental patronage to training in PS. A minority (11%) note an emerging facilitation exemplified by an increase in MCh seats, permission to start MCh in new centres, lowering of the qualifying cut-off in NEET and the introduction of the Ayushman Bharat Scheme.

Postdoctoral (MCh/DNB) training centres and seats

Overall, 66% preferred MCh over DNB as a training course citing better standards. A majority (85%) contend that the blanket doubling of MCh seats in government colleges a few years ago was inappropriate. Besides DNB faculty, others (66%–88%) felt that with vacancies in MCh centres, the need for DNB (PS) centres was low. The creation of new seats in selected, performing centres, be it MCh or DNB, was deemed reasonable by 20%–43%. The 6-year course was attractive as a one-stop career plan with no obligation to serve a bond.

Opting for training in PS

Only 10%–20% of trainees in PS had the subject as their choice. Although most teachers and trainees (88%–95%) agree that aptitude was a secondary factor in the choice, prospective applicants (interns, surgical PGs) still consider it as primary. Other factors considered decisive by teachers and trainees alike were remunerative potential including corporate sector employability, professional glamour, stress and work–life balance, specialty-specific learning curve and NEET score–seat availability in that order of importance.

Deterrents perceived by surgical PGs in opting for PS

The following were listed by over 60% as the foremost reasons for PS being a poor choice for postdoctoral training or career: lack of public awareness, negligible exposure during UG/PG training, poor absorption in medical colleges, difficulty to set up a remunerative private practice because of dependence on referrals from primary physician/paediatrician. Specifically, the modest earning of a qualified paediatric surgeon (92%), need for perioperative critical care (75%) and the 'bond' to serve the state after completing the course (51%) were the strongest deterrents.

Mentorship and support within the fraternity

The majority (84%) felt that professional support from ancillary quarters and allied medical specialties (neonatology, paediatrics) varied depending on the set up (private/government, teaching/ non-teaching) and about 68% (57%–93%) concede such support. Within the PS fraternity, 60%–76% point to a definite lack of mentorship and patronage of junior members.

DISCUSSION

This survey is the first of its kind to be conducted among the fraternity of PS teachers and trainees (current and prospective) in the country and reflects known and unknown perceptions. There is a loss of interest in training for PS. Despite a felt need for PS services for the sizeable paediatric segment of the Indian population, there are few UGs/PGs interested to train in the discipline. The factors responsible for this paucity of interest and possible remedial measures are discussed.

The deficient curricular exposure to paediatric surgery must be enhanced

There is a dismal level of exposure to PS across prevalent UG/PG curricula with several medical colleges in the country lacking even a service department or a paediatric surgeon in the faculty. Among prospective trainees—interns and surgical PGs, the ones who considered it for specialization were from centres that had either facility. The poor exposure among paediatric medicine PGs translates to deficient training and suboptimal referral patterns in practice thereafter.

Like paediatric medicine, the other age-related specialty, PS services must percolate into the medical colleges and peripheral healthcare system. Enhanced public awareness and technical exposure to the medical fraternity including trainees is necessary. A systematic creation of a service department of PS in every medical college is a basic step. Target groups to reach out include UGs, PGs (general surgery, paediatrics and obstetrics) and practising physicians (paediatricians, neonatologists, obstetricians and foetal medicine). Inclusion of common PS topics in the MBBS syllabus, elective posting for interns and compulsory rotation of PGs of general surgery, paediatrics and neonatology in PS should be implemented.

Governmental facilitation is awaited

Governmental facilitation has not been perceived as responsive to the problems on the ground. The indiscriminate increase/doubling of MCh seats in government colleges without commensurate increase in infrastructure is inimical to the discipline of PS. The existing demand–supply imbalance in PS seats at various centres has been accentuated with increasing vacancies. Desperate measures such as lowering the qualifying cut-off in superspecialty NEET enrol students who are not interested in the subject. The number of PS MCh/DNB seats should be moderated so that these are filled up, offer commensurate clinical material for training and the graduating trainees get suitably employed.

The paucity of service/faculty positions in PS in the government sector needs attention. Besides creation of departments in medical colleges, the district hospital with special care neonatal unit would benefit from a paediatric surgeon. Even corporate hospitals offering maternal and child healthcare services should have full-time paediatric surgeons.

Similarly, the introduction of government schemes to facilitate PS patient care is yet to make a tangible impact. The government schemes and private insurance sector must include common neonatal and paediatric surgical entities including congenital anomalies. A uniform and viable tariff for the surgical procedures is desirable.

Children under 15 years of age requiring surgical care should be primarily treated by a qualified paediatric surgeon. The Indian Academy of Pediatric Surgeons (IAPS) should push this perspective in its interactions with the government, insurance sector as well as regulatory academic bodies (e.g. National Medical Commission [NMC]).

Choice of PS for a subspecialty: Aptitude and saleability!

Although contested, aptitude for the subject does not figure as the decisive factor in the choice of PS. Several common factors explain the low saleability of PS in contemporary practice. The medical fraternity is predominantly (87%) tuned to organ-specific rather than age-specific practice. PS demands considerable inputs (patient hours, work stress, steep learning curve, referral base, familiarity with critical care, expensive private infrastructure) but the material returns are not comparable (paucity of governmental/non-governmental employment, modest financial viability in the private sector, poor patient insurance cover). Consequently, the range of NEET scores from which PS gets filled up is lower than that of others.

The 'bond' after postdoctoral training

The bond to serve the state after completion of the MCh course is a strong deterrent. Although meant to facilitate specialty services across the state governmental sector, it is inherently flawed. It is not executed uniformly across India in terms of duration, remuneration and penalty; also, the government is often unable to provide a posting in a suitably equipped centre. The bond should either be abolished (e.g. Gujarat) or suitable provisions provided for its meaningful execution.

A good training centre is feasible with either MCh/DNB

Although both teachers and trainees preferred MCh over DNB, one-third agree that there is a potential for a good training platform in either stream. A review of the seat grid and tailoring of the number of seats according to the patient load, faculty strength and track record of candidates registering and graduating from a given centre is suggested. Overall, a performing centre deserves facilitation.

Curricular changes to initiate subspecialization

Besides aiming to standardize curriculum and training programmes in PS, subspecialization must be initiated, for example, in paediatric urology and paediatric oncosurgery. Student exchange programmes between different institutes specializing in particular fields during MCh/DNB courses, restructuring the 6-year courses to include a year of subspecialization, introducing recognized postdoctoral fellowships (university/IAPS) in subspecialties will make the training more robust.

Loss of peer support and mentorship

The practice of PS is dependent on professional partnership with paediatricians, neonatologists and a thriving mentorship/apprenticeship attitude from seniors. The erosion of professional etiquette and camaraderie with a fear of loss of monopoly has stymied its appeal. The restoration of these is incumbent on those partnering in caring for the sick child.

Conclusion

The loss of interest in PS among medical trainees is real and linked to several factors—curricular, administrative, prevalent practice and public perception. These demand an urgent multipronged strategy incorporating the listed interventions. The medical fraternity, regulatory bodies, professional organizations, government and non-governmental sectors must come together to facilitate its revival to care for the thriving paediatric population in the coming years.

Conflicts of interest. None declared

REFERENCES

1 Available at *www.hindustantimes.com/india-news/fewer-doctors-opting-to-become-surgeons-shows-health-ministry-data/story-CuBjj9AvpGuLeOzktBmkOJ.html* (accessed on 10 Oct 2020).
2 Available at *www.mcc.nic.in/MCCSS/SeatMatrix.aspx* (accessed on 10 Oct 2020).