

## Pediatric surgical specialty in India: Sunset or in an eclipse? Current status: 2014-15

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### Abstract

**Background:** Pediatric surgical specialty in India is more than 50-year-old. In spite of the advances made in pediatric surgical care, the specialty is still not being recognized as a “super specialty” and given importance in par with other super specialties. There is a decrease in the demand for pediatric surgical trainee posts. **Aims:** To assess the current status of pediatric surgical services in India and analyze the factors contributing to decrease in demand for pediatric surgical trainee posts. **Materials and Methods:** A web-based survey was conducted in January 2014. A questionnaire was sent to all members of Indian Association of Pediatric Surgeons via e-mail and the results were analyzed. Survey Monkey statistical software was used for analysis of data. **Results:** A total of 145 (24.5%) members responded to the survey. The majority of the members were practicing in metros and were dissatisfied because of the lesser remuneration as compared to other super specialties. However, the majority of the members were happy socially and professionally and expected a bright future for the specialty. **Conclusion:** Pediatric surgery, like any other surgical branch, has short comings. Pediatric surgical specialty in India is currently in an eclipse rather than in a sunset.

**Key words:** *Financial satisfaction, Pediatric surgery, Web-based survey*

Pediatric surgical specialty in India is more than 50-year-old. There has been tremendous growth in this specialty in terms of patient care, surgical techniques, better understanding of the pathology of various diseases, with better outcomes. In spite of this progress, there is no increase in the standing in society for pediatric surgeons. Are we being really recognized as “super specialists”? There are very few aspirants for pediatric surgical trainee posts. Why are large numbers of training seats in medical colleges going vacant? What is the future of our specialty? Why is the scenario different in the developed world? This study was conducted in an attempt to answer these questions. Aims of our study were to obtain data regarding the current status of Pediatric surgery in India and to assess the reasons for decrease in the demand for pediatric surgical trainee posts.

### MATERIALS AND METHODS

A web-based survey was conducted in January 2014, where a questionnaire related to the type of practice, levels of professional and financial satisfaction was sent to all the registered members of Indian Association of Pediatric Surgeons (IAPS) through e-mail, and the results were analyzed using the Survey Monkey statistical software. The survey was anonymous.

Data regarding the sanctioned M.Ch pediatric surgery seats and the number of seats filled up across the country during the academic year 2014-15 was obtained by telephonically contacting the heads of the departments, hospital sources and Medical Council of India (MCI) website.

### RESULTS

The IAPS directory as on January 2014 had 894 members. Only 591 (66.1%) members had a valid e-mail ID registered. The association had 818 (91.5%) male members and 76 (8.5%) female members. A total of 145 (24.5% of the valid e-mails) members participated in the survey. About 74.13% of the members were <50 years of age (Table 1).

Approximately 80% of the participants practiced pediatric surgery exclusively. Around 27 (18.75%) participants had pediatric and adult general surgical practice. The remaining 3 (2.08%) participants also had general practice. Reasons for not practicing pediatric surgery exclusively are mentioned in Table 2. Out of 33 such participants, 14 (42.42%) were practicing adult general surgery since beginning and wanted to continue the same. Others also felt that there were not enough pediatric surgical patients (36.36%).

A total of 106 (74.5%) participants were attached to an institution (Table 3). 78.45% of those working in institutions had a separate Department of Pediatric Surgery. 42.24% of them had their patients admitted in exclusive pediatric surgical wards. 50% of the them had pediatric anesthetists available, and 32.76% of them had a separate surgical neonatal intensive care unit/pediatric intensive care unit available (Table 4).

The majority of the participants (75%) were concentrated in the metros and state capitals (Fig. 1). 80% of them were performing minimally invasive procedures, and 75% of the members were performing advanced pediatric urologic procedures. 70% of the participants were involved in undergraduate and post-graduate teaching.

About 62% of the participants took up our specialty by choice while 38% participants had chosen this specialty due to non-availability of specialty of their choice for their ranking in entrance exams. Deputation/sponsorship by the parent institution/government for special training (7.27%), just wanted to do any super specialty training and start practice (41.82%) and parental pressure (1.8%) were also the other reasons given. More than 85% of the participants had support from fellow

pediatric surgeons when required. The majority of them (>60%) had very good or good balance between professional and social life (Fig. 2).

The participants were asked to score their level of happiness in life from a range of 1 to 10. The average score with respect to happy being a pediatric surgeon was 7.3 and happiness with respect to professional satisfaction was 7.1. However, with respect to financial satisfaction, the average score was 5.5. 82% of the members anticipated a bright future for our specialty.

The status of the training programs across the country was as follows. A total number of MCI recognized seats were 133 in 49 medical colleges and post-graduate institutes and out of them, 75 (56.3%) seats were filled up. Region wise distribution of seats is given in Table 5.

**DISCUSSION**

Pediatric Surgery in India is more than 50-year-old with the majority of the pediatric surgeons being <50 years of age. However, we are yet to create an image of our own in the society as “super specialists.” Alex Haller, during his general surgery internship, told Alfred Blalock that he aspired to be a pediatric surgeon. Alfred Blalock’s response was -“I am not sure there is a future for a specialty of children’s surgery, and I would advise you strongly to complete your general surgery training first to be on the safe side [1].” After a few days of Blalock’s suggestion, Haller also sought the advice of Mark Ravitch regarding pediatric surgery as a career option. Mark Ravitch opined - “You

**Table 1: Demographic data of pediatric surgeons who participated in the survey**

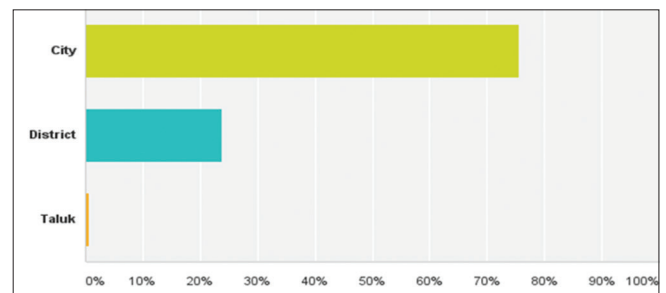
Age group	N (%)
30-40	58 (40.56)
41-50	48 (33.57)
51-60	27 (18.88)
>60	10 (6.99)
Total	143

**Table 2: Reasons for not practicing pediatric surgery exclusively**

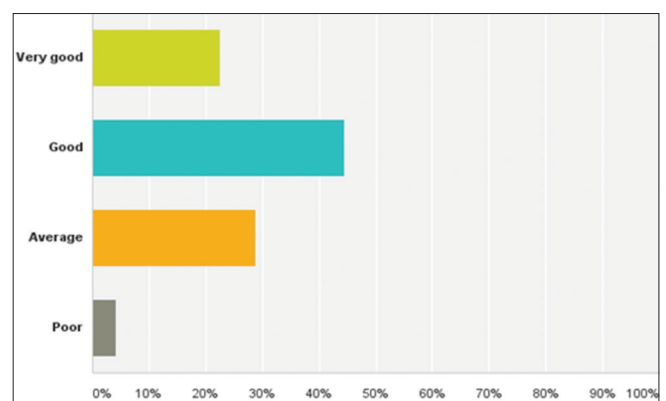
Answer choices	Responses N (%)
Doing it since beginning of practice, continuing with the same	14 (42.42)
Not enough pediatric surgery patients	12 (36.36)
For more financial gains	5 (15.15)
Helping general surgeons in their practice	2 (6.06)
Total	33

**Table 3: Type of practice**

Answer choices	Responses N (%)
Attached to an institution with no private practice	52 (36.36)
Attached to an institution with private practice	54 (37.76)
Complete private practice	37 (25.87)
Total	143



**Figure 1: Location of practice**



**Figure 2: Balance between professional and social life**

may not be able to make a living operating only on children. The Professor's (Alfred Blalock) advice is sound; become a well-trained general surgeon first, and let pediatric surgery be your hobby. It is a great field (pediatric surgery)! But there may be no future for the specialty." These were the opinions of pioneers in pediatric surgery almost 60 years ago. Even today, many practicing pediatric surgeons in India have the same opinion.

T. Dorairajan in 2002 felt the need for improvisation in pediatric transplantation, minimally invasive surgery and microvascular surgery. He also observed the region wise imbalance in the distribution of practicing pediatric surgeons. He strongly felt that pediatric surgery was not a sinking specialty [2]. Rao and Choudhary [3] analyzed the status of pediatric surgery in India in 2004. They felt that the specialty was yet to make a mark in the society. Many factors including lack of awareness among the public, administrators and even among the medical personnel regarding the specialty, poor marketing and inability to create glamor had led to the current state. They thought that lack of organ based specialization, failure to develop neonatal surgical critical care and poor financial investment both by the parents and by the administrators on pediatric patients had led to the situation.

**Table 4: Nature of institutional practice**

Answer choices	Responses N (%)
Working under general surgical department	12 (10.34)
Have a separate department of pediatric surgery	91 (78.45)
Pediatric surgical patients are admitted in pediatric/general surgical wards	18 (15.52)
Pediatric surgical patients are admitted in separate pediatric surgical ward	49 (42.24)
Pediatric anesthetists are available	58 (50.00)
Separate pediatric surgical NICU/PICU is available	38 (32.76)
Total participants	116

**NICU: Neonatal intensive care unit, PICU: Pediatric intensive care unit**

**Table 5: Distribution of seats (academic session 2014-15)**

Region	Seats sanctioned by MCI	Filled up seats	Filled seats
Government seats	113	70	61.9
Private seats	20	5	25
Region wise distribution of seats			
Northern India	32	26	81.2
Southern India	58	24	41.3
Eastern India	15	11	73.3
Western India	28	14	50.0

**MCI: Medical Council of India**

The current data shows that there is not much change in our specialty over the past 12 years (Table 6). One of the reasons is that pediatric surgical patients form a small number when compared to patients with other diseases, drawing less attention from the policy makers in the government both given investment and recognition. Another factor could be that we have been unsuccessful in lobbying with the government to get our specialty its due share in the resources.

Chowdhary [4] in 2008, observed the decrease in quality and number of surgical post-graduates seeking entry into the specialty. He stressed the importance of sub-specialization and greater empowerment of IAPS.

In this survey of 2014, the data regarding M.Ch pediatric surgery admission for the academic session 2014-15 revealed that approximately 45% of the seats have gone vacant and only 25% (5 out of 20) of the seats in private medical colleges were taken. This may be due to the high fees being charged, without any stipend in most of the private medical colleges. When plenty of seats are available and going vacant in government medical colleges (43 out of 113) where the fees is nominal and the trainees get a decent stipend, it would appear foolish to opt for a payment seat in the private sector where the patient load is often poor. A threefold increase in the number of post-graduate seats in pediatric surgery across the board by the MCI and endorsed by the government in the preceding years could also be an important reason for the relative fall in demand. This has also resulted in trainees not getting adequate exposure both in quality and numbers.

**Table 6: Comparison of data with previous study**

2002	2014
70% of the pediatric surgeons are located in metros and state capitals	75.5% of the pediatric surgeons are located in metros and state capitals
Inability of the system to absorb trained pediatric surgeons	Has remained the same
Lack of insurance policies to cover congenital birth defects	Has remained the same
Lack of jurisdiction/laws that only pediatric surgeons should operate on pediatric patients where they are available	Has remained the same
Poor awareness among the public and general medical men regarding our specialty	Better, but still needs improvement
Inability to create glamor in the specialty	Has remained the same
Organ/region based surgical expertise not picked up in our specialty	Gradually improving

African countries [5,6] have a shortage of pediatric surgeons and majority of them are concentrated in urban areas and very few in rural areas. The relative number of pediatric surgeons varied widely from none in Mauritania and Rwanda to 2.07 pediatric surgeons per million populations in Gabon. The workforce deficit remained quite large from 3 in Gabon to 693 in Nigeria. A survey conducted in 2000 [7], comprising 41 pediatric surgeons from 14 Asian countries found a total of 3539 pediatric surgeons for a combined population of 3.0086 billion. With the possible exception of Thailand, which appears to have a surplus of pediatric surgeons, the workforce deficit in other Asian countries was still large [8,9].

In the United States, the demand for pediatric surgeons remained strong over the decades as measured by employment opportunities and income of the freshly graduated pediatric surgeons [10]. This could be attributed to the strict control on the supply side of the market. However, in the past 15 years, production of new surgeons has more than kept pace with need, and there are indications that production is now exceeding need [11,12]. On an average, 26.5 residents are graduated each year in USA, in comparison to >75 (out of the total recognized 133 seats) residents being graduated each year in India.

In our survey, 45% of the participants were not satisfied financially. Poor job security, less number of patients compared to other specialties, lesser paying capacity of the parents/guardians (majority of congenital anomalies are seen in low socio-economic status population), and lesser fee fixed by the government for pediatric surgical procedures in government approved health schemes may have contributed to the same. Krishnaswami et al. [13], in an article about pediatric surgical workforce in low- and middle-income countries concluded that lack of funding, training opportunities, and political will in combination with a critical lack of mentors and strong push-pull factors have limited the number of new entrants into the workforce and has contributed to the significant attrition from the surgical workforce in low- and middle-income countries.

In spite of all these short comings, 82% of the participants in our survey anticipated a good future for our specialty. Majority of the pediatric surgeons were happy in their lives. Organ or region based sub-specialty training is gradually picking up in the country with centers offering fellowships/advanced training in various sub-specialties related to pediatric surgery. This is a very positive trend and needs to be continued. Majority of the members have a good balance between their professional and social life. This suggests that all is not bad in our specialty.

The limitation of our study was that it reflects the opinions of 145 participants out of the total 894 members (16.21%). We were able to assess the responses of only 24% of members

who had a valid e-mail id. The reason for other members not responding to the survey is unknown.

## CONCLUSION

Pediatric surgery, like any other branch, has short comings. The majority of the participants have a good professional satisfaction and good balance between social and professional life. Most of the participants predict a bright future for the specialty. We feel pediatric surgery, as a specialty in India, is currently in an eclipse rather than in a sunset. With proper addressal of the ongoing issues, a bright future for our specialty can be expected.

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