

## Career Choices of Medical Students at a Tertiary Care Teaching Hospital in Telangana State

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### Abstract

**Background:** Choosing the specialization after medical graduation is a predicament for every student. The choice of specialty depends on various factors like social, economic, others influence and career related factors. The present study was designed to assess the preferred career choice among the medical students and factors influenced the career choice. **Materials and Methods:** It was a cross sectional questionnaire-based study done at Kamineni Institute of Medical Sciences, Narketpally, Nalgonda District. Students of 5<sup>th</sup> Semester, voluntarily and anonymously completed a semi-structured questionnaire consisting of demographics, prior education level, specialty choice questions and reasons for choosing specialty. **Results:** Out of 146 students, 109 students properly filled the questionnaires. The mean  $\pm$  SD of age was  $19.84 \pm 1.41$  years with male to female ratio of 1: 2.5. A total of 90.83% students belong to urban areas. Most of them (66.97%) were from state board of higher education. Parents of 17(15.60%) students belongs medical profession. Majority of the students opted for medical specialty (67.9%) as first preference followed by surgical (32.1%). None of them opted for pre clinical, para clinical and hospital administration as first preference. The reasons like income, life style and low

stress had strong influence in preferring the specialty. Only few students preferred to work in government hospitals (27.5%) and rural areas (11%). **Conclusion:** The study reveals majority of students inclined towards clinical specialties. Reorientation of Medical Education is needed along with policy settings to attract doctors to the scarcity and high priority disciplines so that imbalances encountered would be minimal in future.

**Keywords:** Career Choice; Medical Education; Medical Undergraduates.

### Introduction

Medical students career preferences has remained an area of interest for medical educators and state departments concerned with health manpower planning [1,2]. Medical students around the world often make the mistake of believing that they will find the perfect specialty by luck or good fortune, but this is not always the case. Choosing the ideal field for medical specialization requires time, research, proper guidance and systematic investigation [3]. Proper advices and guidance is required for medical graduates, for future scarcity or abundance in medical specialization fields [4].

Career related inclinations have been found among medical school entrants and even among applicants [5]. The choices made by medical students regarding their career specialty is not only an important decision for their future but it also affect the availability and supply of medical personnel and the quality of service the country's health system is able to provide [7,8].

It has been suggested that an understanding of factors that influence career decisions may help in workforce planning [9] avoiding over or under supply of doctors in different specialties [10, 11]. Further,

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knowledge of career preferences can assist in curriculum planning [12]. It has also been suggested that the preclinical and clinical training period can be used to influence specialty preference [13]. There are several factors having strong influence on choice of career specialty among medical students. Some of them are occupation of the parents, family background and quality of lifestyle, personality, type of medical school, experience in clerkships, and role-modeling of the tutors. Some other influencing factors include gender, study debt, and academic performances [14]; however, there is no information on the career preferences of medical students in India. We sought to identify the careers preferred by students at our institution, and the factors that influenced these choices. Our findings can help determine the future direction of the curriculum at our institution.

## Material and Method

### *Study Design and the Participants*

A cross-sectional, questionnaire-based study was performed at Kamineni Institute of Medical Sciences, Narketpally District Nalgonda (KIMS). The students of 5<sup>th</sup> Semester voluntarily and anonymously completed a semi-structured questionnaire.

### *Questionnaire Design*

A multi-graded Questionnaire was created on criteria like career choice in post graduation. A questionnaire was designed by the study team after thorough review of literature and feedback from colleagues. It contained information related to demographics, prior education level and country of receiving the high school degree, study semester, specialty choice questions and reasons for choosing specialty.

### *Study Setting*

Students enter for a 5 and half year course (comprise of 9 study semesters 6 month each) which include 1 year compulsory rotating Internship at the Dr. NTR University of Health Sciences, Andhra Pradesh State. We selected the 5<sup>th</sup> Semester students who are also exposed to Clinical Postings at Kamineni Hospital of Kamineni Institute of Medical Sciences, Narketpally. A verbal informed consent was taken from the students and Information sheet regarding the details of the study was provided to the students. Investigators in our study collected data personally by distributing the questionnaires to the students of

5<sup>th</sup> Semester. Students were asked to answer each question frankly, honestly and after understanding it properly. The identity of the student was kept confidential to avoid bias in this study. A total of 148 students (5<sup>th</sup> Semester students) participated in this study. This study was conducted in April 2015.

### *Analysis*

The data were entered into an MS Excel worksheet and analyzed using Statistical Package for the Social Sciences (SPSS) for Windows Version 18.0 (SPSS Inc; Chicago, IL, USA). Mean and standard deviation were calculated for continuous variables such as age and proportion were calculated for the categorical variables including gender, choice of specialty etc.

### *Ethical Committee Approval*

Prior to the study, ethical committee approval was taken from Institutional Ethical Committee.

## Results

Of the 146 students, 115 responded. Among them 109 responded to all the questions and 6 were not filled properly, hence not included in analysis. The mean  $\pm$  SD of age was  $19.84 \pm 1.41$  years and 71.56% of them were females where as 28.44% males. A total of 90.83% students belong to urban areas, 9.17 % came from rural setup. The educational back ground from which the students came in our study was as depicted in table no 1. In our study 66.97% of students came from state board of secondary education (SSC), whereas 21.10% came from central board of secondary education (CBSE) with just 2.75% came from Non residential Indian criterion. A total of 17(15.60%) students had background of parents in medical field and remaining 92(84.4%) students' parents from non-medical career. The mean gap after intermediate and before joining the MBBS course was  $1.11 \pm 0.4$  years. A total of 35(32.11%) students have gap after intermediate before joining into the MBBS course, out of them 32(91.43%) students had one year gap and 2(5.71%) students had two years gap and 1(2.86%) student had three years gap after intermediate.

In the present study, most of the students chose the medical specialties as their preference followed by surgical, para-clinical and administrative specialties. The percentage of students preferring each specialty was given in Figure 1.

The first preferred specific sub-specialty under each category (medical/surgical/pre/para clinical/

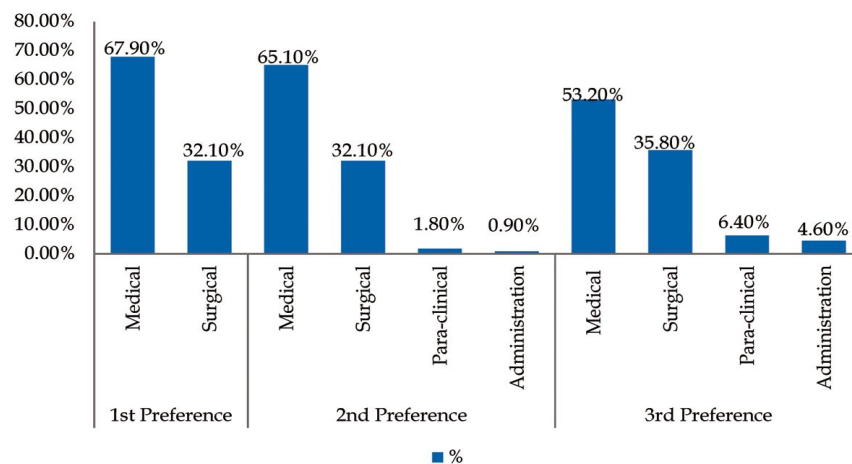
hospital administration) was as depicted in Figure 2. None of the students had chosen pre/ Para-clinical / hospital administration as their first choice.

Under the second preference, majority of the students chose pediatrics (17%) and least preferred

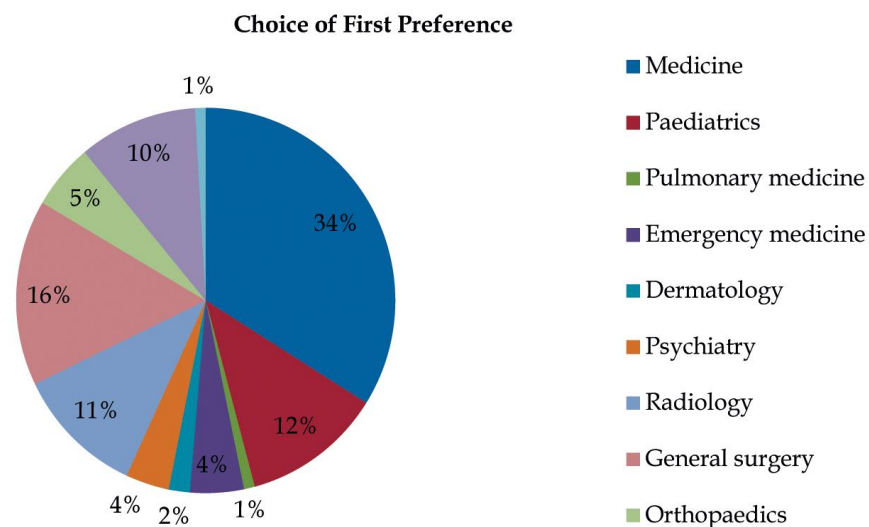
was ENT, Pathology, forensic medicine and hospital administration (Figure 3). The preference of specialty as third choice was orthopedics by many students and the least preferred were ophthalmology and para-clinical subjects (Figure 4).

**Table 1:** Demographic and other characteristics of students and Parents

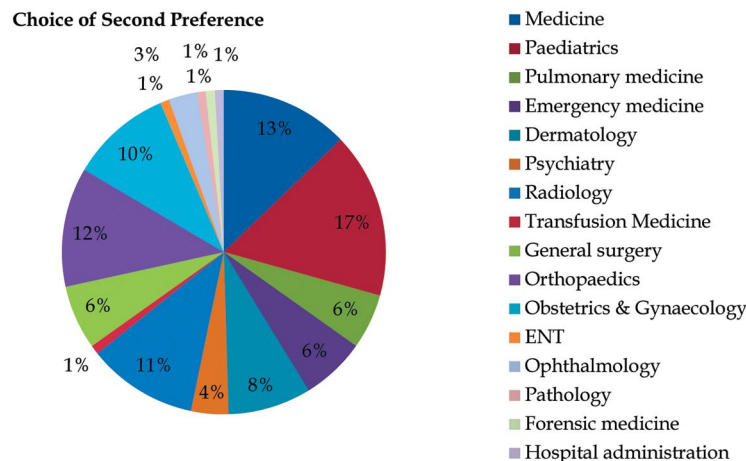
Characteristics	Number (%)
Females	78 (71.56%)
Males	31 (28.44%)
Students from Urban area	99 (90.83%)
Students from Rural area	10 (9.17%)
From SSC	73 (66.97%)
From CBSE	23 (21.10%)
From ICSE	10 (9.17%)
From Others (NRI)	03 (2.75%)
Parents were doctor	17 (15.60%)
Parents with non-medical career	92 (84.40%)



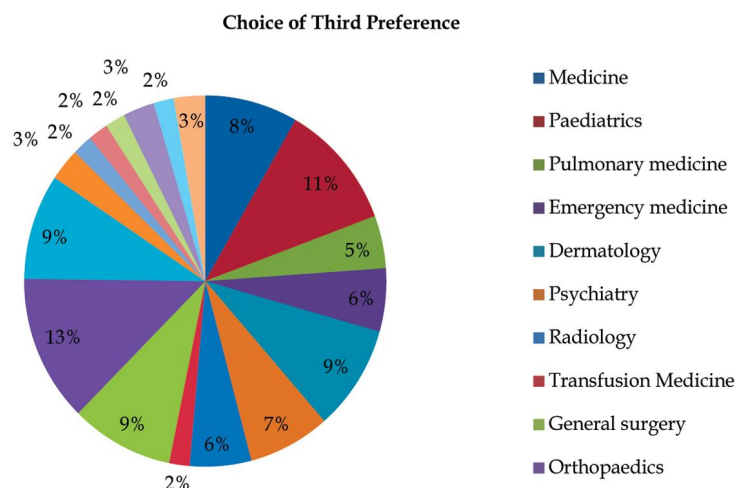
**Fig. 1:** Medical student's preference of specialty



**Fig. 2:** Students first preference of specialty



**Fig. 3:** Students second preference of specialty



**Fig. 4:** Students third preference of specialty

When the preference of career choice before entering into the MBBS was asked 67% had same preference as they mentioned now, whereas 29.4% had changed their preference and 3.7% had no preference at all. The various reasons mentioned for change in their career choice were stable and secure future, scope of self practice, independence, more interesting specialty, challenging, high income, influence of role model in that specialty, low risk, gender discrepancy, difficult and embarrassing.

Reasons that influence the students career choice was divided into 7 categories. The reasons under each category include as below.

*Category 1: Income, life style and prestige.*

*Category 2: Other Influence:* Influence of a role model in the specialty / faculty, Advice from parents / family, Advice from practicing physicians, Advice from friends, Friend/relative who suffers from disease of that specialty.

*Category 3: Own Experience:* Inclination for specialty

before medical school/personal interest in the specialty, Experience during posting in specialty, Reputation of specialty, Involves close interaction with other specialties, Gender distribution in the specialty, Scope of self practice, Professional independence, Career progression, Options good for going abroad, Others.

*Category 4: Low Stress:* Stable and secure future, Less Physician-patient interaction, Acceptable hours of practice/on call schedule, Easily compatible with having a family, Results of interventions immediately available, Minimum exposure to infectious disease (HIV, tuberculosis), Focus on non-urgent care.

*Category 5: Challenging:* Intellectual challenge, focus on urgent care.

*Category 6: Service oriented:* Interest in long term relations with patients, Focus on community health.

*Category 7: Interest in Research:* Interest in research, teaching opportunities.

The specialty preferences of medical students are

shown in Figure 1. Various reasons given by students for the choosing medical career as future career choice are detailed in Table 2. Challenging (Strong 23.4% and Very strong Influence 17%), Income, life style & prestige (strong 25.7% and very strong Influence 11.9 %), Own experiences (Strong Influence 19.1% and Very strong Influence 13.7%), other persuasive factors were Low stress (11.7%), Service Oriented(14.2%), and interest in research (13.3%).

When asked about choice of stay (table 3) after the completion of graduation, 78(71.6%) chose India, 24(22%) - US, 1(0.9%) - UK, 5(4.6%) - other places and

1(0.9%) opted either India or US.

When asked about their future career /practice 41.3% chose private corporate hospitals, 27.5% - government, 27.5% - private practice, 1.8% - others like army, 0.9% opted for government with own practice and 0.9% corporate with own practice (Table 4).

More than 63(57.8%) want to continue their career in corporate hospitals of cities, followed by 17.4% practice in towns and 11% in rural areas, 13.8% showed their inclination towards research in Research institutions(Table 5).

**Table 2:** Reasons for preferring a specific medical specialty as future career choice

Factors	1(No influence)	2(influence)	3(strong influence)	4(very strong influence)
Income, life style & prestige	27.5%	34.9%	25.7%	11.9%
Others influence	55%	24.8%	11.9%	8.3%
Own experience	42.8%	24.5%	19.1%	13.7%
Low stress	55.4%	25.3%	11.7%	7.6%
Challenging	31.7%	28%	23.4%	17%
Service oriented	41.3%	36.7%	14.2%	7.8%
Interest in research	59.2%	23.4%	13.3%	4.1%

**Table 3:** Preferred country to work in future

Preference to country	Country	%
1 <sup>st</sup> Preference	India	78 (71.6%)
2 <sup>nd</sup> Preference	United States	24(22%)
3 <sup>rd</sup> Preference	United Kingdom	1(0.9%)
Other Places	Other Places	5(4.6%)
No Preference	-	1(0.9%)

**Table 4:** Preferred sector to work in future

Sector	%
Private Corporate Hospitals	41.3%
Government	27.5%
Private Practice	27.5%
Army	1.8%
Government with own Practice	0.9%
Corporate with own Practice	0.9%

**Table 5:** Preference to rural/urban setup in future

Preference	Urban/ Rural	%
1 <sup>st</sup> Preference	Corporate Hospitals in Cities	57.8%
2 <sup>nd</sup> Preference	Practice in Towns	17.4%
3 <sup>rd</sup> Preference	Research Institutions	13.8%
4 <sup>th</sup> Preference	Rural Areas	11%

## Discussion

Choosing a career especially in the medical profession could sometimes be a difficult task which is usually influenced by several factors. Although students have strong career preferences from the beginning of their training period, their choices undergo several changes before a final decision is made on the choice of career. The experiences gathered by students in chosen specialties during as well as the social milieu of the medical school, the teaching programme as well as the influence of role

models can affect career preferences [15]. Curricula design, participation of family physicians as faculty, early involvement of students in community activities, and development of a positive attitude towards primary and rural care are some of the elements where the medical school can play an important role.

This study focus on career preference in future, of 5<sup>th</sup> semester students of Kamineni Institute of medical sciences, Narketpally as well as upon the factors that lead to such preferences. In our study we included students from 5<sup>th</sup> semester who had an exposure to clinics at Hospitals through clinical postings. In our study number of Boys 31 (28.44%), are very small, this may be due to more takers of Medical seat in South India by Girls. Moreover a steady feminization of medicine is flourishing everywhere in the world<sup>16</sup>. Formerly some specialties were dominated by male, but nowadays the whole scenario had changed<sup>17</sup>. In Medicine the numbers of girls are increasing day by day so life style and income will continue to get priority for choice of specialty [18].

In our study 17 (15.60%) students parents came from Medicine background, parents do play a key role in the decisions of their children with critical advice and supervision. They seem to influence the career choice of medical students and establishment of educational objective in life [19].

In our study 1<sup>st</sup> choice was General Medicine – 33.9%, General surgery – 15.6%, pediatrics -11.9%, radiology – 11%, Obstetrics & gynecology – 10.1%. None of them had chosen pre / para-clinical / hospital administration as 1<sup>st</sup> choice, where as Hauer

et al did a study in US on medical students career choices in 2007. According to this study done with 1177 respondents in US, 23.2% planned career in medicine and 24% in surgery [20]. The result of our study clearly shows that for Para Medical and Pre Clinical Specialties there are very few takers and less preferred as 1<sup>st</sup> choice in future career decision and is consistent with other studies [21, 22]. The probable explanation may be the fact that while choosing a particular specialty financial reward is a major motivating factor, Pre and Para clinical specialties generally having least financial reward are therefore not 1<sup>st</sup> choice in career preferences. In our study also the most influencing and reason for career choice was Income, life style & prestige. This finding is thought provoking, for those concerned with planning and organization of Medical Education in India, to restructure the system in a way that Pre and Para specialties should also become equally preferred specialty in process to strengthen Medical Education.

It is observed in our study less numbers of future doctors are interested in serving the rural people; this misproportion of Medical doctors in rural and urban areas constitutes a major problem. Moreover loss of interest in government service is alarming observation, which may obviously be related to the promise of greater money and facilities in private sector compared to Government sector [23]. The findings of the present study highlight the need for major review of medical curriculum toward more effective community orientation and restructuring of community-based teaching to ensure adequate exposure of medical students to health care problems in rural settings.

#### *Study Limitations*

Our study was a preliminary work and efforts to identify the nature and reasons for career choices of medical students of 5<sup>th</sup> semester at Kamineni Institute of Medical Sciences Narketpally. This cross sectional study involved only 5<sup>th</sup> semester student's majority of them belong to urban background and a very small sample size; therefore caution needs to be taken to generalize the data to public and other medical students.

#### **Conclusion**

Sample size of the study is small and confined to 5<sup>th</sup> semester students exposed to clinical postings and hospital, findings are certainly interesting enough to warrant further research with more

students and long term follow up studies should be conducted to examine early preferences and eventual choices of students and point at which intervention is more beneficial. Career choice pattern among medical students observed in our study is quite similar with studies done in other countries.

If this pattern of career choices continues, over the years, India surely will suffer a shortage of competent human resources in certain specialties and specially Medical Doctors practicing in Rural India. Reorientation of Medical Education is needed along with policy settings to attract doctors to the scarcity and high priority disciplines so that imbalances encountered would be minimal in future. Research on medical education needs to be conducted, findings should guide policy settings, and policies need to be implemented to bring quantitative and qualitative changes in medical education and health care.

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#### *Conflict of Interest*

None

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