

An analysis on aptitude and attitude of newly joined medical students – Medical college based study in South India

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Abstract

Introduction: The medical profession is considered to be both satisfying and lucrative, drawing the best students to its ranks every year thousands of students all over the country are still eager to pursue the medical profession. Even though so many factors and individuals influence and/or motivate them to become doctors while entering professional course, he or she should have basic knowledge on the course and about the future career.

Aims and Objectives: 1. To know the basic knowledge on medical undergraduate course. 2. To know the attitude of medical students towards the course.

Materials and Methods: First year medical students, in September 2016 were included the study. All the participants were instructed to fill the given questionnaire having 18 items of open ended.

Results: Among the newly joined medical students females (57.25%) were more than males (42.75%). Among the participants 88.55% had their studies in corporate schools and colleges and only 4.58% of participants had their schooling and intermediate course from government institutions. 78.62% of participants preferred national eligibility cum entrance test. Regarding introducing english language and regular sports as part of curriculum 95.42% & 96.95% of them respectively opined that these should be present in curriculum. 85.5% of participants opined that there is no scope for research in medical education. Only 18.32% of participants did not want to change their medical profession. Majority of participants were interested to join in government service after completion (69.46%).

Conclusions: The knowledge on undergraduate medical course among the participants was satisfactory. Majority of the participants wanted to english and sports in their curriculum. Less numbered of participants only wanted to continue in this profession and the others wanted to change their profession if any opportunity comes which represents their attitude towards the course and also that they had joined not by their own interest. It is necessary to motivate the undergraduates towards research.

Keywords: Medical students, Newly joined, Curriculum, Research.

Introduction

The medical profession is considered to be both satisfying and lucrative, drawing the best students to its ranks every year thousands of students all over the country are still eager to pursue the medical profession.⁽¹⁾ As a larva transforms into a beautiful butterfly, likewise a secondary high school student gets transformed into a doctor in a medical college.⁽²⁾ Studies from other countries have indicated that students are not always aware of what they are getting into when they join the medical profession.⁽³⁾ These young men and women really have to know what kind of work environment awaits them during the course of their medical education and training. Even though so many factors and individuals influence and/or motivate them to become doctors while entering professional course, he or she should have basic knowledge on the course and about the future career. Apart from these medical students should also possess some more like comprehension of English language, competence in communication, empathy, independent thinking and decision making, integrity, dedication to lifelong learning, as well as ability to cope with stress⁽⁴⁾ Health research has an impact on the prevention, diagnosis and treatment of diseases and especially on health care programs policy. Health research training has been recognized as an important component of medical

education because the rapid expansion and progress in biomedical research is expected to transform medical care.⁽⁵⁾ Even though there are studies on medical students on various parameters, there are very few studies on schooling, awareness on the course before joining, attitude towards the course. The present study was focused not only their knowledge on the course but also their pre medical studies and the expectations from the course that they have chosen as their future career.

Aims and Objectives

1. To know the basic knowledge of medical undergraduate course among newly joined medical students
2. To know the attitude of medical students towards the course.

Materials and Methods

The study was conducted in the month of October 2016. First year medical students, those got admission at Rajiv Gandhi Institute of Medical Sciences, Kadapa, Andhra Pradesh in September 2016 were included the study. Out of 150 students 131 students attended on the day of study. A questionnaire was prepared with open ended questions with 18 items those were designed in such a way to analyse their basic knowledge on medical course, their premedical studies, their views about

future career. After explaining about the importance of the study, all the participating individuals are requested to answer the questions without any discussions. The obtained data was analyzed by entering in Microsoft excel.

Results

Among the newly joined medical students females (57.25%) were more than males (42.75%). The age of participants was between 17 years to 20 years and the most common age is 18 years as shown in table 1. Majority of the participants got admission in medical college in their second attempt (58.01%). 29% of participants got admission in their first attempt itself as shown in table 2. Among the participants 88.55% had their studies in corporate schools and colleges and only 4.58% of participants had their schooling and intermediate course from government institutions. 78.62% of participants preferred national eligibility cum entrance test as shown in table 3. The acronym M.B; B.S. (Bachelor of Medicine and Bachelor of Surgery) was expanded correctly by 93.13% of participants. Majority of the participants (94.66%) had knowledge on duration of course (4.5 years + 1 year internship). None of the participants preferred ragging but 89.31% of participants wanted interaction with their seniors. Regarding the significance of apron only 44.27% of them mentioned that it is for peace. When their opinion for introduction of uniform, 80.15% of them opined that it should be there even in professional

courses. Regarding introducing English language and regular sports as part of curriculum 95.42% & 96.95% of them respectively opined that these should be present in curriculum. 85.5% of participants opined that there is no scope for research in present medical education and only 14.5% of participants mentioned that there is scope for research in medical education as shown in table 4. Only 18.32% of participants did not want to change their medical profession. But rest of the participants wanted to change their profession if opportunity will be given. Most of them wanted to be civil servant even after completion of medical under graduation (31.29%). Some of the participants wanted to do business (8.39%), agriculture (3.82%). Majority of participants were interested to join in government service after completion of medical education (69.46%) as shown in table 5.

Table 1: Showing distribution of participants in the present study

Age	Male	Female	Total
17	07	11	18 (13.74%)
18	28	50	78 (59.54%)
19	16	12	28 (21.37%)
20	05	02	07 (5.34%)
Total	56 (42.75%)	75 (57.25%)	131
Mean age in years	18.34	18.06	18.18

Table 2: Showing the attempt the participants got admission in medical college

Attempt	1	2	3	4	Total
Male	17	27	10	2	56
Female	21	49	5	00	75
Total	38 (29%)	76 (58.01%)	15 (11.45%)	2 (1.52%)	131

Table 3: Showing the details of Schooling & +2 education of participants and opinion on medical entrance test

Schooling and +2 education	Male	Female	Total
Corporate school & college	45	71	116 (88.55%)
Govt. school/corporate college	5	4	9 (6.87%)
Govt. school & college	6	00	6 (4.58%)
Medical entrance test			
NEET	39	64	103 (78.62%)
EAMCET	17	11	28 (21.38%)

Table 4: Showing knowledge and opinions of newly joined medical students on medical education.

	Male (56)		Female (75)		Total (131)	
	Correct	Wrong	Correct	Wrong	Correct	Wrong
MBBS expansion	54	02	68	07	122 (93.13%)	9 (6.87%)
Duration of course	53	03	71	04	124 (94.66%)	7 (5.34%)
Interaction with seniors	46	10	71	04	117 (89.31%)	14 (10.69%)
Premedical education requirement	46	10	65	10	111 (84.73%)	20 (15.27%)
Apron significance	23	33	35	40	58 (44.27%)	73 (55.73%)

Uniform for students	44	12	61	14	105 (80.15%)	26 (19.85%)
English in curriculum	52	04	73	02	125 (95.42%)	06(4.58%)
Sports in curriculum	52	04	75	00	127 (96.95%)	04 (3.05%)
Opinion on rural service	44	12	69	06	113 (86.26%)	18 (13.74%)
Scope for research in medical education	08	48	11	64	19 (14.5%)	112 (85.5%)

Table 5: Showing views of participants in change of their profession and views on employment

Profession	No. of participants
Do not want to change their profession	24 (18.32%)
Civil services	41(31.29%)
Business	11(8.39%)
Engineer	11(8.39%)
Teacher	06(4.58%)
Farmers	05(3.82%)
Fine arts	05(3.82%)
Others	18(13.74%)
Views on employment	
Govt service	91(69.46%)
Own clinics& hospitals	28(21.37%)
Corporate hospitals	12(9.16%)

Discussion

Graduate medical curriculum is oriented towards training students to undertake the responsibilities of a clinician of first contact who is able to look after the preventive, promotive, curative & rehabilitative aspect of medicine. The medical graduate of modern scientific medicine shall endeavor to become capable of functioning independently in both urban and rural environment.

Our primary objective of the present study was to determine the level of knowledge of newly joined medical students on the course that they have chosen as their future career. There were many studies regarding medical students' attitude on ragging in professional colleges, curriculum of the course, communication skills and many more objects but there are few studies about their schooling, aspiration towards the course, entrance examination for the medical college admission and basic knowledge on MBBS.

First semester medical undergraduate students were included in the present study. The participants' age ranges from 17 years to 20 years with mean age 18.18 years and the common age was 18 years (59.54%). The mean age of participants was 18.55years in the study by Nilima Shankar et al.⁽¹⁾

More than half of the participants in our study got admission in medical course in their second attempt (58.01%) and the same was observed by Nilima Shankar et al.⁽¹⁾ This was followed by first attempt (29%). Some of participants had taken more than two

attempts showed their aspiration towards the course. When the schooling of the participants was observed 88.55% had their schooling and plus two in corporate schools and colleges. Very few participants (6/131) had both schooling and plus two from government institutions. This observation represents attitude of parents towards government schools and colleges and they are more inclined towards corporate education for training their children to get admission in professional colleges. If the situation continues, the pursue of education in government schools and colleges will be questionable. Therefore there is a dire need to strengthen government institutions by all means to and at the same time public awareness has to be created that government institutions are on par with corporate education to encourage the parents to join their children. As there was a big confusion regarding entrance test for medical under graduation in 2016 between Engineering, Agriculture and Medical Common Entrance Test (EAMCET) and National Eligibility cum Entrance Test (NEET) in our state – Andhra Pradesh we wanted to know which was preferred by the participants. 78.62% of participants preferred NEET as they could able to get a chance to go to other states for studies and scope for getting medical seat will be increased as it is country wide. 21.38% of participants preferred EAMCET as it is being conducted in regional language too. 93.13% of participants expanded correctly for the acronym M.B.B.S as Bachelor of Medicine and Bachelor of Surgery. Duration of under graduate medical course was mentioned correctly by majority of participants (94.66%). Few participants were not only unable to expand the full form of M.B.B.S. but are also unaware of the duration of course. This represents that there are some participants who joined blindly without any knowledge on their studies. Every student shall undergo a period of certified study extending over 4 ½ academic years divided into 9 semesters, (i.e. of 6 months each) from the date of commencement of his study for the subjects comprising the medical curriculum to the date of completion of the examination and followed by one year compulsory rotatory internship. Internship is a phase of training wherein a graduate is expected to conduct actual practice of medical and health care and acquire skills under supervision so that he/she may become capable of functioning independently. Internships give students a wholesome experience – a combination of practical training, updating their

knowledge on tools and technology and developing their practical skills.

None of the participants preferred ragging in our study but 89.31% of participants wanted interaction with their seniors and mentioned reasons for interaction more or less same that it helps a lot for better adaptation to the campus, communication with others, understanding the syllabus, getting through examinations. Whereas in a study by Suryawanshi et al 1.12% of students preferred ragging as it will be helpful to improve communication between seniors and juniors.⁽⁶⁾

Present medical students are our future doctors. The title doctor is derived from the Latin *docere*, “to teach” and physicians should share information and medical knowledge with colleagues, with students of medicine and related professions, and with their patients. Advances in medicine depend on the acquisition of new information i.e. on research.⁽⁷⁾ Recent research has also begun to assess the benefits medical school faculty accrue from facilitating the learning of students, especially in small group courses dedicated to fostering student professional formation.⁽⁸⁾ In the present study 84.73% of participants mentioned that premedical education is required for better understanding the syllabus and skills but 15.27% of participants mentioned that it is not required as already it takes 5.5 years duration for completion of under graduation, so if pre medical education is also implemented it takes still longer period for completion of under graduation. If the pre-medical course has to be conducted it should be either at Medical College or a Science College.

A white coat or lab coat (often popular as apron) is a knee-length overcoat worn by professionals in the medical field. White was chosen with good reason as the new standard of the medical profession. This color, representing purity, is a visual reminder of the physician’s commitment to do no harm and represents peace. Only 44.27 % of participants mentioned that apron signifies peace. 80.15% of participants preferred uniform for medical students. It was mentioned that presence of uniform decreases their expenditure for their dressing and also decreases economical disparities among students. At present many of medical colleges both government and private implemented uniform for medical students in Andhra Pradesh. Now a days many of medical graduates are interested to go to abroad either for further studies or doing fellowships or for employment. If English language is implemented in medical curriculum it will be beneficial not only to the individuals going abroad but also for individuals those have completed their plus two studies in medium of regional language. 95.42% of participants opined that English language should be there in curriculum. Only 4.58% of participants opined that it is not required as already many subjects are in curriculum.

Stress among medical students is often overlooked. Studies have proven that compared to the general population, medical students are the most distressed students,⁽⁹⁾ extensive curriculum being the leading cause for stress and pressure among them. Playing sports helps them in releasing pressure and tension in a healthy and controlled way.⁽¹⁰⁾ In the present study, 96.95% of participants mentioned that sports should be part of curriculum to alleviate stress, promote both physical and mental health it also helps them to stay away from electronic gadgets to which youth has become addicted.

The personnel opting for medical profession must have the right approach, aptitude, attitude, selfless service motto and ability to work relentlessly for the patients.⁽⁴⁾ Rural service after internship helps medical graduates in implementing their knowledge directly and independently to the public. 89.26% of participants were in favour of doing rural service, whereas rest of participants was against this because it takes longer period for completion of graduation.

Sir William Osler quoted that Medicine is a science of uncertainty and an art of probability.⁽¹¹⁾ Modern Day Medical Practice is one of the fields that require high expertise, with strong conceptual backing and analytical skills. Research work is limited in India as compared to medical professional of developed countries more so quality of publication is also questionable by public and private medical institutions.⁽¹²⁾ Majority of the participants in the present study had also of the same opinion that there is less scope for research in our country (85.5%). Research is a systematic process to achieve new knowledge, science or invention by the use of standard methods. Health research has an impact on the prevention, diagnosis and treatment of diseases and especially on health care programs policy.⁽¹³⁾

A research exposure during undergraduate period will be helpful in research involvement during a person’s further career. To fill the gap of physician-scientists in developing countries, initiatives are being taken to motivate medical students to undertake careers in research. In view of promoting research among medical students, it is suggested that every undergraduate medical student should publish and present two or more research articles done on their own in medical journals and undergraduate level medical conferences both national and international. To encourage student’s attitude and participation in research, medical institutions should organize undergraduate medical conferences regularly. Various strategies are being employed for this purpose, which include mandatory and elective research assignments, student sections in indexed journals, organization of student scientific conferences, molding of medical curriculum to integrate capacity building for research and holding of workshops on different aspects of conducting research.^(14,15) Insufficient attention to research by a government and the educated members of

a community may contribute to scientific and knowledge lag not just within the national community but also in the world as a whole.⁽¹⁴⁾

The present study also aimed to know that if any of the participants had second thoughts about pursuing medical profession. Surprisingly majority of them wanted to shift/change to other professions like civil servants (31.29%), business (8.39%), engineers (8.39%), teachers (4.58%) and agriculture (3.82%). It was difficult to analyse the students' interest in joining medical course, as they might have joined in the course not by their own interest and are driven strongly by parents and society influence. Only 18.32% of participants did not want to change their medical profession as it was their passion and dream to be a doctor.

69.46% of participants mentioned that after completion of medical education, they will join in government service as it is the better way to serve public. 21.37% of participants wanted to establish their own clinics and hospitals by that way not only themselves but also they could able to provide employment to others like paramedical individuals. 9.16 % of participants were interested to work in corporate hospitals because they did not like stress full life.

Limitations of the study:

1. Small sample size
2. Findings are confined to single medical college
3. Socio-economic and cultural issues are not addressed.

Strength of the study: Subjective evaluation of newly joined medical students in many aspects is done.

Conclusions

The knowledge on undergraduate medical course among the participants was satisfactory. Majority of the participants wanted to English and sports in their curriculum. Less numbered of participants only wanted to continue in this profession and the others wanted to change their profession if any opportunity comes which represents their attitude towards the course and also that they had joined not by their own interest. It is necessary to motivate the undergraduates towards research. For this they need encouragement both from institutions as well as from medical universities.

Conflicts of interest: Nil

Acknowledgements

Newly joined medical students in 2016 for their participation in the study

References

1. Nilima Shankar Motivation and preparedness of first semester medical students for a career in medicine; *Indian J Physiol Pharmacol*, 2013;57(4):432-438.
2. Ajay T Shendarkar, **Vijay Patil A Study of Stressors in Medical College Students (Hostelities) In Northern Maharashtra *J Indian Acad Forensic Med*. July-September 2013, Vol. 35, No. 3 ISSN 0971-0973.
3. Connell VA, Gupta J. The premedical student: Training and practice expectations. *Med Educ Online* [serial online] 2006; 11: 12. Available from: <http://www.med-edonline.org>; [last cited on 2012 June 3].
4. Padmanabhan et al., Study Of Prior Preparedness And Awareness Regarding The Mbbs Course Amongst First Year Students Admitted At Rural Medical College, Of Pims-Duloni *Int J Med Res Health Sci*. 2015;4(2):366-372.
5. V. Scaria, Whisking research into medical curriculum: the need to integrate research in undergraduate medical education to meet the future challenges, *Calicut Med. J.*,2(1)(2004),p.e1.
6. Suryawanshi JV, Hazari M. Awareness and perception about ragging amongst medical undergraduate students: a cross-sectional study. *Int J Community Med Public Health* 2016;3:1119-22.
7. Harrison's Principles of Internal medicine 22nd edition Vol. 1, Introduction to clinical medicine: The practice of Medicine:page no 5.
8. Brown et al, Journeying to the White Coat Ceremony: A description of the people, situations and experiences that inform student visions of the physician they hope to become. *Journal of Medical Education and Curricular Development* Volume 4:1-8.
9. Reddy E.A, Raju, Srijampna VV, Rajanna B, Muddanna S.T., Perceived stress and prevalence of depression among first year medical students,. *JNTR Univ H health Sci* 2015;4:209-13.
10. Ghildiyal R. Role of Sports in the Development of an Individual and Role of Psychology in Sports. *Mens Sana Monographs*. 2015;13(1):165-170. doi:10.4103/0973-1229.153335.
11. The Essentials of Forensic Medicine and Toxicology: Dr. K.S. Narayana Reddy and Dr. O.P. Murthy, 33rd edition, Section 1 Introduction pg no.3.
12. Deswal BS, Singhal VK. Problems of medical education in India. *Int J Community Med Public Health* 2016;3:1905-9.
13. Memarpour et al. Evaluation of attitude to, knowledge of and barriers toward research among medical science students *Asia Pacific Family Medicine* (2015)14:1.
14. H. Khan, M.R. Khawaja Impact of a workshop on the knowledge and attitudes of medical students regarding health research *J. Coll. Physicians Surg. Pak.*, 17 (1)(2007),p.59.
15. K.M. AlGhamdi et al Perceptions, attitudes and practices toward research among senior medical students: *Saudi Pharmaceutical Journal* (2014)22,113-117.