



## THE IMPACT OF POSITIVE ROLE MODELS ON STUDENT'S INTENT TO CHOOSE RESPECTIVE MEDICAL SPECIALTIES.

**Dr. Aruna Kumari Badam**

Assistant Professor, Pulmonology, Member Curriculum Committee, Apollo Institute of Medical Sciences and Research (AIMSR), Telengana.

**Dr. Pavani G\***

Professor, Microbiology, Member, Medical Education Unit, Apollo Institute of Medical Sciences and Research (AIMSR), Telengana. \*Corresponding Author, Ref: AIMSR/IRB/RC/2018/04/038

### ABSTRACT

**BACKGROUND:** Role models play a very vital role in clinical training in medical schools. Medical students gain professional expertise by being exposed to experienced and knowledgeable preceptors. There have been very few studies on the association between role models in medical education and the choice of the clinical field, the medical students intend to choose later on. Literature on the specific attributes the faculty should possess to become role models are also sparse.

**METHODOLOGY:** An observational cross sectional study was conducted in AIMSR involving 100 interns. A well-structured pre-validated questionnaire pertaining to the impact of role models on medical students was distributed to the interns at the initiation of their internship. The student's responses for the questionnaire were tabulated and analyzed to see, if any association exists between the role models and the clinical field, the students intend to choose by calculating the P-value using Chi-square test in SPSS-24 Version. An attempt was done to explore what are the specific attributes of role models chosen by our students.

**RESULTS:** There was 74% correlation between role models in a particular speciality and the career choice of students when the students chose role models from the clinical departments only. Developing rapport with students was the most important attribute that was important for students to choose their role models followed by creating enthusiasm in students, treating students with respect, effectively communicating with patients and their family and demonstrating clinical signs to the students.

**CONCLUSION:** There exists a significant correlation between speciality to which the role models belong and career choice of students. Developing rapport with the students is very important attribute, the students look for in their role models.

**KEYWORDS :** Role models, Choice of clinical field, specific attributes of the faculty.

### INTRODUCTION:

Role models in medical schools are faculty members who demonstrate clinical skills and articulate expert thought processes and manifest positive professional characteristics.

<sup>1</sup>Role modeling is an important component of clinical training in medical schools. It is defined as a learner's unselective imitation of role models and uncritical adoption of the messages of the learning environment.

<sup>2</sup>Medical students in India have compulsory rotatory clinical postings commencing from third year MBBS to final year. The duration of these postings vary from a minimum of 2 weeks to a maximum of 12 weeks. During these clinical postings, medical students are exposed to various faculty and challenges the faculty handles in day-to-day situations of patient care. During these periods students gain professional expertise by being exposed to experienced and knowledgeable preceptors. High quality and value based teaching by these preceptors' increases the enthusiasm of the students. They are highly motivated to make career choices during this period as stated by several studies. **Jospe et al** in their study found out that students taught by highly rated pediatricians had an excellent learning experience and resulted in increased interest in pursuing pediatric career. There have been very few studies on the association between role models in medical education and the choice of the clinical field the medical students intend to choose later on<sup>3</sup>. Previous studies show knowledge, interaction with students; clinical excellence, teaching ability and personality were the most frequently noted attributes that the outstanding role models possess. Hence we wanted to study if any association exists between role models in medical education and the choice of the clinical field chosen by the medical students later on and also identify the specific attributes, which are important to students in selecting faculty as role models in our institution.

### METHODOLOGY:

An observational cross sectional study was conducted for a period of two months from April to May 2018 involving 100 interns in AIMSR.

### INCLUSION CRITERIA:

1. All interns of AIMSR who are students of AIMSR and who volunteered to participate in the study.

### Exclusion criteria

1. Interns who are not students of AIMSR
2. Students of AIMSR who opted for internship outside AIMSR.

A well-structured pre-validated questionnaire containing questions pertaining to the impact of role models on medical students was distributed to the interns at the initiation of their internship. The questionnaire was randomly distributed and collected on the same day. Both the participant and investigator's identity was not revealed in the study.

### The questionnaire is as follows:

Dear Intern,  
You might have come across many good teachers during your undergraduate training who have moulded your career and inspired you to become one like them. Mentors hold your hand and guide you, but role models are those special persons whom you admire, observe and try to imitate them. We would like to know who are your "special" role models.

Kindly take a few minutes to fill this questionnaire. Your opinions are valuable.

This survey is intended for research purpose only and participation is voluntary.

1. Age:
2. Male/Female
3. Have you been exposed to sufficient role models during your study period? Yes/No
4. Who are your favorite role model faculty? Why?
  - a.
  - b.
  - c.
5. What speciality you prefer to practice in future?

- a. First choice:
- b. Second choice
- c. Third choice
- 6. What are your reasons for the preferences?
  - a. Faculty inspiration? Yes/No
  - b. Prominent specialist in the society? Yes/No

**Questions 7-18**

What qualities of a teacher qualify as a role model?

Give ranking most important, important, and least important.

S. NO	ATTRIBUTES	MOST IMPORTANT	IMPORTANT	LEAST IMPORTANT
7	Knowledgeable			
8	Teaches well			
9	Holds a rank like HOD			
10	Treats students with respect			
11	Demonstrates clinical signs at bedside			
12	Demonstrates problem solving skills at bedside			
13	Incorporates newer learning methods			
14	Open for feedback from students			
15	Develops good rapport with students			
16	Encourages students in research			
17	Creates enthusiasm among students			
18	Effectively communicates with patients and their families			

The student's responses in the questionnaire were tabulated and analyzed to see if any association exists between the role models and the clinical field the students intend to choose by calculating the P-value using Chi-square test in SPSS-24 Version and also an attempt was made to explore the specific important attributes which faculty should possess to become role models for medical students.

**RESULTS:**

Out of the 100 interns who participated in the study, 74 (74%) students completed the questionnaire.

- 51 of the respondents were females (69%) and 23 (31%) were males.
- 73.7% of the male interns had male faculty as their role models,
- 52% of the female interns had female faculty as role models.
- 48% of female interns had male faculty as role models.

The distribution of first choice of clinical field chosen by the interns revealed that the majority of interns chose

The distribution of first choice of clinical field chosen by the students revealed that the majority of them chose Pediatrics 18 (24.3%) as the first choice followed by Medicine and Surgery 15(20.3%). The other first choices were Orthopedics' 13(17.6%) Gynaecology 7(9.5%), Radiology 5(6.8%) and Ophthalmology 1(1.3%).

When the second choice of clinical field chosen by the students was analyzed, majority chose Medicine as the second choice 20(26.7%)

followed by Surgery 15(20%) and Pediatrics 13(17.3%). Other second choices were Dermatology 2 (2.7%) and Pulmonology 2 (2.7%).

The number of role models in each speciality of our institution was studied and it was observed that the maximum number of role models were in Surgical department 10(9.6%) followed by Pre and Para Clinical departments 9(8.7%), Orthopedics 5(4.8%), Medicine 4 (3.84%), Pediatrics 3(2.9%) and Gynaecology 3(2.9%) respectively.

**TABLE:1 showing number of Role models in various departments of our Institution**

DEPARTMENT	Number of role models (%)
Surgery	10( 9.6%)
Pre & Paraclinical	9 (8.7%)
Orthopaedics	5 (4.8)%
Medicine	4( 3.84%)
Paediatrics	3 (2.9%)
Gynaecology	3 (2.9%)

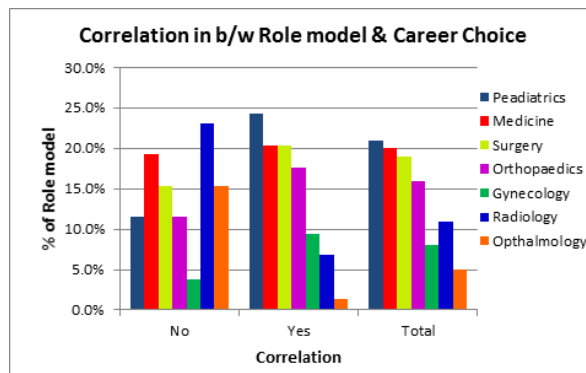
When the correlation between role models in a particular speciality and the career choice of students was studied, it was found that there was 74% correlation between role models in a particular speciality and the career choice of students when the students chose role models from the clinical departments only.

**Table-2: Correlation b/w Role model & Career choice Cross tabulation**

Correlation Aim	Role model							Total
	Pediatrics	Medicine	Surgery	Orthopedics	Gyneology	Radiology	Ophthalmology	
No	Number 3	5	4	3	1	6	4	26
	% 11.5%	19.2%	15.4%	11.5%	3.8%	23.1%	15.4%	100.0%
Yes	Number 18	15	15	13	7	5	1	74
	% 24.3%	20.3%	20.3%	17.6%	9.5%	6.8%	1.4%	100.0%
Total	Number 21	20	19	16	8	11	5	100
	% 21.0%	20.0%	19.0%	16.0%	8.0%	11.0%	5.0%	100.0%

P=0.019<0.05, Statistically Significant at 5% Level of Significance.

**Histogram showing the correlation of role models and career choice of students:**



Among the 12 attributes that are important for the students in selecting their role models, our students opined that developing rapport with students as the most important attribute that was important for them to choose their role models followed by creating enthusiasm in students, treating students with respect, effectively communicating with patients and their family and demonstrating clinical signs to the students. The attributes which were ranked low in choosing their role models were open to feedback /suggestions from students and holding a rank like professor /HOD.

**Table 3 showing the ranking given by students for the various attributes of role models:**

Attributes of role models	Student ranking	% w.r.t to Attribute
Developing rapport with students	Most Important	92%
Creates enthusiasm in students	Most Important	88%
Treats students with respect	Most Important	86%
Effectively communicates with patients and their families	Important	78.4%
Demonstrates clinical signs to the students	Important	75.7%
Teaches well	Important	70.3%
Knowledge	Important	67.6%
Encourages research activities among students	Important	60.8%
Demonstrates problem solving skills at bed side	Important	60.8%
Incorporates new learning methods in teaching	Least important	64.5%
Holding a rank like professor /HOD	Least important	83.8%
Open for feedback or suggestions	Least important	72%

**DISCUSSION:**

The present study was conducted to know if an association exists between role models in medical college and the choice of the clinical field chosen by medical students later on and also to identify the specific attributes that are important to students in selecting faculty as role models.

There was a significant difference in the response rate of male (31%) and female students (69%). Majority of male students (73.7%) had male doctors as role models and female students had 52% female doctors and 48% male doctors as role models. A previous study by Lockwood et al revealed that females were more inspired by outstanding female role models than male role models. In the past as men always outnumbered women in the work place, it was possible that women mostly were influenced by female professionals who provide evidence that member of her own group can achieve success and also because women find it difficult to identify with the member of the other group, they chose female role models. But in our study female students not only outnumbered males but also had female as well as male role models. This suggests that in current practice, gender matching of career role models is not important for women which is in contrast to the previous studies. Moreover recent estimates suggest that females constitute almost half of the medical workforce today. With this changed scenario, females are choosing male role models also.

In the present study there was 74% correlation between speciality to which the role models belong and career choice of students. In the study of Scott Wright et al also there was a similar correlation between exposure to role models in a particular clinical field and the career choice of medical students later on. This suggests that exposure to sufficient role models in a particular field of medicine would attract medical students towards that field. Hence there is a necessity of sufficient role models in all the important clinical fields in an institution for the students to pursue these fields as a career.

Developing rapport with students was the major specific attribute that was most important for students to choose their role models followed by creating enthusiasm in students, treating students with respect, effectively communicating with patients and their families and demonstrating clinical signs to the students. These attributes

were also appreciated by students in the study of Burgess et al. Benson and colleagues also found rapport to be associated with positive student perceptions and behaviours. They also suggested that these positive student perceptions and behaviours can lead to higher ratings of instruction which in turn leads to better classroom interactions. Hence developing rapport with the students is the important attribute the students like in their role models. The attribute which was ranked low in choosing the role models were open to feedback or suggestions from students and holding a rank like Professor or HOD. People in a good academic rank were not identified as excellent role models in the studies of SM Wright and David et al also suggested that this attribute is not a significant attribute for choosing role models in medical institutions. The present study also suggests that the role models need not be very open to feedback from students and need not hold an important rank in medical institutions to become role models as suggested by other studies also.

**CONCLUSION:** There is a significant correlation between speciality to which the role models belong and career choice of students. Hence there is a necessity of sufficient role models in all the important clinical fields in an institution for the students to pursue these fields as a career. Developing rapport with the students is the most important attribute, the students look for in their role models. The role models need not be very open to feedback from students and need not hold an important rank in medical institutions to become role models for medical students. At present, female medical students are not only choosing female role models but are also male role models in contrast to the past.

**REFERENCES:**

- Vathsala Jayasuriya I, Ishra N, Lathika A. Role Models and Teachers: medical students perception of teaching-learning methods in clinical settings, a qualitative study from Sri Lanka. BMC Medical Education. 2016;1:16:52
- Benbassat J. Role modeling in medical education: the importance of a reflective imitation. Academic Medicine, Vol. 89, No. 4 / April 2014
- Scott W, Annie Wand Carol N. The Impact of Role Models on Medical Students. J Gen Intern Med. 1997; 12(1):53-56.
- Lockwood P, Kunda Z. Superstars and me: Predicting the impact of role models on the self. Journal of Personality and Social Psychology. 1997; 73, 91-103.
- Ragins B R., Cotton J L. Easier said than done: Gender differences in perceived barriers to gaining a mentor. Academy of Management Journal. 1991; 34, 939-951.
- Burgess A, Kerry G, Kim O. Role modelling of clinical tutors: a focus group study among medical students. BMC Medical Education. 2015; 15:17.
- Benson, T. A, Cohen, A. L. & Buskist, W. Rapport: Its relation to student attitudes and behaviors toward teachers and classes. Teaching of Psychology, 2005; 32: 237-239.