

# Importance and Need of Radiology in Medical Education: A Comparative Study Conducted At Central Park Medical College, Lahore

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## ABSTRACT

**Objective:** To evaluate the importance and need of Radiology (imaging technology) in medical education.

**Study Design:** Comparative study

**Place and Duration of Study:** This study was conducted at the Central Park Medical College and its Teaching Hospital Lahore during From Feb 2014 to Dec 2014.

**Materials and Methods:** In this study a complete survey was conducted aimed to the value of radiology in medical education. We included 430 individuals of college (70 teaching faculty 360 medical students) and 100 non-radiologist doctors for this survey, a questionnaire distributed among all individuals asking to provide their suspensions of imaging technology education. And need and importance of radiology education, and their education regarding radiology is sufficient or not, satisfied with teaching methodologies and how much they were confident to use their abilities in basic radiology i.e. x-rays and ultrasound.

**Results:** There were 60% females and 40% males. In teaching faculties 40 (57.14%) were males and 30 (42.86%) were females. In non-radiologist (65%) were females and 35% were males. Out of 360 medical students 75 % students were satisfied and 25% students were not satisfied to their education regarding radiology. 98% non-radiologist doctors were agreed to radiology education as a basic education in medical colleges. 38% of the students and teachers favored committed clerkships. The most usual teaching methodology was 1-on-1 interaction. Teaching with radiology films (85%) was the mode of instruction.

**Conclusion:** All individuals were admitted that radiology education in medical colleges is a basic need for health care. The most frequent teaching method was one on one interaction and use of films/image. More work and efforts are required for providing quality education regarding radiology

**Key Words:** Medical education, Importance, Imaging technology

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## INTRODUCTION

Go through the last ten years, we will found a lot of confirmations that medical students were not receiving a sufficient education in imaging technology/radiology.<sup>1</sup> But currently medical education related to health care realized the need of quality radiology education is much important for medical students as radiology is a basic and useful method to diagnose problems in patients. In un-segregated medical education, the radiology education is must in their pre-clinical duration.<sup>2</sup> Radiology education requires a well trained and experienced radiologist to supervise the imaging technology/radiology educational programs.

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In medical colleges of USA and UK, there has been a experienced and self-motivated radiologist to enhance the performances and abilities of medical students with respect to imaging technology/radiology.<sup>3,4</sup> However, in Pakistan, there is lack of teaching faculties regarding radiology educational program. Undergraduate national or international student of radiology education is not given a dominant position in medical colleges.<sup>5-8</sup>

Pakistan has limited health related resources and facilities with respect to radiology education in spite of its important, and it could be the serious challenge for our future radiologist and clinical physicians. Gov should have to pay more intension to improve the educational program regarding radiology, and it is the main requirement for perfect patients care.<sup>9</sup>

Now PMDC furnish a fixed educational program that every medical student must be trained to radiology (such as x-rays, CT, MRI, and ultrasound) due to the importance and need of radiology education for patients care. In 5 years study forty hours is mandatory regarding teaching time of imaging technology/radiology, Because of pliant structure of education there have a versatility in teaching methods for undergraduate students in medical colleges.<sup>5,10</sup> There is

a lack of skilled radiologist in Pakistan and only few students are applying for postgraduate in radiology education.<sup>11</sup>

## MATERIALS AND METHODS

This comparative study was conducted at Central Park Medical College Lahore During From 2014 to 2015. In this study a complete survey was conducted aimed to the value of radiology in medical education. We included 430 individuals (70 teaching 360 students) and 100 non- radiologist for this survey, A questionnaire distributed among all individuals asking to provide their suspicions of imaging technology education. And need and importance of radiology education, and their education regarding radiology is sufficient or not, satisfied with teaching methodologies and how much they were confident to use their abilities in basic radiology i.e. x-rays and ultrasound.

## RESULTS

We included 430 individuals of medical college (70 (16.27%) teaching faculty, 360 (83.72%) were medical students) and 100 non- radiologist doctors for this study. Out of 360 students females were 60% and males were 40%, In teaching faculties 40 (57.14%) were males and 30 (42.86%) were females. In non-radiologist 65 (65%) were females and 35% were males.

**Table No.1: Type of individuals**

Characteristics	No.	%
Teaching Faculty	70	16.27
Medical Students	360	83.73

**Table No.2: Gender-wise distribution of non-radiologists doctors**

Participants	No.	%
Male	35	35.0
Female	65	65.0

**Table No.3: Gender-wise distribution in teaching faculty and medical students**

Participants	No.	%
Teaching faculty		
Male	40	57.14
Female	30	42.86
Medical students		
Male	144	40.0
Female	216	60.0

Out of 360 students 75 % students were satisfied and 25% students were not satisfied to their education regarding radiology. 98% non-radiologist were agreed to radiology education as a basic education In medical colleges. 38% of the students and teachers favored committed clerkships. The most usual teaching methodology was 1-on-1 interaction. Teaching with radiology films (85%) was the mode of instruction.

**Table No.4: Frequency of teaching experience**

Characteristics	No.	%
Medical students satisfaction		
Satisfied	270	75.0
Not satisfied	90	25.0
Teaching Time (hours/week)		
< 5	40	57.14
> 5	30	42.86
Teaching experience (years)		
< 5	50	71.43
> 5	20	28.57
Experience in medical education	57	81.43
Training for teaching skills	38	54.28

## DISCUSSION

This study was conducted to evaluate the importance of radiology with aspect to teaching methods, hours given per week and students satisfaction about radiology education.

Radiologist were giving less time to their lectures preparation , teaching material preparation and it is the less amount of time given to the radiology study as compared to the other international medical education colleges.<sup>5</sup> In USA teaching time given to the student (with respect to its important) is thirty hours/week.<sup>12</sup> Another study shows that the average hours for teaching and administrative study is nine hours/week.<sup>13</sup> In this study 430 individuals of medical college (70 (16.27%) teaching faculty, 360 (83.72%) were medical students) and 100 non- radiologist doctors for this study. Out of 360 students, females were 60% and males were 40%, In teaching faculties 40 (57.14%) were males and 30 (42.86%) were females. In non-radiologist doctors 65 (65%) were females and 35% were males. Out of 360 medical students 75 % students were satisfied and 25% students were not satisfied to their education regarding radiology. 98% non-radiologist doctors were agreed to radiology education as a basic education In medical colleges. 38% of the students and teachers favored committed clerkships. The most usual teaching methodology was 1-on-1 interaction. Teaching with radiology films (85%) was the mode of instruction. Most of the medical colleges giving less average time/week to the radiology education and this will be the serious issue for our future radiologist and students. Because radiology plays an important role to diagnose perfectly patients diseases.

In this study we found all non-radiologist doctors were agreed for the basic education of radiology in medical colleges. 75% medical students were satisfied to their future career but 25 % students were not satisfied as a radiologist. It may be the result of quality education not given in the medical colleges.

In Pakistan, PMDC furnish a fixed educational program that every medical student must be trained to radiology (such as x-rays, CT, MRI, and ultrasound) due to the importance and need of radiology education for patients care. In 5 years study forty hours is mandatory regarding teaching time of imaging technology/radiology, Because of pliant structure of education there have a versatility in teaching methods for undergraduate students in medical colleges.<sup>5,10-14</sup>

Today radiologist demand is much high than previous decade because of the objective of earn money and perfect patient care and this is the only attractiveness for students and radiologists to encourage them to work better.<sup>15-21</sup> Model of reward and punishment when used appropriately can result in better work productivity.

## CONCLUSION

All individuals were admitted that radiology education in medical colleges is a basic need for health care. The most frequent teaching method was one on one interaction and use of films/image. More work and efforts are required for providing quality education regarding radiology.

### Author's Contribution:

Concept & Design of Study: Muhammad Wasif Iqbal  
 Drafting: Zahid Ahmad  
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 Revisiting Critically: Muhammad Wasif Iqbal, Zahid Ahmad  
 Final Approval of version: Muhammad Wasif Iqbal

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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