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Research Article

**TEACHING RADIOLOGY IN PRIVATE AND PUBLIC  
TEACHING HOSPITALS IN LAHORE, PAKISTAN**<sup>1</sup>Dr. Saira Khan, <sup>2</sup>Dr Abdul Mateen Hamid, <sup>3</sup>Dr. Haris Khan<sup>1</sup>Allama Iqbal Medical College, Lahore, <sup>2</sup>Govt Samnabad Hospital Lahore, <sup>3</sup>Azra Naheed Medical College, Lahore.**Article Received:** October 2020**Accepted:** November 2020**Published:** December 2020**Abstract:**

**Aim:** As part of a coordinated teaching technique, clinical trainees become familiar with radiology during their pre-clinical years. In any case, no examination has been conducted in Pakistan to show a system of teaching clinical radiology at the undergraduate level. Hence, we wanted to record and examine the current level of presentation requirements, approaches and rewards for radiologists and residents of private and public emergency clinics in Karachi, Pakistan.

**Methods:** A study was conducted among 126 radiologists and residents of two private and two public emergency clinics in Karachi, Pakistan. Radiologists who were widely enrolled in the Pakistan Medical and Dental Council, either low maintenance or full-time, were included. Our current research was conducted at Jinnah Hospital, Lahore from March 2019 to February 2020. Residents and fellow radiologists who were widely registered with the Pakistan Medical and Dental Board were also included. Self-administered surveys to show obligations, techniques and prices were collected from 95 members.

**Results:** The overall response rate was 79.52% (96/126). All radiologists were committed to teaching residents and clinical understudies, but only 37% detailed conventional preparation in skills training. While a large proportion of respondents (78%) agreed that clinical trainees seemed enthusiastic about learning radiology, the time spent encouraging clinical trainees was less than five hours per week each year (83%). Only 38% of respondents preferred committed company internships to disseminated company internships (42%). The approach most widely recognized as being most conducive to demonstration in general is individual collaboration. Radiologists are less likely to prefer instructional exercises, roadshows and learning meetings on specific topics than occupants. Teaching through X-ray films (86%) was the most commonly used method of orientation. Remuneration (58%) was the most frequently mentioned reward for education. Most respondents (89%) are dissatisfied with their current level of educational reward.

**Conclusion:** All radiologists and residents working in a university radiology division are involved in the presentation of university understudies at different levels. The most popular teaching system includes the use of images, with individual collaboration between mentor and student. Financial compensation for teaching is built into the remuneration. The strategy adopted for training reasons to exist was essentially extraordinary between respondents from private medical clinics and those from public teaching medical clinics. Due to the low satisfaction of respondents, efforts should be made to provide satisfactory educational rewards.

**Keywords:** Teaching Radiology, Private, Public Teaching Hospitals, Lahore.

**Corresponding author:****Dr. Saira Khan,**

Allama Iqbal Medical College, Lahore.

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**INTRODUCTION:**

In the coordinated teaching technique, clinical trainees become familiar with radiology during their pre-clinical years. This requires a team of radiologists to screen the radiology teaching plan. It has been found that teaching radiology has been shown to improve the presentation of medical students in understanding images in American and British studies [1]. There is no evidence from Southeast Asia and the subcontinent, particularly Pakistan, that focuses on the school teaching perspective in the area of symptomatic radiology. Radiology training at the undergraduate level does not figure prominently in most school-based clinical education programs, either at the general or global level [2]. A Japanese report studied the recognition and evaluation of duplicates in one of their radiological visualization techniques, i.e., addresses. They reported that the interest and contribution of understudies was strongly associated with their presentation in examinations [3]. At one institution in the United Arab Emirates, the apparent symptomatic radiology of clinical understudies, as part of a coordinated educational plan, was found to be both enjoyable and facilitative [4]. In Pakistan, where medical services are limited, understanding the signs and the clinical appropriateness of imaging tests are crucial for our future physicians in training. In such settings, viable evidence-based teaching procedures are necessary to ensure ideal patient care. The Pakistan Medical and Dental Board gives a fixed curriculum an adaptable structure, which means that it prepares former clinical students for the mention and translation of X-rays, ultrasound, computed tomography and attractive reverberant imaging. From start to finish, 45 hours of more than five years are considered mandatory presentation time for radiology. With an adaptable structure, clinical universities have the

opportunity to present strategies for undergraduate students [5].

**METHODOLOGY:**

We conducted a cross-sectional review in four tertiary considerations showing clinics in Karachi, Pakistan. Information was collected from March 2019 to February 2020. Our current research was conducted at Jinnah Hospital, Lahore from March 2019 to February 2020. We arbitrarily recruited two public training clinics (out of a total of ten) and two private clinics (out of a total of five) in Karachi, registered with the Pakistan Medical and Dental Board. Using the Taking an Interest Foundation's departmental lists, we recruited a total of 126 subjects, which included all radiologists and occupants of four selected teaching hospitals. They recalled 35 radiologists and 36 residents for the private clinics and 19 radiologists and 36 occupants for the open medical clinics. The survey was approved by the board of directors of the parent organization's departmental survey. The subjects were selected after the heads of the offices had given their approval by letter. The classification of members and encouraging medical clinics was carefully maintained throughout the review. A survey was created by the principal officers and co-investigators based on a broad audit of comparative work done internationally. The demographics of the respondents, educational profiles of radiologists and residents, and their responsibilities, obligations, techniques, and remuneration assessment were discussed in the survey. This self-completed survey was tailored to each respondent face-to-face, and was collected by the reviewers with the informed consent of the reviewers. The survey was pre-tested on 7% of the example by the Lead Specialist, and some modifications were made.

**Table 1:**

Table 1: Teaching duties by respondents (radiologists and residents) in private and public teaching hospitals (n = 79)

Teaching duties	Respondents in private hospitals n = 61	Respondents in public hospitals n = 34	Chi-square value	dF*	P value <sup>§</sup>
Prior experience in medical education, n (%)	55 (90)	18 (53)	37.424	1	<0.001
Time spent teaching medical students per week, n (%)					
<5 hours/week	60 (98)	18 (53)	30.653	1	<0.001
≥5 hours/week	01 (1)	16 (47)			
Time spent in teaching material preparation per week, n (%)					
<5 hours/week	50 (82)	18 (53)	9.049	1	0.003
≥5 hours/week	11 (18)	16 (47)			

Notes: \*Degrees of freedom; <sup>§</sup>P value calculated via Pearson's Chi-square test.

Figure 1:

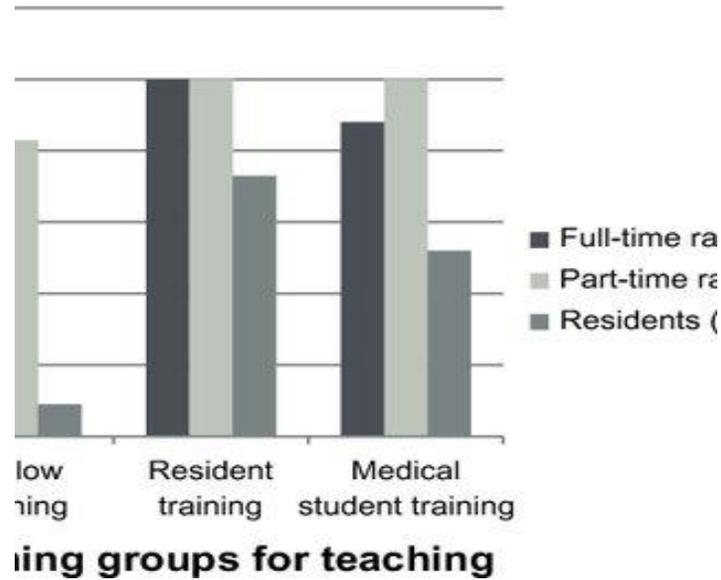


Table 2:

and public teaching hospitals (n = 10)

	Radiologists n = 39	Residents n = 56
Number of participants, n (%)	39 (100)	56 (100)
Full-time	27 (69)	–
Part-time	12 (31)	–
Setting of workplace, n (%)		
Private hospital	31 (79)	30 (54)
Public hospital	8 (21)	26 (46)
Medical college training, n (%)		
Private hospital	10 (26)	15 (27)
Public hospital	29 (74)	41 (73)
Residency training, n (%)		
Private hospital	17 (44)	30 (54)
Public hospital	18 (46)	26 (46)
Total teaching experience		
<5 years	08 (21)	56 (100)
≥5 years	31 (79)	00 (00)
Prior experience in medical education, n (%)	39 (100)	34 (61)
Previous training for teaching skills, n (%)	14 (36)	27 (48)

**RESULTS:**

Out of 126 radiologists and residents of our institution of interest, 96 agreed to participate in the examination, giving an overall response rate of 78.56%. Respondents included full-time radiologists (29.5%), low maintenance radiologists (13.7%) and residents (58.9%), with an average age of  $34.65 \pm 7.96$  years, with females accounting for 57% of respondents (56/99). Table 1 presents socio-economic data for radiologists and residents of public and private hospitals. Most radiologists (67%) completed their residency by preparing for medical clinics in daylight. Radiologists in private emergency clinics were required to have related knowledge to train residents and colleagues, unlike their counterparts in open clinics (90% vs. 53%; chi-square value 38.428;  $df = 1$ ;  $P = 0.002$ ). The normal encouraging experience for a large proportion of radiologists was more than five years (78%, Table 1). Most (63%) chose clinical understudy training during their preparation. Residents of private incentive clinics were more likely to prepare for the teaching of contrast skills, and their associates prepared outdoors by showing emergency clinics (Table 1).

**DISCUSSION:**

For the information of the creators, this journal is the first of its kind in Pakistan and covers some parts of scientific radiology, including the presentation of responsibilities and obligations. Our survey revealed a normal circulation season of less than five hours per week each year. Radiologists invest impressive energy planning for lectures, educational exercises and encouragement of multidisciplinary meetings, despite individual education. Residents educate during clinical work and on adjustments [6]. We have recently released information showing that understudies report insufficient time spent with radiologists, which can be attributed to breaks by associates, occupants or specialized staff [7]. In a public study of school and non-school radiologists in the U.S., Ding *et al.* detailed a standard internship length of 34 hours per week. In a study of clinical school clerks in the U.S., Samuel and Shaffer found a normal nine hours per week for teaching and management tasks [8]. Another survey reported a full radiology rotation time showing a clinical understudy time of 86 hours and 279 hours in Australia and New Zealand, respectively [9]. The absolute duration was 174 hours for residents of radiology programs in Australia. The Medical and Dental Council of Pakistan suggests 40 hours over five years for radiology training for clinical understudies only. However, this is not repeated as a uniform standard [10].

**CONCLUSION:**

While most of the radiologists preparing in Pakistan do not have much experience, they have been the main providers of radiology education in the country at both undergraduate and postgraduate levels. Different teaching approaches are currently being used, with state-of-the-art incentive techniques available in private emergency clinics. Rewards, as financial incentives for educational action and academic recognition at the college and public levels, would inspire today's radiologists. We suggest an educational program dedicated to the preparation of radiology coaches to assist in the schooling of radiologists in Pakistan.

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