

Original Research Article

## **Impact of Clinical Training on Under Graduate Radiography Students in Puducherry**

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### **ABSTRACT**

The clinical training is one of the most valuable resources available to paramedical institutions to prepare students to competently care for patients and also execute certain tasks with little or no supervision. Aim of this study was to examine the impact of clinical training on under graduate radiography students' clinical experience.

A quantitative study design using a Likert-Scale questionnaire was used to assess clinical practice-learning environment. Data was analyzed using the Statistical Package for the Social Sciences Version 14.0 (SPSS). Ninety four (94) undergraduate student radiographers participated in the study from various institutions in Puducherry region.

Students indicated they had enough knowledge and enjoyed their time on the clinical training. They indicated that the staffs were supportive, friendly and approachable. The students were also able to achieve their learning outcome during the clinical training. However feedbacks from supervisors, according to the students were inadequate and students were not sure about the use of research findings by the clinical venues.

Clinical training had adequate student support. It is important, however, to consider carefully where students have their clinical practice and at what point of their studies the different trainings should be carried out. A memorandum of understanding between the premier health institutions is necessary to ensure that students have a good experience at clinical training.

**Keywords:** Radiography, Clinical training, Under Graduate Radiography students, Educational support.

### **INTRODUCTION**

Clinical training describes the practice of assisting a student to acquire the required knowledge, skills and attitudes in practical settings such as Medical college, Hospitals, health service clinics, field work sites to meet the standards defined by a university degree structure or Atomic Energy Regulatory Board, the professional accrediting or licensing board for Radiographic studies in India.

Clinical trainings form a significant component of the training of radiographers in Puducherry. It provides opportunities for students to learn experientially, and

encourages them to actively learn from their individual experiences. In the field of radiography, clinical education activity is usually contained within undergraduate or graduate-entry degree programmes. It frequently involves students leaving the confines of the university and undertaking practical patient or client activities in a health or welfare and educational setting with the educational support of a qualified practitioner who is employed by the service or agency. Sudgen, <sup>[1]</sup> asserts that clinical training is course work involving hands-on, direct care or service experience and evaluation of the student's skills, variously

referred to as clinical rotation, practicum or internship. It is the mission of all tertiary institutions to strive to provide quality education to all graduates. [2] This however is provided both in the classroom and in a clinical setting at the study site.

The purpose and mission of every trained radiographer is to promote high standards of patient care and to practice with little or no supervision and for that matter clinical training play a role in the preparation of students for practice in Puducherry. Due to the diversity and specification existing in the radiography profession, there is the need for the radiographer to develop the core knowledge and skill in their practice. Job requirement and responsibilities of a radiographer vary from every clinical room and other practice sites; hence students need to equip themselves to be able to integrate into any practice setting. [3]

#### Aim Of the study

To examine the impact of clinical training location on radiography student's experience. Objectives of the study The specific objectives of the study were

- To evaluate students' clinical supervision, evaluation, confidence and assessment as carried out during clinical training.
- To identify areas of strengths and/or limitations of clinical training venues.
- To identify factors that contributes to a positive clinical experience.

#### MATERIALS AND METHODS

Approval for the study was obtained from the Head of the Institution. All study participants gave informed consent prior to the commencement of the study. The study design was a descriptive survey using quantitative methods. All students undertaking radiography course students within their second and third year (N=94) were enrolled and recruited at the time of the study. A convenience sampling using a non - probability method was used to select participants between six weeks in their clinical rotation. A self-structured questionnaire comprising closed ended

questions was employed to collect data for the study. The questionnaire consisted of socio-demographic characteristics (1-5), relevance of clinical training; clinical duration and Likert-scale statements with five response options rating from A (strongly agree) to E (strongly disagree) that addressed three main areas of training. They are assessment of practice, practice learning environment, and student support. Data was analyzed using SPSS version 14. For socio-demographic categorical data (e.g. age group, sex), summary tables of counts and percentage were presented with respect to these characteristics.

#### RESULTS

In all, 94 participants were enrolled in the study, consisting of 60 males and 34 females. All respondents returned their questionnaire, indicating a 100% outcome. Only 16% of the total populations were married.

**Table 1: The demographic variable of the respondent (n=94)**

Variable		No. of Respondent	Percentage (%)
Age (in Years)	18-22	46	49.0
	23-27	34	36.1
	27-32	10	10.6
	>32	4	4.3
Gender	Male	60	63.8
	Female	34	36.2
Marital Status	Married	15	16.0
	Un married	79	84.0

An age group of 18 – 22 recorded the highest number of respondents (49%) while 32+ recorded the lowest number of respondents (4.3%). (Table 1)

Almost all the students (97.9) agree to the fact that clinical training was important. 76.6% of the students learn through active experimentation. Students who also learn best by reflective observation were 17.1% (Table 2)

**Table 2: Students Learning ability in the clinical room (n=94)**

Modes of learning ability in the clinical room	Frequency	Percentage (%)
learn best by reflective observation	16	17.1
learn through active experimentation	72	76.6
learn through concrete ideas	2	2.1
learn through abstract ideas	2	2.1
None of the above	2	2.1
Total	94	100.0

Eighty (85.1%) of the participants agreed that staff were supportive during their clinical rotation, but six (6%) disagreed with that.(Table 3)

**Table 3: Staff were supportive (n=94)**

Responses	Frequency	Percentage(%)
Strongly Agree	16	17.0
Agree	64	68.1
Not sure	8	8.5
Disagree	6	6.4
Strongly Disagree	0	0
Total	94	100.0

More than half of the students (61.7%) concurred that the clinical assessors were prepared for their role recording response (Table 4).

**Table 4: Clinical assessors were prepared for their role (n=94)**

Responses	Frequency	Percentage(%)
Strongly Agree	12	12.8
Agree	46	48.9
Not sure	20	21.3
Disagree	12	12.8
Strongly Disagree	4	4.2
Total	94	100.0

More than half of the students (66%) consented that they receive support from their clinical supervisors (Table 5)

**Table 5: Students receive support from their clinical supervisors (n=94)**

Responses	Frequency	Percentage (%)
Strongly Agree	12	12.8
Agree	50	53.2
Not sure	20	21.3
Disagree	12	12.7
Strongly Disagree	0	0
Total	94	100.0

Sixty-six percent of students consented that the training were supportive to their profession (Table 6), whereas 68% indicated that the practice experience and supervision offered were appropriate to their level of competence (Table 7).

**Table 6: Placement was supportive to my professional growth (n=94)**

Responses	Frequency	Percentage (%)
Strongly Agree	18	19.1
Agree	62	66.0
Not sure	10	10.6
Disagree	4	4.3
Strongly Disagree	0	0
Total	94	100.0

**Table 7: The practice experience and supervision were appropriate to my level of competence (n=94)**

Responses	Frequency	Percentage (%)
Strongly Agree	16	17
Agree	48	51.1
Not sure	22	23.4
Disagree	6	6.4
Strongly Disagree	2	2.1
Total	94	100.0

**Table 8: Orientation by clinical supervisor was adequate (n=94)**

Responses	Frequency	Percentage (%)
Strongly Agree	2	2.1
Agree	48	51.1
Not sure	24	25.5
Disagree	18	19.2
Strongly Disagree	2	2.1
Total	94	100.0

**Table 9: The staff were friendly and approachable (n=94)**

Responses	Frequency	Percentage (%)
Strongly Agree	24	25.5
Agree	52	55.3
Not sure	14	14.9
Disagree	4	4.3
Strongly Disagree	0	0
Total	94	100.0

Fifty three percent of the participants also indicated that supervision were adequate (Table 8) and 81% of the participants indicated that staffs were friendly and approachable (Table 9).

## DISCUSSION

The majority of the respondents were within the ages of 18-22. The sample characteristics are a representative of students enrolled in this program. Understanding the relevance and meaning of clinical training Overall, almost all the respondents (97.9%) indicated a high level of understanding about the meaning and the relevance of clinical training, which supports the study by Chan. [4] In this study, it was identified that the relevance of clinical training cannot be over emphasized. Students understand the need for clinical training as a requisite medium of equipping themselves with the right knowledge and skills to improve the quality of all diagnostics students and patient management. Majority of the respondents (76.6%) indicated that they learn through active experimentation Table 2.

This was as a result of the fact that students are able to perform credibly after

they have been allowed to try hands on examination under supervision. This was in line with the term legitimate peripheral participation, where students move from the periphery into the centre of the occupation by active experimentation as indicated by Frances JA. & Quek F. [5] This enhances the competence and confidence of the student to handle cases with less or no supervision and would further curb the shortage of staffing which is a major challenge of many health institutions. Boggis, et al., [6] asserted the need for students to participate in different clinical settings to practice radiography and this as seen in Table 4, was supportive to the growth of the students.

Majority of the students indicated that the four week clinical duration is enough, though (38.3%) stated that hours spent for the period were not being enough. This notwithstanding, 61.7% respondents agreed to the fact that the number of hours spent in the clinical room was enough. This suggested that the existing duration for clinical training of students should be more to help the students acquaint themselves with the clinical environment as well as gain the necessary skills. Nonetheless the amount of hours needed for clinical is still subject to debate as indicated by Penman and Oliver. [7] Students' assessment, evaluation and satisfaction with clinical training: The students, during the training satisfactorily met their training objectives, enjoyed their time and worked as a team with very willing and available staff that assisted them in learning though there were few challenges. Thus, the training was a pleasant learning experience for students. However, studies have indicated that not all practice settings are able to provide students with a positive learning environment. [8] For example, in a study done by Kleehammer, Hart & Fogel, [9] in nursing results indicated that students perceived training experience as challenging, unpredictable and stressful particularly in the first clinical training. During clinical training, evaluations provide students with the opportunity to reflect and examine issues of practice, enabling them to

focus on particular issues or concerns, e.g. adequate orientation to the workplace, availability of assistance from staff members and so forth. The challenge is to maintain the quality of the training experience or improve such experiences. The responses to the instrument showed that majority of the students were impressed about training they had and stated that it was favorable (Table 3 and 6).

Results of this study showed that the majority of students perceived their clinical training as rich in learning experiences (Table 5). According to them, venues for training were supportive of learning, professional growth, skills development and practice. Students' experiences with the clinical settings were pleasant and the outcomes of the experiences satisfying. Having been exposed to a wide range of clinical experiences, many of the students reported that they met their objectives, felt confident about working in the same area in the future, and anticipated that other students would benefit from the same clinical experiences (Table 6). While the majority benefited from their clinical trainings, a few of the students reported dissatisfaction as well. They rated particular clinical venues poorly. These clinical venues might benefit from ongoing feedback from students and collaboration with the faculty. Barriers to feedback process have been identified as inadequate supervisor training and education, unfavorable student learning environment and insufficient time spent with students. [10] Feedback should be given to students regularly to ensure that they have the best opportunity possible to improve during the clinical experience.

## CONCLUSION

It can be concluded that many of the experiences of Under Graduate Radiography Students in Puducherry relating to the impact of clinical training locations were positive. However, it is imperative to consider carefully where students have their clinical practice and at what point of their

studies the different trainings should be carried out. A Memorandum of Understanding between the key stakeholders is essential to ensure that students have a good experience at clinical training. Considering the aim of the study, which was to examine the impact of clinical training location on radiography clinical experience, it is suggested that Universities review their number of hours for clinical training in order to meet the standard and the quality of coaching needed for each student. Again feedback should be given to students regularly to ensure that they have the best opportunity possible to improve during the clinical experience. Finally, professional bodies must make serious efforts to identify barriers and facilitators of research utilization in their respective locality. While training institutions, professional body, clinical radiographers and researchers must collaborate to develop and implement strategies to enhance a research-based practice in the training venue in order to improve practice.

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