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Research article

IMPACT OF CLINICAL PLACEMENT ON RADIOGRAPHY STUDENTS IN GHANA

*Kyei KA[1], Addo Bruce M[2], Antwi WK[1], David NA[1]

[1]College of Health Sciences School of Allied Health, University of Ghana
[2]AddoNational Centre for Radiotherapy Korle-Bu Teaching Hospital
[3]College of Health Sciences School of Allied Health, University of Ghana

*Corresponding author email: adesco41@hotmail.com

ABSTRACT

Background: The clinical setting is one of the most valuable resources available to training institutions to prepare students to competently care for patients and also execute certain tasks with little or no supervision. **Aim:** To examine the impact of clinical placement on radiography students' clinical experience. **Methodology:** 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). Forty seven (47) undergraduate student radiographers participated in the study. **Results:** Students indicated they had adequate knowledge and enjoyed their time on the clinical placement. They indicated that the staffs were supportive, friendly and approachable. The students were also able to achieve their learning outcome during placement, 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. **Conclusion:** Clinical placement 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 placements should be carried out. A collaboration between the key stakeholders is essential to ensure that students have a good experience at clinical placement.

Keywords: Radiography, Clinical experience, Radiography students, Educational support, Practitioner

INTRODUCTION

Clinical placement describes the practice of assisting a student to acquire the required knowledge, skills and attitudes in practical settings (such as health service clinics, field work sites to meet the standards defined by a university degree structure or professional accrediting or licensing board [1]. Clinical placements form a significant component of the training of radiographers in Ghana. It provides opportunities for students to learn experientially, and encourages them to actively learn from their individual experiences[2].

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[1].

Sudgen[3], asserts that clinical placement 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[4]. 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 placement play a role in the preparation of students for practice in Ghana.

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[5].

Aim Of the study

To examine the impact of clinical placement 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 placement.
- To identify areas of strengths and/or limitations of clinical placement venues.

To identify factors that contribute to a positive clinical experience.

METHODOLOGY

Approval for the study was obtained from the research ethics committee of a higher education institution. The ethics approval was supported by written permission for the study to be conducted at the study site. 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 third and fourth year (N=47) 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 placement; 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 placement: 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 using Pearson's chi-square tests to test for association. Descriptive statistics involving tables of means, standard deviations and inferential statistics were employed as and when appropriate to describe the data. Apart from reporting, mean and standard deviation of scores, Pearson's chi squared test was used to compare responses of different year groups in the university and individuals in the same year group at 0.05 level of significance. In some cases, graphical presentations were provided to highlight the level of differences. All statistical tests were declared significant for p-value <0.05.

RESULTS

In all, 47 participants were enrolled in the study, consisting of 28 males and 19 females. All respondents returned their questionnaire, indicating a 100% outcome. Only 8.5% of the total population were married. Almost 85% of the participants indicated that staffs at various clinical rooms were supportive to them during their clinical rotation. An age group of 18 – 22 recorded the highest number of respondents (44.7%) whiles 32+ recorded the lowest number of respondents (4.3%). Almost all the students (97.9) agree to the fact that clinical placement was important. 74.5% of the students learn through active experimentation. Students who also learn best by reflective observation were 19.1% (Table 1).

Thirty-one (66%) of the participants agreed that staff were very supportive during their clinical rotation, but three (6%) strongly disagreed with that. More than half of the students (61.7%) concurred that the clinical assessors were prepared for their role recording response (Figure 2). Sixty-six percent of students consented that the placement were supportive to their profession whereas 68% indicated that the practice experience and supervision offered were appropriate to their level of competence. 53% of the participants also indicated that supervision were adequate. 81% of the participants indicated that staffs were friendly and approachable.

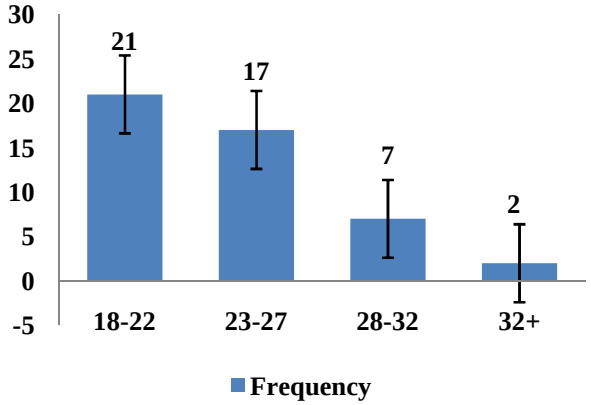

Fig 1: Age group distributions of respondents (n=47).

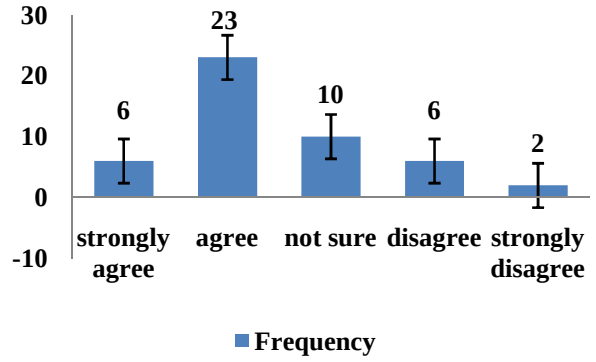

Fig2: Clinical assessors were prepared for their role (n=47).

Table 1: Students learning ability in the clinical room (n=47).

Modes of learning in clinical room	Frequency	Percent (%)
learn best by reflective observation	9	19.1
learn through active experimentation	35	74.5
learn through concrete ideas	1	2.1
learn through abstract ideas	1	2.1
none of the above	1	2.2
Total	47	100

Table 2: The staffs were supportive (n=47).

Responses	Frequency	Percent (%)
strongly agree	9	19.1
agree	31	66.0
not sure	4	8.5
Disagree	3	6.4
Total	47	100

Table 3: Students received support from their clinical supervisors (n=47).

Responses	Frequency	Percent (%)
strongly agree	6	12.8
Agree	25	53.2
not sure	10	21.3
disagree	6	12.8
Total	47	100

Table 4: The placement was supportive to my professional growth (n=47).

Responses	Frequency	Percent (%)
strongly agree	9	19.1
Agree	31	66.0
not sure	5	10.6
Disagree	2	4.3
Total	47	100

Table 5: The practice experience and supervision were appropriate to my level of competence (n=47).

Responses	Frequency	Percent (%)
strongly agree	8	17.0
Agree	24	51.1
not sure	11	23.4
Disagree	3	6.4
strongly disagree	1	2.1
Total	47	100.0

Table 6: Orientation by clinical supervisor was adequate (n=47).

Responses	Frequency	Percent(%)
strongly agree	1	2.1
Agree	24	51.1
not sure	12	25.5
Disagree	9	19.1
strongly disagree	1	2.1
Total	47	100.0

Table 7: The staffs were friendly and approachable (n=47).

Responses	Frequency	Percent (%)
strongly agree	12	25.5
Agree	26	55.3
not sure	7	14.9
Disagree	2	4.3
Total	47	100

Inferential analyses done in Tables 8 and 9 indicated that enhancement of clinical skills were dependent on the appropriate practice experienced and the supervision offered by the supervisors where as professional growth of the students were dependent on the support from the clinical supervisors.

Inferential Analysis

Table 8: The practice experience and supervision offered were appropriate to my level of competence * the placement enhanced my clinical skills

Responses		strongly agree	Agree	not sure	Dis agree	Total
strongly agree	Count	5	2	1	0	8
	Expected Count	2.4	4.4	1.0	0.2	8
Agree	Count	8	14	2	0	24
	Expected Count	7.1	13.3	3.1	0.5	24
not sure	Count	0	9	2	0	11
	Expected Count	3.3	6.1	1.4	0.2	11
Dis agree	Count	1	1	0	1	3
	Expected Count	0.9	1.7	0.4	0.1	3
strongly disagree	Count	0	0	1	0	1
	Expected Count	0.3	0.6	0.1	0.0	1
Total	Count	14	26	6	1	47
	Expected Count	14.0	26.0	6.0	1.0	47

H0: The enhancement of clinical skills is independent of the appropriate practice experience and supervision offered

H1: The enhancement of clinical skills is dependent on the appropriate practice experience and supervision offered

Chi square (X2) test value is 31.8, Level of significance (α) = 0.05, Degree of freedom (df) =12, p- Value=0.001

The conclusion derived from this is that enhancement of clinical skills is dependent on the appropriate practice experience and supervision offered.

Table 9: I received support from my clinical supervisors * the placement was supportive of my professional growth

Responses		strongly agree	agree	not sure	Dis agree	Total
strongly agree	Count	3	3	0	0	6
	Expected Count	1.1	4.0	0.6	0.3	6.0
Agree	Count	2	21	1	1	25
	Expected Count	4.8	16.5	2.7	1.1	25
not sure	Count	1	5	3	1	10
	Expected Count	1.9	6.6	1.1	0.4	10
Disagree	Count	3	2	1	0	6
	Expected Count	1.1	4.0	0.6	0.3	6
Total	Count	9	31	5	2	47
	Expected Count	9.0	31.0	5.0	2.0	47

H0: The professional growth of the student is independent of support from clinical supervisors

H1: The professional growth of the student is dependent on the support from clinical supervisors

Chi square (X2) test value is 17.5, Level of significance (α) = 0.05, Degree of freedom (df) =9

p- Value=0.041

The conclusions derived from the result indicate that the professional growth of the student is dependent on the support from clinical supervisors.

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 placement

Overall, almost all the respondents (97.9%) indicated a high level of understanding about the meaning and the relevance of clinical placement, which supports the study by Chan[6]. In this study, it was identified that the relevance of clinical placement cannot be over emphasized. Students understand the need for clinical placement 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 (74.5%) indicated that they learn through active experimentation Table 1. 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 [7]. 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.,[8] 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.

Clinical Placement Duration

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 placement 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 [2].

Students' assessment, evaluation and satisfaction with clinical placement:

The students, during the placement satisfactorily met their placement 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 placement 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[9]. For example, in a study done by Kleehammer, Hart & Fogel,[10] in nursing results indicated that students perceived placement experience as challenging, unpredictable and stressful particularly in the first clinical placement.

During clinical placement, 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 placement experience or improve such experiences. The responses to the instrument showed that majority of the students were impressed about placement they had and stated that it was favorable (Table 3 and 6). Results of this survey showed that the majority of students perceived their clinical placement as rich in learning experiences (Table 5). According to them, venues for placement 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 placements, 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[11]. This may be due to the fact that the conventional concept lacks important competence to ensure that the trainees or students are competent to practice, including consistent guidance, measurement of performance and feedback in a systematic and structured way as part of the departmental policy[12].

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 Radiography Students relating to the impact of clinical placement 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 placements should be carried out. A Collaboration between the key stakeholders is essential to ensure that students have a good experience at clinical placement.

Considering the aim of the study, which was to examine the impact of clinical placement location on radiography clinical experience, it is suggested that Universities review their number of hours for clinical placement 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 placement venue in order to improve practice.

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