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Views of Makerere University Radiography Students in Third and Fourth Year on the Implementation of Internship after Accomplishing their Four-Year Bachelors' Degree.

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Abstract

Purpose: The study purposed to find out the views of the third and fourth-year Radiography students at Makerere University, College of health sciences on the implementation of internship after their four-year bachelors' degree since they currently do not have internship as part of their programme, despite the fact that other medical courses such as Medicine and Surgery have an ongoing internship programme.

Methodology: A descriptive quantitative cross-sectional study was carried out using a convenience sampling method to find out the views of Makerere University radiography students in third and fourth year on the implementation of internship after accomplishing their four-year bachelors' degree. The data was collected from 27 respondents who were purposely selected by the researcher through a self-developed structured questionnaire and analyzed using Microsoft Excel programme.

Findings: The study revealed that 100% of the students were aware of internship and 60% of the respondents believed that internship was important after completion of the undergraduate studies. Despite the fact that the majority (60%) of the respondents acknowledged that internship was important, a few (35%) wanted internship to be part of the undergraduate programme while the majority (65%) did not want it to be part. The research further showed that 35% of the students were undecided on the importance of internship after completion of the undergraduate studies in Radiography. A paltry 5% said it was not necessary because Radiography is a practical course therefore, there is no need for an internship and that it would promote laziness among the students. The study revealed mixed results including; awareness, knowledge level, and interest.

Unique Contribution to Theory, Practice and Policy: This study highlighted the necessity of a structured, post-classroom active experimentation to bridge the gap between theoretical knowledge and professional practice as well as enhance the performance of the outgoing students. The study findings recommended Makerere University College of Health Sciences (MAKCHS), Ministry of Health and the board of Radiographers in Uganda to provide annual awareness sessions on internship, include post Radiography students in the government payroll and also carryout different consultations from the seniors in the profession on the need of internship for the Bachelor's degree of radiography at Makerere University.

Keywords: *Internship, Level of Awareness, Undergraduate Radiography Students.*

1.1 Background

Internship is defined as the period of time when a graduate works in a specific hospital under a supervised environment to gain a qualification as an imaging technologist [1]. A study reported that the problem of inadequate clinical practice experienced by health graduates in Northern Nigeria explains the commencement of internship in the health sector [2]; therefore, internship aims at establishing a practical acquaintance for beginners in a profession through supervised practical training [3]. Another study in 2021 also added that internship is important in Radiography training because students get the opportunity to learn in real situations and treat patients hence develop their practical skills [4]. In addition to the above, other studies stated that internship supplements on the opportunity for personal development, making clinical decisions, career planning and callback for job interviews as well as chances of higher pay once employed [5-7]. Studies in Northern Nigeria [3], United states (US) [8], Ghana [9] and Australia [10] showed that interns undergo an average of 12-months internship training in an accredited hospital which serves as an integral part of the entire training programme, and are later provided the award of Bachelor's degree in Radiography [4]. Unlike other countries, there is no legal internship policy for Radiography students in Uganda which therefore forms the basis of this study.

1.2 Research Question

What are the views of Makerere University Radiography undergraduate students on the implementation of internship after their four-year bachelors' degree?

1.3 Objectives

The purpose of this descriptive quantitative cross-sectional survey study was to find out the views of third and fourth-year Radiography students at Makerere University College of health sciences on the implementation of internship after their four-year bachelors' degree. For the purpose of this study views were defined as the beliefs or opinions of Radiography students towards internship.

The specific objectives of the study were as follows;

1. To find out the level of awareness of Makerere University Radiography students on internship.
2. To establish the views of Makerere University Radiography students towards internship.

1.4 Problem Statement

Research showed that apart from general Radiography, most of the students did not get time to practice in the other specialized modalities such as fluoroscopy, mammography, computed tomography and intravenous urography as reported by a study in Ghana [9]. In addition to the above, some of the Radiography students found it difficult to balance between the theoretical work learnt and clinical practice in spite of the fact that the Makerere University Radiography curriculum contains 50% of theoretical knowledge and 50% practical experience [11]. It was also noted that students failed to adhere to the duty roster system which was aimed at equipping them with all the necessary technical skills of the different imaging modalities due to lack of

commitment of the students and uncooperative supervisors. Furthermore, it was noted that there was a lack of enough equipment for training of students. Lack of adequate technical knowledge, skills and experience leads to poor imaging quality services hence wrong or missed diagnosis that may lead to delay of patient management, and at times extra cost for repeated examinations. As a result of the above challenges, the researcher aimed at finding out the awareness and views of Makerere University Radiography students on implementation of internship after accomplishing their four-year bachelors' degree.

1.5 Justification

The reason why this study was conducted was to establish whether Radiography graduates at the college of health sciences needed an internship in order to improve on their technical or practical skills. The findings of this study, may act as recommendations to the management of Makerere University and policy makers at the Ministry of health to establish whether there is need for internship for Radiography students at Makerere University and other Radiography training institutions after completing their four-year bachelors' degree.

Literature Review

2.1 Level of Awareness of Internship.

A study in the US reported that students lacked knowledge on how to obtain internship positions and opportunity to apply for internships yet they had interest in participating in it after college [12]. Some of the biggest challenges of internship in the US are lack of clear and standardized definitions as well as the scarcity of empirical research on the structure of internship programmes [13]. In a recent U.S study, about 73% of the employers perceived that it was very difficult to find qualified candidates for jobs, and about 34% employers said schools had not properly prepared students for jobs since the skills taught in schools do not always match the skills demanded for by the employers hence the skills gap is the one factor driving the recent expansion of work-based learning [14]. Internship training enables the transition from student to professional practice and it provides an opportunity to learn to make clinical decisions [5]. Dr. Nupur in his 2019 article at the University of Florida in the US stated that intern year can be a vibrant time in one's medical education, a chance to further one's professional independence as well as an important time to build strong practices that will help one succeed in radiology rotations and throughout their career [15]. Therefore, according to the above, most of the students are aware of internships, despite lack of the opportunity to take part in one.

2.2 Views of Students towards Internship.

A study at the American college of Radiology, 49% of the Radiologists agreed that internship was important for their development as a Radiologist besides, them having divided perceptions of their intern year when disaggregated by subspecialty career choices [16]. Valerie, also added that development of technical skills, and enhancement of imaging abilities require one to have an internship programme, therefore, robust clinical experience is needed for one to be an effective member of the health care team and to have impact on patient care [17]. According to a study in the US, some of the reasons for not involving in internship included the need to

work a paid job (40.1%), pandemic effects (44.2%), heavy course load (55.9%) and preference of paid internships to unpaid ones [8]. According to the above literature, most of the interns valued internships as a way of enhancing their technical skills and preparing them for their future careers and professions.

Methodology

3.1 Study Setting

The research was conducted at Makerere University College of Health Sciences (MAKCHS) located within Mulago Hospital complex on Mulago hill in the northeast of Kampala, Uganda. MAKCHS admits students for various courses of which Radiography is part.

Research Design:

A descriptive quantitative cross-sectional study was conducted to survey the views of the Makerere University Radiography students towards the implementation of internship after their four-year bachelors' degree. The research study involved various activities that included; selection of the appropriate respondents, development and piloting of the questionnaires, administering of the questionnaires to the respondents, data cleaning, data analysis, data interpretation and discussion of the findings as well as report writing.

3.2 Target Population (Study Population/Sample)

Target Respondents:

This research targeted all the Radiography students who were in their third and fourth year of study at MAKCHS.

3.3 Sampling technique and sample size

A convenience sampling technique was used to include respondents into the study. The convenience sampling was used because it is a non-probability method where units are selected by the researcher because of the availability at the time and willingness to participate in the study [18]. All the 27 medical Radiography students in their third and fourth year were invited to participate in the study and these included 16 in third year and 11 in fourth year.

3.6 Data Management and Analysis

Data collection methods:

After getting approval from the Mulago Hospital Research and Ethics Committee and the research coordinator of Radiography students, consent to participate in the study was sought from each of the respondents. The researcher collected data using self-developed structured questionnaires which were administered to the respondents by the researcher herself. The structured questionnaire entailed both closed-ended and open-ended questions assessing the level of awareness and views of the Radiography students on internship.

3.8 Dissemination

These results will be given to the Makerere University research committee and the Ministry of Health to be used as a guideline to determine whether internship can be included in the undergraduate programme of Radiography students in Uganda.

Results and Discussion

4.1 Level of Awareness of Internship

4.1.1 Level of awareness of internship and the involvement in internship (Would you want internship to be part of the undergraduate programme?).

The respondents in the open-ended question section defined internship as a period of clinical practice under supervision of a qualified person in a hospital when attached to that hospital after completion of their course. It was in line with the internship definition as the period of time when a graduate works in a specific hospital under a supervised environment to gain a qualification as an imaging technologist [1].

All 27(100%) of the respondents had ever heard of internship and they were aware of it as being part of skills development in the education sector. It was reported that the students in Claflin University, U.S.A perceived internships to be paid, provide connections, experience, opportunity, learning, exploration, and advancement as well as being associated with research and travel [19]. On the contrary, a study in the US reported that students lacked knowledge on how to obtain internship positions and opportunity to apply for internship yet they had interest in participating after college [12]. This could also be a challenge for students in other countries such as Uganda vying for internship positions.

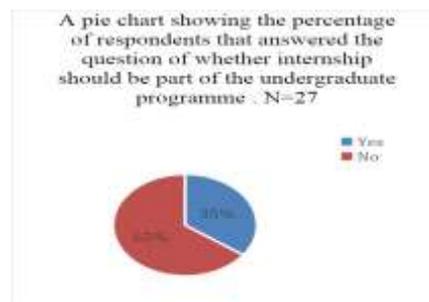


Figure 1: Involvement of internship

A few of the respondents 9 (35%) wanted internship to be part of the undergraduate programme while the majority 18 (65%) did not want it to be part of the undergraduate programme. This was in line with a 2008 survey of American trainees in radiology which found that 49% responded that internship was necessary for their development as a radiologist [16] and a 2018 survey of Canadian radiologists and radiology trainees which found that the majority 71% were in favor of a basic clinical year [20]. Some of the reasons as to why students needed an internship as stated by The State University of New York [21] included; application of education and career exploration, gain experience and increase marketability, networking, professionalism as well as learn how a professional workplace operates, build one's resume, gain professional feedback, learn from others and figure out what one likes and doesn't like.

4.2 Views of Students towards Internship

4.2.1 Importance of Internship

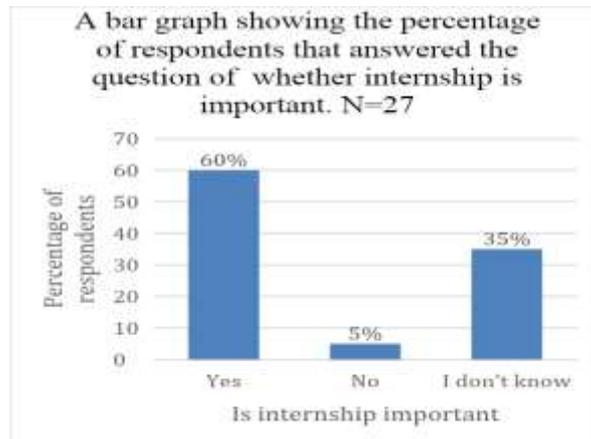


Figure 2: Is internship important

Most of the respondents 16 (60%) said internship is important because of the following reasons; it improves clinical skills and confidence, equips students with practical information about the course, enables clinical orientation, and improves management skills as well as increases the practice time. This was in line with the report of the American college of Radiology that stated that most of the participants 67% considered internship as important for their development as radiologists [16]. Some of the respondents (5%) said it was not important because Radiography is a practical course therefore there was no need for an internship and that it would promote laziness among the students. There also existed some of the respondents 9 (35%) that did not know whether internship was important. Baker, reported that in a recent U.S study, about 73% of the employers perceived that it was very difficult to find qualified candidates for jobs, and about 34% employers said schools had not properly prepared students for jobs since the skills taught in schools do not always match the skills demanded for by the employers hence the skills gap is the one factor driving the recent expansion of work-based learning [14].

4.2.2 How long would you want the internship to be?

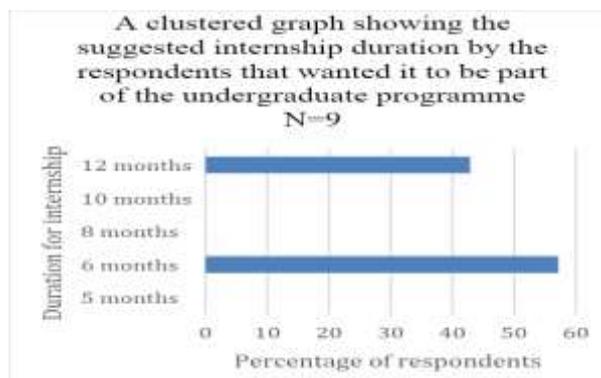


Figure 3: Duration of Internship

The 35% that wanted internship to be included in the undergraduate programme suggested 6 months (57% respondents) and 12 months (43% respondents) as the duration for internship. Most of the medical interns take a period of 12 months to accomplish their internship [22].

4.2.3 Is the four-year programme enough?

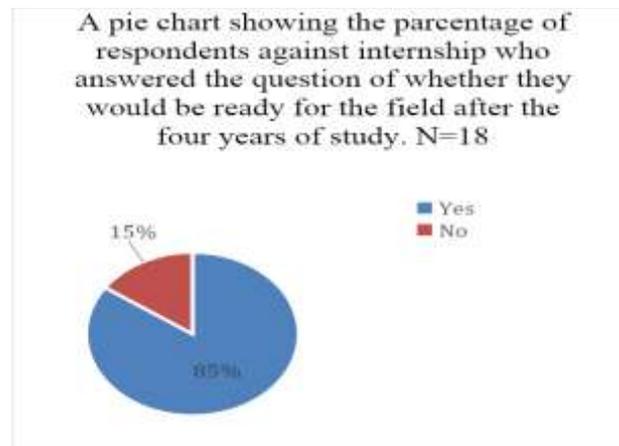


Figure 4: Internship not necessary

Of the 18 (65%) respondents, that did not want internship to be placed as part of the undergraduate programme, 15 (85%) of them affirmed that the four-year programme they attended prepared them enough to handle a Radiography department alone. They further added that the content of the programme was covered in depth (27% respondents), everything they needed for the course was covered (27% respondents) and they had enough time to practice all modalities of imaging, patient and department management during the programme (91% respondents). Yet 3 (15%) of the 18 (65%) were not certain if the four-year programme was enough to prepare them. Despite their uncertainty, they still did not want internship to be part of the undergraduate programme; they believed that they would gain the skills as they worked a paid job but not through internship.

4.2.4 Summary of the student views on internship

The views of the Radiography students towards internship were also ascertained using a Likert scale where nine questions concerning internship were listed. From the listed questions, the respondents were undecided on whether they would go for an internship when given a chance. They were also undecided on whether it was necessary for a Radiography student to go for an internship. The respondents disagreed with the statement “I would be very happy to go for an internship”, though they agreed to the statement “I expect my management skills to be enhanced when I go for an internship.” Although the respondents were undecided on whether they got enough skills during their study time, they were not willing to take part in an internship. They also disagreed with the statement “Internship is time wasting, it does not add anything to me as a Radiography student.”

The respondents truly understand what internship can offer, but they are in a dilemma on whether to accept it or not. As explained above, most of the respondents know the importance of internship but some are not willing while others are undecided on whether to take part in the

internship programme or not, except for some that would actually want to be part of the internship programme because they believe it would enhance their skill.

According to the above findings, the research showed that internship has a lot of importance and it can enhance the skills of the radiography professionals and the respondents are aware of that. However, the research findings also showed that most of the respondents are not ready to attend the internship programme. Some of the reasons for not wanting to attend internship included; the four-year programme being enough for them to gain all the skills needed to practice radiography in the outside world and the fear for the lack of resources during the internship period since they believe that they would not be able to facilitate themselves.

To some extent, their fear might be true because every step of life has challenges and humans may be hesitant to go into it. There may be many challenges associated with internship and this was proven by a study in Northern Nigeria that found out that 54(76.1%) of the interns faced challenges with regards to welfare and professional obligation [4]. Most of the respondents feared going for internship because of the challenges such as funding during the internship period since some internship places do not pay the interns.

Conclusion

In conclusion, all the respondents were aware of internship, most of them knew the importance of internship, but some were not willing to be part of the internship programme meaning they were reluctant to agree to its introduction after the bachelor's degree while others actually wanted it to be introduced and they were willing to be part of it. Therefore, the study revealed mixed results such as awareness, knowledge level, and interest in understanding and involvement in internship. However, more studies about the same issue involving views of the lecturers and clinical instructors, perhaps even qualified Radiographers with the same award in understanding about this phenomenon need to be done for a definite conclusion and decision to be made in order to integrate internship in Radiography studies in Uganda.

Limitations

Some of the limitations faced during this study included; a small number of respondents since Makerere University admits very few students for this specific programme. Some of the respondents were already biased against internship therefore could not give genuine answers towards the questions administered. Most of the literature concerning radiology internship was related to radiology studies involving radiologist trainees in the U.S.A with a smaller portion of it related to the radiographers in the African continent.

Recommendations

MAKCHS and the Ministry of Health are recommended to use the Association of Radiography students in Uganda to provide annual awareness sessions on internship to the Radiography students in MAKCHS and other universities in Uganda. The board of Radiographers overseeing Radiography courses in Uganda is encouraged to engage the Radiography students in Uganda in a dialogue on the need for the introduction of internship after completion of the four-year course. The education institutions and policy makers in the Ministry of Health are

called upon to include Radiography as part of the internship program and the Ministry of Health to collaborate with the Ministry of finance in Uganda to include the Radiography students on the payroll for interns just like the other courses such as Medicine and Surgery. This would enable distribution of the Radiography students to the different internship centers by the government and at the same time help eliminate their fear for funding during the internship period.

Conflict of interest.

The authors declare no conflict of interest.

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