

RESEARCH AWARENESS AMONG RADIOGRAPHERS IN CLINICAL PRACTICE

Joseph D Z¹ Onah C.N¹ Samuel S. L²

¹Radiology Department, Abubakar Tafawa Balewa University Teaching Hospital, Bauchi, Bauchi State, Nigeria.

²Radiology Department Specialist Hospital Gombe, Gombe State, Nigeria.

Correspondence: Joseph Dlama Zira. Email: josephdlama@gmail.com. Tel: +2348130582721

ABSTRACT

BACKGROUND: Research is a critical component in radiography profession. It ranges from high level scientific investigation of new and updated concepts into every day utilization of evidence based findings and to fill in the gap between theory and practice.

OBJECTIVE: The aim of this study is to ascertain awareness of practicing radiographers about the role and importance of research in evidence based medical imaging.

METHODOLOGY: A 20-item scale self-completion questionnaire was designed. Forty five were distributed to Radiographers in clinical practice in tertiary health institutions in Northern Nigeria. The questionnaire consists of two sections and was systematically developed and validated. Data entry and analysis was performed using SPSS-PC statistics software version 21.0. Statistical tests were done with $p < 0.05$ used as criteria for statistical significance.

RESULTS: The number of respondents, that is radiographers in clinical practice were $n=40$. According to age, most of the respondents; 52.2% ($n=21$) were below the age of 30 years and the least was 2.5% ($n=1$) within the ages of 40-49. More than half of the respondents; 75% ($n=30$) have the least years of experience that is below 5 years and having the greater number of years in experience that is above 21 years is 2.5% ($n=1$). Significant number of radiographers are aware of the role of research in evidence-based medical imaging against those that don't (97.5% vs 2.5%; $p < 0.05$). Only 45% ($n=18$) of the respondents participated in research that was conducted and published. Radiographers that never participated in research publications are significantly greater in number (45% vs 55%; $p < 0.05$).

CONCLUSION: This study showed that Radiographers in clinical practice are aware of research but they need improvement in participation and publication in order to fill in the gap between theory and practice

KEY WORDS: Research, Radiography, Awareness, Evidence-Based Practice, Profession.

INTRODUCTION

Research which is the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data, increases knowledge and/or understanding [1]. Any given research has a problem to solve. Research is undertaken within most professions. More than a set of skills, research is a way of thinking: examining critically the various aspects of your day-to-day professional work; understanding and formulating guiding principles that govern a particular procedure and developing and testing new theories that contribute to the advancement of your practice and profession. It is a habit of questioning what you do and a systematic examination of clinical observations to explain and find answers for what you perceive, with a view to instituting appropriate changes for a more effective professional service [2]. Moreover, it is recognized as an invaluable tool for the management of change, and for aiming to prove, disprove or just discover what is relevant or irrelevant to everyday activity, such as healthcare practice [3].

Research activity ranges from high-level scientific generation of new evidence, to more everyday utilization of research findings to ensure that practice and patient-centred care are evidence-based [4]. Evidence-Based Practice (EBP) is the delivery of services based upon research evidence about their effectiveness; the service provider's clinical judgement as to the suitability and appropriateness of the service for a client and the client's own preference as to the acceptance of the service. EBP [2].

The radiography profession is growing daily with technological advancements in the various imaging modalities used. Researching and teaching are part of the prospects of the profession. All these advancements in the radiography profession have come with increased responsibilities on the modern day radiographer practitioner, more so now that evidence-based practice is being advocated [5].

Clinical practice by a radiographer is the step-by-step measures applied based on a given standard in order to ensure good quality diagnosis and treatment of patients. With this in mind, research is an invaluable tool in finding out new methods or ways in solving problems, improving standards and setting benchmarks for clinical practice. Therefore radiographers purely involved in clinical practice are expected to actively participate in researches to help improve quality of services being rendered. It has been noted that while some radiographers are actively involved in research activities, many are less active, and for some radiographers the only research they have ever undertaken is undergraduate projects.

However, it is unrealistic to expect undergraduate projects alone to advance the knowledge base of the profession and improve evidence-based practice [6]. The aim of this study is to ascertain awareness of practicing radiographers about the role and importance of research in evidence-based medical imaging.

MATERIALS AND METHODS

A 20-item scale self-completion questionnaire was designed [5]. 45 were distributed to Radiographers in clinical practice in tertiary health institutions in Northern Nigeria. The questionnaire consists of two sections and was systematically developed and validated [5]. Demographic characteristics of respondents were addressed in questions 1-7 and questions 8-20 were about the subject under study.

The radiographers practicing the profession in different parts of Northern Nigeria, used as the samples for this study were all registered and licensed by the Radiographers Registration Board of Nigeria (RRBN). A two-month period was allowed for the return of

Data Analysis: The radiographers involved in this research were specifically those in clinical practice. Data entry and analysis was performed using SPSS-PC statistics software version 21.0. Statistical tests were done with $p < 0.05$ used as criteria for statistical significance.

RESULTS

Table 1: Age Frequency and Distribution of Radiographers

Age (years)	Frequency	Percentage (%)
<30	21	52.5
30-39	15	37.2
40-49	1	2.5
50-59	3	7.5
Total	40	100

Table 2: Gender of Radiographers

Sex	Frequency	Percentage (%)
Male	32	80
Female	8	20
Total	40	100

Table 1. The number of respondents that is radiographers in clinical practice were n=40. According to age, most of the respondents 52.2% (n=21) were below the age of 30 years and the least was 2.5% (n=1) within the ages of 40-49. Table 2. Greater percentage 80% (n=32) were males and 20% (n=8) were females.

Table 3: Years of Post-Qualification Experience

Years	Frequency	Percentage (%)
<5	30	75
5-10	6	15
11-16	2	5
17-16	1	2.5
Above 21	1	2.5
Total	40	100

Table 4: Level/Rank of Radiographers

Rank	Frequency	Percentage
Interns	25	62.5
Radiographer 1	4	10
Senior	4	10
Principal	4	10
Chief	3	7.5
Total	40	100

Table 3: More than half of the respondents 75% (n=30) have the least years of experience; that is below 5 years and having the greater number of years in experience; that is above 21 years is 2.5% (n=1).

Table 4: Only 7.5% (n=3) are within the rank of Chief Radiographer while more than half 62.5% (n=25) are within the rank of Intern Radiographer.

Table 5: Responses of Radiographers on Knowledge of Research

Criteria	Radiographers Responses		Statistical Significance
	Yes	No	
Knowledge of research	34 (85%)	6(15%)	P<0.05
Awareness of the role of research in evidence-based medical imaging	39 (97.5%)	1(2.5%)	P<0.05
Participation in research publication	18 (45%)	22 (55%)	P<0.05)

Table 6: Hindrances to adopting Research Findings to Clinical Practice

Hindrances	Radiographers responses	
	Yes	No
No interest in trying new things	30 (75%)	10 (25%)
Too much work load	36 (90%)	4 (10%)
Dangerous to try new things on patient	20 (50%)	20(50%)
Difficult to adapt research results to local conditions	18 (45%)	22 (55%)

Significant number of radiographers are aware of the role of research in evidence-based medical imaging against those that don't (97.5% vs 2.5%; p<0.05) as shown in Table 5. Only 45% (n=18) of the respondents participated in research that was conducted and published. Radiographers that never participated in research publications are significantly greater in number (45% vs 55%; p<0.05). This might be because it is not a criteria for advancing to the next level.

Table 6 shows that they were even 20% (n=50) in agreeing and disagreeing that it is dangerous to try new things on patients, 75% (30) radiographers stick to what they've already known, not giving room to trying out new things. Although 90% (n=36) believe that too much work load is a hindrance in carrying out research, 55% (n=22) disagree with the statement that it is difficult to adapt research results to local conditions.

DISCUSSION

In the clinical practice of the radiography profession, for optimum provision of services, evidence-based practice is an invaluable tool. It should be noted that evidence-based medicine started about a decade ago and has since been embraced by other profession allied to medicine [5].

The results from this study shows that greater number of the radiographers involved in clinical practice, have knowledge about the idea of research and its role in evidence-based imaging.

Although few actively participate in research and its publications compared to those that don't. Various reasons have contributed to this. In accordance with a work done by Ohene [7] which reported that all Ghanaian radiographers under his study had had some form of research training. They showed positive attitudes towards research. Only 10% had undertaken research after graduating and only 12% had been involved in the publication of research. Most 74% lacked the funds to undertake research while 65% lacked the motivation to undertake research. Of those who had not published their research, 50% lacked access to a suitable publishing journal while the other 50% lacked the willingness to submit their research for publication.

Moreover, in a study done by Ohagwu et al., [5], participation in research by Nigerian radiographers has been below par. Surprisingly, that even within this few that participated, it was majorly by radiographers in academia and not those involved in clinical practice. This was expected, for radiographers in academia benefited from post graduate studies and also research output is an incentive in getting promoted. Furthermore, it was induced from the study that clinical radiographers who engage in research did so out of zeal or hope of venturing into academics in time to come.

Results from this study shows that most radiographers in clinical practice have some identified barriers in adopting research findings to clinical practice. Up to 75% of respondents have no interest in trying out new things, they stick to what they already know, forgetting the fact that as time goes on, new inventions and information are been discovered to promote the quality of practice. Up to 90% blamed it on having too much work load to deal with. Nevertheless, little above half of the respondents disagree on the notion that it is difficult to adapt research results to local conditions. Studies alike have been carried out to identify the research awareness among clinical staff and hindrances to the application of its findings in clinical practice. Some factors which includes lack of knowledge, insufficient time, lack of motivation, lack of resources and resistance to change were identified [8–15]. However, it should be noted that research training is part of the radiography profession, therefore lack of research skills shouldn't be a major problem in undertaking research and using the findings to underpin practice [7].

No significant relationship is seen between respondents' age and years of experience with attitudes towards research. This in contrast with the study done by Elliot et al [16] who concluded that positive attitudes to research were most prevalent among younger radiographers and those who have more research experience.

It has been seen that the awareness of research among Nigerian radiographers in clinical practice is satisfactory. However, previous studies have shown that funds/sponsorship might be a major factor or barrier in preventing radiographers in engaging research works and this is usually followed by lack of motivation. It is therefore necessary that attention is paid on how to make funds available in other to carry out the researches [7].

In as much as funds and other factors may be hindrances associated with the poor research engagement among radiographers in clinical practice, it should be important to note that the radiography profession will soar in quality if radiographers, most especially those actively practicing engage in researches for they tend to be closer to problems or questions requiring solutions or answers that can only gotten when researches are being carried out.

Conclusion: This study showed that Radiographers in clinical practice are aware of research but they need improvement in participation and publication in order to inform practice

Acknowledgement: I acknowledge Ohagwu et al, 2010 [5] whose work I found useful.

REFERENCES

1. Osuala, E.C., 2005. Introduction to Research Methodology. 3rd Edition. Onitsha, Nigeria: Africana-First Publishers Limited.
2. Ranjit K., 2011. Research Methodology: A Step by Step Guide for Beginners.
3. Harris, R., 2000. Find and Deliver: Research and Practice in Therapeutic Radiography, 6: 225-226.
4. Society and College of Radiographers. 2005. Research and the Radiography Profession, A Strategy and Five Year Plan. London
5. Ohagwu, C.C., M.C. Odo, U.O. Ezeokeke, J.C. Eze and N. Chiaghanam, 2010. A Study of Research Awareness among Nigerian Radiographers in Clinical Practice. African Journal of Basic & Applied Sciences 2 (1-2): 1-6.
6. Harris, R. and C. Beardmore, 2009. The Research Agenda and the Role of the Therapeutic Radiographer: The College of Radiographers Perspective. Journal of Radiotherapy in Practice; 8:99-104.
7. Ohene, B.B., 2013. Research Engagement and Attitudes of Ghanaian Radiographers. World Journal of Medicine and Medical Sciences, 1 (7):128-135.
8. Goergen, S.K., C. Fong, K. Dalziel and G. Fennesy, 2006. Can an Evidence-based Guideline reduce unnecessary Imaging of Road Trauma Patients with Cervical Spine Injury in the Emergency Department? Australian Radiology, 50(6): 863-869.
9. Challen, V., S. Kaminski and P. Harris, 1996. Research Mindedness in the Radiography Profession. Radiography, 2: 139-151.

Research Awareness Among Radiographers in Clinical Practice

10. Conroy, M.C., J.A. Pascoe, G.B., Roder, 1997. Promoting Research in the Clinical Setting; A Local Enquiry and a Complementary Literature Review. *Br. J. Occu. Ther.*, 60: 5-11.
11. Upton, D., 1999. Attitudes towards and Knowledge of Health Visitors. *J. Adv. Nurs.*, 29(4): 885-893.
12. McSherry, R., 1997. What do Registered Nurses and Midwives feel and know about Research? *J. Adv. Nurs.*, 25: 985-998.
13. Olatunbosu, O.A., L. Edward, R.A. Pierson, 1998. Physicians' Attitude Towards Evidence-based Obstetric Practice; A Questionnaire Survey. *BMJ*, 316(7128): 365-366.
14. McColl, A., H. Smith, P. White and J. Field, 1998. General Practitioners' Perceptions of the Route to Evidence-based Medicine: A Questioner Survey. *BMJ*, 316(7128): 301-305
15. Retas, A., 2000. Barriers to Using Research Evidence in Nursing Practice. *J. Adv. Nurs.*, 31(3): 599-606.
16. Elliott V., Wilson, E.S., Svensson, J., Brennan, P. Research Utilisation in Sonographic Practice: Attitudes and Barriers. *Radiography* 2009; 15:187-195.