

Research article

# RESEARCH ENGAGEMENT AND ATTITUDES OF GHANAIAN RADIOGRAPHERS

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## ABSTRACT

**Background:** The aim of this study was to assess the attitudes of radiographers in Ghana towards radiographic research, and also establish the main factors that encourage, or discourage, radiographers in Ghana to undertake radiographic research.

**Method:** A descriptive survey using a 21-item self-administered questionnaire was used to sample the views of 50 radiographers from Ghana. The questionnaire included open-ended and closed-ended questions. Descriptive statistics were used to analyse the data. Spearman's rank correlation was used to test for associations between attitudes and respondents' demographics.

**Results:** All (100%) the radiographers 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 (both course and non-course requirements). 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.

**Conclusion:** There is some indication that Ghanaian radiographers generally have a positive attitude towards radiographic research. However, they are generally not able to do much research mainly because of a lack of funds and/or motivation. And those who had undertaken some form of research also failed to publish it, mainly because of a lack of willingness to submit their research for publication and a lack of access to a suitable publishing journal. **Copyright © WJMMS, all rights reserved.**

**Keywords:** Research, Radiography, Attitudes, Ghana, Engagement

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## Background

Research, which is the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data (Osuala, 2005), increases knowledge and/or understanding. Consequently, it is recognised 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 (Harris, 2000).

Research activity ranges from high-level scientific generation of new evidence, to more everyday utilisation of research findings to ensure that practice and patient-centred care are evidence-based (Society and College of Radiographers, 2005). Radiographers, as with other health professionals, aim to expand their domain by providing more effective healthcare services. Research activity is identified as an important building block to achieve this goal (Harris, 2000).

Research in radiography provides input into various activities, such as knowledge generation, providing core radiographic practices, evidence-based radiography, improvements in patient care and ensuring a high level of professionalism (Reid and Edwards, 2011). This input is important for the radiography profession in order to enhance the development of practice and ensure patients receive the best possible diagnoses and treatment.

The ethos of radiography today is such that: evidence-based practice is the trend in care; there is complexity, resulting from the introduction of many revolutionary imaging and interventional technologies; patients are increasingly becoming “expert” in using research evidence to select the best procedure or interventions that best meet their needs (Gambling et al., 2003; Barker, 2010); and in these times of profuse litigation and with the political emphasis on quality assurance and professional accountability, it is crucial that radiographers always undertake more research activities, evaluate their findings and base their practice on current, relevant and the best evidence (Hafslund et al., 2008). As it is only by reflecting on practice, undertaking research and evaluating new ways of treating patients that patient care can be improved (Cox et al., 2009).

However, both Sim and Radloff (2009) and Harris and Beardmore (2009) have 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 (Harris and Beardmore, 2009).

In Ghana, although radiography as a profession has been in existence for about six decades, few research papers have been produced and published by Ghanaian radiographers. The Ghana Health Service, recognising the need for health professionals, including radiography practitioners, to engage in research activities to develop the professional knowledge base, promotes evidence-based practice and, further, to contribute more effectively to the constantly evolving trend of healthcare, has promised to implement initiatives to improve research activities by these practitioners (Ghana Health Service, 2009). However, no research study has been done to identify the issues that account for the low research output from radiography practitioners across the country. In the absence of some analysis of the issues that affect these radiographers, it is very difficult to implement initiatives to encourage research activity. Hence, this study aims to assess the attitudes of radiographers in Ghana towards radiographic research, and also to establish the main factors that encourage, or discourage, Ghanaian radiographers to undertake radiographic research.

## **Method**

### **Data collection instrument**

A 21-item self-administered questionnaire was used to sample the views of 50 radiographers from Ghana for this survey. Prior to the study, ethical approval was gained from the Cardiff University ethics committee. Approval to contact radiographers for the study was obtained from the Ghana Society of Radiographers. The questionnaire used by Challen et al. (1996) and Elliott et al. (2009) in their studies on attitudes and factors influencing research informed the basis of some of the questions used. The first part of the questionnaire sought demographic information. A five-point Likert scale (where 1 indicates strong disagreement to 5 which indicates strong agreement, with the middle score, 3, indicating an uncertain response) consisting of 9 statements was used in the second section of the questionnaire to determine the attitudes of radiographers towards research.

Statements sought respondents' opinions on the impact of research on practice, patient care and the radiography profession. Other statements also sought respondents' opinions on the need for all radiographers to be involved in research and how they perceived their clinical expertise in relation to research findings, their interest in and views on the communication of research findings. Research background and factors influencing research participation (for both conducting and publishing) were also sought in the third section. The technical functionality, validity and reliability of the data collection instrument were evaluated via a pilot study and a test-retest analysis.

### **Sample size**

It was decided that a representative sample would be most appropriate to solicit the opinions of radiographers in Ghana. However, a lack of access to the national database and a lack of data on the total number of Ghanaian radiographers made it impractical to survey a representative sample within the study's timeframe. For the study to be managed within the timescale while still achieving its aims, 50 radiographers (of all grades) were sampled across the country.

### **Sampling method**

Participants were recruited according to their workplace. Ghana is divided into ten regions, with a hospital established in each regional capital where the majority of the radiographers in each region are employed. Qualified radiographers (all grades) from all ten regional hospitals were invited to participate. However, those outside the regional hospitals were not included, in part due to the difficulty in communicating information to reach them, and also time and financial constraints. Prior to the sampling, a representative of the researcher was appointed in each of the regional hospitals; also, the head of each department informed the radiographic staff of the pending research and explained that anyone willing to participate in the study should contact the representative to obtain a consent form and subsequently a questionnaire upon consenting to take part in the study. Randomly, the first five radiographers that showed a willingness to take part in the study and who contacted the representative of the researcher were each given a consent form and a questionnaire to be completed. Similar sampling occurred in all ten regional capitals until 50 radiographers had been sampled.

### **Data Analysis**

The data were analysed using SPSS version 16. Prior to the analysis, the qualitative responses to the open-ended questions were grouped into themes determined by the responses, and later organised quantitatively together with the quantitative responses. Descriptive statistics were then used to describe the demographics, research background and factors influencing research. For the attitude statements, descriptive differences using the agreement responses to statements 4 and 5 were grouped together, as were the disagreement responses to statements 1 and 2, and then processed as percentages to allow easy presentation. Spearman's rank correlation was used to test for associations between the attitudes of the respondents and their level of research training, age, research background and years of practice. Statistical tests were two-tailed with  $p < 0.05$  to indicate statistical significance.

### **Results**

The radiographers practised in a variety of fields within radiography. All 50(100%) respondents had also had some form of training/ education in research methods. Most of the radiographers had been through research training at diploma, 23(46%), or BSc, 20(40%), level. 36(72%) had undertaken some form of radiographic research but this was undertaken as a course requirement. Only 5(10%) of them had undertaken any other radiographic research after graduating while 6(12%) of them had undertaken/ been involved in research (both course and non-course requirement) that was published.

**Summary of respondents' attitudes to radiography related research**

<i>STATEMENT</i>	<i>Responses %</i>		
	<i>Agree</i>	<i>Unsure</i>	<i>Disagree</i>
<i>Research activity in radiography is the way forward for development of the profession</i>	44(88%)	0(0%)	6(12%)
<i>Radiography research has a positive impact on patient care</i>	42(84%)	2(4%)	6(12%)
<i>Research in radiography is important to enhance effective practice</i>	40(80%)	7(14%)	3(6%)
<i>All practising radiographers should be involved in research</i>	36(72%)	4(8%)	10(20%)
<i>My clinical expertise is more relevant to practice than to research findings</i>	3(6%)	3(6%)	44(88%)
<i>I am interested in undertaking research</i>	30(60%)	3(6%)	7(14%)
<i>I am more interested in undertaking clinical radiography than re-search</i>	31(62%)	7(14%)	12(24%)
<i>The communication of research findings is as important as conducting research itself</i>	42(84%)	4(8%)	4(8%)
<i>Lack of communication of research could lead to a gap between best practice and actual clinical care</i>	44(88%)	2(4%)	4(8%)

For the radiographers who had not undertaken any other radiographic research apart from course requirement research, lack of funding 23(74%) and lack of motivation 20(65%) were the two main discouraging factors. Availability of funds/sponsorship was the main factor that motivated the majority of respondents (3 out of 5) who had undertaken research to do so after graduating. The majority of the radiographers, 72%(36), had not received any encouragement to undertake research. Only 12% indicated receiving some form of encouragement from their professional association, 10% from work colleagues, 4% from the managers of their health institutions and 2% from other means. Of those who had had research articles published, the main factors that influenced their decision to submit an article for publication were a desire to gain personal credibility, 4(67%), and a desire to develop the knowledge base of the profession, 2(33%). Of the respondents who had not published their research results (both course and non-course requirement research results), 50%(15) did not consider submitting them for publication, while the other 50% (15) were discouraged from publishing by lack of access to a suitable publishing journal.

All 50(100%) respondents from Ghana indicated that the professional body they belong to had no publishing journal(s). A positive correlation or relationship (0.332,  $p=0.019$ ) between the attitudes of radiographers and their level of research training/education was also observed. However, respondents' age, research background and years of practice did not show any relationship to their attitudes. Thus, correlation coefficient and  $p$ -values were (-0.049,  $p=0.737$ ), (0.215,  $p=0.133$ ) and (-0.084,  $p=0.561$ ), respectively.

**Discussion**

Since all the radiographers from Ghana had had some form of research education, due to the research training associated with their radiography education, then a lack of research skills should not be a major problem in undertaking research and using the findings to underpin practice. However, it was clear that apart from course requirement research, which many radiographers had undertaken, because it is a requisite for them to complete their courses, only 10% had undertaken research studies after they graduated and entered the profession and only 12% had been involved in the publication of some research (both course and non-course requirement). These findings reflect the observations made by Challen et al. (1996) and Harris and Beardmore (2009), in that for many radiographers the only research undertaken is a course requirement. This lack of research participation in radiography (non-course requirement) is a concern, since advancing best practice in radiography requires accelerating research to generate the best evidence in practice.

As to whether attitude plays a role in the low research output of Ghanaian radiographers, the study suggests a high positive attitude towards research from the radiographers. They consider research to be important for their individual practice, for patient care and for the profession as a whole, and they also believe that a lack of communication of research can lead to a gap between best practice and actual clinical care. The views of these radiographers are in line with the opinions of the practitioners studied by Elliott et al. (2009). Interest in research was also clear among the radiographers, although it appeared that more radiographers were interested in clinical practice than engaging in research, and this may suggest that, in a clinical setting, little attention is paid to research rather than to clinical roles.

Challen et al's (1996) study some sixteen years ago found that only 21% of radiographers recognised that all radiographers should undertake research as a requirement. This study's outcome however, indicates that 72% of radiographers in Ghana believe research should be a requirement for all practising radiographers. They emphasised that they feel research in radiography deserves the effort of all radiographers. The fact that Challen and colleagues' study is outdated could well be because the views of radiographers have moved on due to the current demands of research in practice. It is therefore disappointing that despite this positive attitude that Ghanaian respondents have, they have not been able to do much research. Yet, it is the duty of all groups of radiographers to contribute to the development of radiography (Society and College of Radiographers, 2005). According to McKenna et al. (1995) and Davies et al. (2009), the failure of radiographers, collectively, to do enough research will be to the detriment of radiography, relative to the other health professions, as it will leave a yawning gap in terms of improvements to patient care because other healthcare professionals (as a collective effort) do undertake and use research to advance patient care – but within radiography too few engage in it.

The respondents' age, years of practice and research background also showed no relationship with their attitudes, which suggests that the positive attitudes of these radiographers are independent of whether radiographers are younger or older, have worked for many years or not, have or have not undertaken research before. These findings appear to contradict the conclusion drawn by Elliott et al. (2009) and Moreno-Casbas et al. (2011), that positive attitudes to research are most prevalent among younger radiography practitioners and those who have more research experience. However, a relationship between the attitudes of radiographers and their level of research training/education was identified, which also suggests a trend in that radiographers with experience of research education at a higher level show more positive attitudes than those with a low level of research training. Olade (2003), similarly, found a high correlation between educational level and attitude towards research, and it can be emphasised that a good knowledge base for research is an important ingredient in developing more favourable attitudes to it.

As for why these radiographers have a positive attitude towards research but have not been able to undertake much research, the study revealed that while the availability of funds/sponsorship appeared to be the main factor encouraging radiographers to undertake research after graduating into the profession, it was also the main factor lacking among the radiographers who had not undertaken any research after entry into the profession. This was followed by a lack of motivation. It is therefore imperative that attention be focused on how to motivate and make funds available to radiographers so that they can take on the onus of researchers in their field(s). According to Harris and Beardmore (2009), the Society of Radiographers (UK), in the past, having recognised that a lack of funds was stifling research, decided to forge links with industrial partners and seek financial support for radiographers undertaking research, via a dedicated College of Radiographers Research Award Fund. This initiative taken coupled with others, such as the provision of approximately £3.5 billion made available to fund research from public and private sources, have promoted research by UK radiographers (Society and College of Radiographers, 2005), and needs to be emulated by other nations, such as Ghana. For attempts to secure funds for radiographers, training in the grant-writing process could also be beneficial, as suggested by Metcalf et al. (2010).

The lack of motivation indicated as a major research disincentive by the radiographers is due to the fact that about 72% received encouragement from nobody to engage in research. Only 12% indicated having received some form of encouragement from their professional association, 10% from work colleagues, 4% from

managers of their health institutions and 2% from other means. Scuttter and Halkett (2003) also found that a lack of motivation accounted for low research output from Australian radiographers and suggested that this is a common factor discouraging research among radiographers. However, Ciliska (2005) indicates that health professionals and their respective associations need to encourage colleagues and members to undertake research. The managements of health institutions also need not only to facilitate research activity but also to encourage all staff to participate in or initiate research (Elliott et al., 2009). Thus, providing an atmosphere that is conducive to and encourages a positive attitude to research is necessary in order to break down some of the motivational barriers (Elliott et al., 2009; Maio and Haddock, 2010). Other forms via which motivation for research could be facilitated include holding research meetings and formalising radiography research committees within the work practices of radiographers (Ciliska, 2005).

Regarding the publication of research papers, the study also found that apart from the few who were encouraged to publish their research, because of the need to gain personal credibility and also the need to develop the knowledge base of the profession, the majority of those who had undertaken research failed to publish it mainly because of a lack of willingness to submit their research for publication and a lack of access to a suitable publishing journal. The latter reason, as cited by the radiographers, is partly due to the fact that the professional body they belong to has no publishing journal(s) of their own, as indicated by all participants (100%). According to Marshall and Brannan (2008) and Scholey and Harrison (2003), a peer-reviewed journal serves as a means for many investigators to propagate their results, and professional institutions or bodies that have their own journal(s) are more likely to publicise their members' work than those without or which lack suitable access.

As to why practitioners do not submit research for publication, Chan and Graham (2011) indicate that many such practitioners lack interest. A solution offered by Malamateniou (2009) is that the importance of the communication of research findings should be stressed to radiographers in order for them to develop an interest in publishing their findings.

Several limitations to this study, however, bear mention, such as the use of small sample size, due to a lack of access to the national database of radiographers, and time and financial constraints. In addition, since participation was voluntary, the study's results could be biased towards participants who had a greater fondness for research participation. Nonetheless, careful translation of existing instruments and recruitment of respondents across wider areas of the country improved the generalisation of the study's outcome.

## **Conclusion**

This study's outcome gives some indication that, generally, Ghanaian radiographers have a positive attitude towards radiographic research. However, they have not been able to do much research mainly because of a lack of funds and/or motivation. Meanwhile those who had undertaken some form of research also failed to publish it mainly due to a lack of willingness on their part to submit their research for publication and lack of access to a suitable publishing journal. Therefore pragmatic efforts are needed to avert these problems in order that more Ghanaian radiographers might take on the onus of researchers in their profession.

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