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Research Attitudes and Experiences of Radiation Therapists

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ABSTRACT

An important factor in professional status is the ongoing development of the area as a result of research findings. However, involvement by radiation therapists in research, publication and higher degree study is limited.

The aim of the current study was to investigate the attitudes of radiation therapists towards research, and to investigate the major factors contributing to their limited participation in research. To achieve this, an anonymous questionnaire was developed and distributed to radiation therapists working at the Royal Adelaide Hospital (RAH).

The study found that radiation therapists at the RAH are interested in research but there are several factors that limit their involvement. These factors include limited knowledge about research processes, lack of support and lack of time to undertake research.

INTRODUCTION

Involvement in research is becoming an important part of the medical radiation profession (Nixon, 2001), as it is only by reflecting on practice and seeking and evaluating new ways of treating patients that patient care can be improved (Harris, 2000; Hicks, 1996). Through research it is possible to have an increased understanding of current practice and therefore to base techniques on evidence that has been accumulated (Challen et al., 1996).

However, to date there has been a fairly limited amount of research undertaken by radiation therapists. There are also a limited number of publications by radiation therapists in peer-reviewed journals. However, with the move to evidence based practice, active participation in research by radiation therapists is increasingly necessary. Evidence based practice is a process where professionals are actively involved in life-long learning and continually ask questions that are relevant to clinical practice. To answer these questions, professionals search for the current best evidence and use this to inform and improve clinical practice (Stevens & Cassidy, 1999). Research can provide answers to many questions and will enhance the understanding and background for evidence-based practice, therefore improving the quality of care for the patient (Catton et al., 1999). Research will also assist radiation therapists to become actively involved in patient management decisions and to increase their participation in decision-making within the department (Catton et al., 1999). As radiation therapists will be contributing to the development of knowledge in the field their contribution will be better respected by other professionals with whom they are

working (Harris, 2000).

In other health professions, reasons why research activity is limited have been attributed to a variety of factors: lack of skills, lack of culture, lack of opportunity, lack of interest, perceived unimportance, lack of confidence and lack of role models (Catton et al., 1999; Hicks, 1996). It is not known why radiation therapists currently have little involvement in research, nor what their attitudes towards research are. However, previous research (Scutter, 2002) has shown that medical radiation students (including nuclear medicine, diagnostic radiography and radiation therapy students) have poor attitudes to research, and that one of the factors contributing to this is the limited exposure they have to research during clinical placements. If research is to be increased in the field of radiation therapy it is necessary to address issues affecting both students and practising radiation therapists. If successful programs to increase research attitudes in radiation therapy are to be implemented then it is necessary to understand the factors limiting research activities in radiation therapy.

Therefore the aim of the current study was to investigate the attitudes of radiation therapists towards research, and to determine the major factors contributing to their participation or otherwise in research.

METHODS

An anonymous questionnaire was used to investigate the attitudes to research of radiation therapists at the RAH and to record any ongoing research activities, including presentation at conferences, publications and reading of scholarly or professional journals. Ethics approval was gained from the University of South Australia and the Royal Adelaide Hospital Ethics Committees. The questionnaire was based on one used in a previous study (Scutter, 2002), with modifications to make it appropriate for graduates. The first part of the questionnaire consisted of a Likert scale, with 20 statements with which subjects could respond on a 1-5 scale (1 strongly agree, 3 neither agree or disagree, 5 strongly disagree). These statements covered areas such as the perception of importance of research and the perceived role of the radiation therapist in research. The statements also addressed what factors influenced their involvement in research and whether they felt that support and resources were available if they wished to participate in research.

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Radiation therapists were also asked to indicate if they were a member of the professional body (Australian Institute of Radiography). As it was felt that one of the first steps towards involvement in research is through reading journal articles, staff were asked how often they read *The Radiographer* and if they subscribed to any other Radiation Therapy journals.

Staff were also asked to indicate reasons why they might not be involved in research. Additionally, details were sought about level of qualifications and experience as a radiation therapist, as it was hypothesised that more recent graduates, who had undertaken degree programs, may be more interested in research.

Data from completed surveys was entered into SPSS version 11 for analysis. Descriptive statistics were then used to determine the mean and standard deviation for each statement in Section 1 of the survey. Kolmogorov-Smirnoff tests were used to determine whether the mean score for each item differed from the 'neutral' response of 3. Analysis of Variance (ANOVA) was used to determine if there were any differences in responses for staff with different levels of qualifications or experiences.

RESULTS

Thirty surveys were distributed and 26 were returned. Table 1 summarises the responses to Section 1 of the questionnaire. Generally, staff were interested in research and thought that radiation therapists should be involved in research. However, they did not feel that research should be part of the duties of the radiation therapist. Difficulties identified as limiting research involvement included not having the necessary skills, receiving adequate support in the Department and lacking statistical skills.

Only 36 per cent of staff were members of the Australian

Table 2: Summary of why journal articles were not read.

Statement	Percentage agreement
I don't have time to read articles at work	80%
I don't have time to read articles at home.	64%
I am not interested in the available journals.	12%
The information in the journals is not useful to me.	4%
I cannot understand the statistics in journal articles.	38%

Institute of Radiography. The national radiography journal, *The Radiographer*, issued three times per year by the Australian Institute of Radiography, was read by 48 per cent of staff. However, only 12 per cent of staff indicated that they would read one or more articles per week (from any source). Eight per cent of staff subscribed to other professional journals and 27 per cent of radiation therapists had at some time presented a paper or a poster at a conference.

Table 2 summarises the responses to statements about why journal articles were not read. The main reason given for not reading journal articles was lack of time at work (80 per cent) or home (64 per cent). Difficulty understanding statistics was a common problem (28 per cent), but most respondents indicated that they found journal articles interesting and useful.

Fifty eight per cent of subjects had been qualified for at least seven years. Staff education ranged from diploma to degree as shown in Table 3. Most staff had either a degree or diploma. There was no significant relationship between qualification, years qualified and the responses to any of the statements in the questionnaire.

Table 1: Summary of the response to Section 1 of the questionnaire. A score of 1 indicated strong agreement with the statement. A score of 5 indicated strong disagreement with the statement while 3 was a neutral response. An asterisk indicates that the score was significantly different to a neutral mean score of 3 ($p < 0.5$).

Statement	Mean
All Radiation Therapy staff should be involved in research at some stage.	1.9*
Involvement in Research should be part of the duties of Radiation Therapists.	2.4
It is important for a Radiation Therapist to have research skills.	2.1*
I am interested in Research in general.	1.9*
Radiation Therapists do not need to undertake research.	3.9*
There are many areas of Radiation Therapy practice that need to be researched.	1.8*
Everyone is capable of undertaking research.	2.5
I would like to learn how to do research.	2.0*
To do research it is necessary to understand statistics.	1.9*
I feel confident about my ability to undertake research.	3.9*
I find research articles difficult to read.	2.1*
Research is an effective way to link theory and practice.	2.2
I would like to be involved in a Research Project if someone would help me get started.	2.1*
I would enjoy reading articles if I knew more about research.	1.9*
I would like to participate in a Radiation Therapist's Journal Club.	2.6
I do not think that I should have to take part in research.	3.5*
I have the necessary skills to be involved in research.	4.3*
I have enough time to do research.	4.2*
If I wanted to do research in the department I would receive the necessary support.	4.2*
Radiation Oncologists and Physicists should do most of the radiotherapy research.	3.9*

DISCUSSION

This study demonstrated that radiation therapy staff at the Royal Adelaide Hospital are interested in research. The majority of staff could see the importance of research and identified that research can be a role of a radiation therapist. Staff indicated that there are areas of interest that need researching in radiation therapy. However, despite the recognition that research is important in radiation therapy, staff are not participating in research practices.

This study elucidated some of the factors that influence radiation therapists' lack of involvement in research. Staff were

Table 3: Qualifications of radiation therapy staff.

Highest Qualification	Frequency
Certificate	12%
Associate Diploma	12%
Diploma	20%
Degree	50%
Post Graduate	3%
Overseas (unknown)	3%

not confident in their ability to participate in research, particularly with respect to their knowledge of statistics. Staff also found it difficult to read research articles. Lack of allocated time also appeared to be an important factor limiting radiation therapists' participation in research. Eighty per cent of survey participants stated that they did not have time at work to read articles and 64 per cent stated that they did not have time to read articles at home. Many staff also felt that they did not have the necessary support from their workplace to participate in research.

Cooke & Green (2000) suggest that involvement in research depends on the level of education preparation. Graduates with Bachelors degrees started entering the RAH workforce in 1994. It is possible that once radiation therapy staff with Bachelor's degrees, which include some basic research training, gain more experience in radiation therapy they will more actively participate in research. However, Scutter (2002), showed that final year students from UniSA (who make up half of the surveyed participants in Radiation Oncology at RAH) have a poor attitude to research: perhaps because of limited exposure as undergraduates. When entering the workforce it is unlikely that these attitudes and interest will change if there are not active researchers within the department.

How can the participation in research of radiation therapists be increased? Cooke & Green (2000) suggest that participation in research is improved when dedicated time is provided to undertake research. However, allocation of time for research by employers will only occur if therapists demonstrate a commitment to the research process by participating in research projects and presenting their work at conferences or by publication. This is a difficult process to initiate without some time allocated to the activity in the first place. To achieve research within the department a balance of roles and support needs to be achieved. The involvement of individual staff and the department will benefit the individual staff member, the department and the profession. However, the departments will generally not commit support if staff are not willing to commit time and energy and to participate actively in research. The finding that many staff did not read professional journals because they did not have time to read them at work is of some concern, as it may indicate a lack of commitment to life-long learning and professional development, key components of professional practice.

Strategies to increase research participation could include development of Journal Clubs, inservice sessions on statistics and research methods and the provision of mentors with research experience. The involvement of Honours and PhD students in a department can assist with the development of a research culture, if they are given adequate support. Positive attitudes towards research by senior staff and role models within the department

could act as effective incentives for other staff to engage in some level of research activity (Hicks, 1996).

This study was conducted using a small sample in one radiation therapy department. It is likely that some of the issues raised in this study are relevant to other radiation therapy departments however the situation may be different in research-based facilities.

CONCLUSION

The aim of the study was to investigate the research attitudes of radiation therapists at the RAH. A survey was distributed to staff working in radiation therapy at the Royal Adelaide Hospital. It was found that radiation therapy staff would like to be involved in research. However, several factors that limit staff involvement include time, education and support. Methods for improving involvement have been suggested.

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