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Radiographers' opinion on patients' rights to informed consent: results of an online survey

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Abstract

Purpose: The Bonn Call for Action(action 9) states the need for an improved 'radiation benefit-risk-dialogue'. As such, the action emphasises that healthcare workers 'need to work towards an active informed decision making process for patients'. Based on this statement as well as the opinions of radiographers on informed patient consent collected at a previous local congress, it was deemed necessary to determine whether radiographers are of the opinion that they are responsible to take informed consent for imaging and treatment procedures, and whether there is a need for a short course and a good practice guide on informed consent for all radiographic categories.

Objectives: Seven broad objectives underpinned the overarching purpose and aims of the study.

Methodology: A questionnaire was sent to 918 members of the Society of Radiographers of South Africa (SORSA) using an online survey programme (SurveyMonkey). Invitations to participate in the survey were also placed on SORSA's Facebook and websites. The questions related to biographical information; knowledge of informed consent and related aspects thereof.

Results: The response rate was 37% (n=336). Radiographic category of the respondents was as follows: diagnostic (62%) radiotherapy (13%), ultrasound (9%), and nuclear medicine (2%). Radiographers in education comprised 8% of the total respondents. There was almost equal public and private sector representation, namely 41% and 42% respectively. Tertiary institutions were represented by 11% of the respondents. Sixty-seven percent (67%) of respondents were of the opinion that the medical practitioner who requests the examination should be responsible for obtaining informed consent from patients undergoing examinations in diagnostic and ultrasound imaging, radiotherapy treatments, and nuclear medicine examinations. Eighty-two percent (82%) of the respondents indicated they would benefit from short courses on informed consent. Ninety-eight percent (98%) agreed that there is a need for a good practice guide for consent for imaging and treatment of patients for use by all categories of radiographers in South Africa. Fifty-seven percent (57%) stated they do not know the underlying principles of the Image Gently and Image Wisely campaigns.

Conclusion: There is a need for a short course on informed consent as well as a good practice guide for consent for imaging and treatment of patients for use by all categories of radiographers in South Africa.

Keywords
radiation risks, patient records, permission

Introduction

According to the National Health Act health care users (patients) have a right to participate in decision-making affecting their personal health and treatment.[1-4] In addition, the Bonn Call for Action[5] (action 9) states the need for an improved 'radiation benefit-risk-dialogue'. As such, the action emphasises that healthcare workers 'need to work towards an active informed decision making process for patients'. However, it seems from debates at a recent Society of Radiographers of South Africa (SORSA) congress there is a lack of radiographer specific guidelines that clearly indicate who is responsible to take informed consent from patients.[6]

Etheredge[3, 4] is of the opinion that radiography, as a discipline, is frequently regarded as a supporting function in the healthcare chain. She adds that such a perception has caused confusion among radiographers in terms of who is responsible for getting consent from patients. A booklet on informed consent published by the Health Professions Council of South Africa (HPCSA)[7] clearly outlines that a health care practitioner who provides treatment or undertakes an investigation is responsible for obtaining consent from patients. The reason being that such a practitioner will have comprehensive knowledge and understanding of the procedure or treatment, how it is carried out as well as any risks associated with it. For example, radiographers (excluding sonographers) should be able to inform patients about the benefits and risks of ionising radiation.[8] It seems that radiologists and radiographers seem to be reluctant to inform patients of the risks of ionising radiation, especially computed tomography (CT).[9-13] It was therefore considered important that this informed consent survey should also include dose justification.

Radiographers who attended the SORSA-RSSA 2013 congress in Durban indicated during an ethics session[6] that taking consent for procedures that directly involved them, such as CT, was not part of a radiographer's role. Several recommendations arose during the discussions. One being that the Professional Board for Radiography and Clinical Technology (PBRCT) (HPCSA) should publish informed consent guidelines for radiographers. It was also suggested that SORSA should submit this recommendation to the PBRCT. How-

ever, in the absence of published data on radiographers' knowledge of informed consent the authors were of the opinion the first step should be to obtain data by means of an opinion survey. For this reason a research tool was compiled to address issues pertaining to informed consent in terms of the role of radiographers. Informed consent is a topical issue internationally.[9-12]

The purpose of this article is to share the opinions of radiographers on the topic informed consent, collected by means of an online survey. There were two broad overarching aims in the study. The first was to determine whether South African radiographers are of the opinion that they are responsible to take informed consent for imaging and treatment procedures. The second was to determine whether the respondents were of the opinion that there is a need for a short course and a good practice guide on informed consent for all radiographic categories, to supplement the existing booklet published by the HPCSA in 2008.[7] The latter covers general guidelines for all health practitioners. However, anecdotal reports from patients and radiographers indicated that there is a need for a good practice guide for radiographers to address specific issues. For example, who is responsible for obtaining informed consent for bone-age imaging for forensic purposes of awaiting trial prisoners who claim to be juveniles.

Seven broad objectives underpinned the overarching aims of the study, namely:

1. To determine radiographers' knowledge of informed consent.
2. To determine who radiographers believe should be responsible for obtaining informed consent from patients.
3. To determine whether radiographers take responsibility to obtain informed consent.
4. To determine the need for a short course on informed consent for all four categories of radiographers.
5. To determine the need for a good practice guide on informed consent for radiographers.
6. To determine whether radiographers understand the principles of informed consent.
7. To determine whether radiographers are aware of the principles of the Imaging Gently and Imaging Wisely campaigns.

Methods and materials

This was a quantitative descriptive study that used a questionnaire for the survey. A descriptive study typically describes current perceptions and quantifies a phenomenon, such as informed consent in this study.[14]

To address the objectives a questionnaire comprising 31 questions was compiled as a research tool for the survey. The questionnaire was divided into seven broad categories of questions that were broadly linked to the objectives. The tool was loosely based on one that was used in a South African study on administration of contrast media.[15]

Predominantly closed-questions were used in this current survey to obtain quantitative data on demographics; informed consent permission; archiving of records and proof of consent; responsible person to take informed consent; forms for informed consent; radiation risks; and education. Since the survey aimed to obtain the opinions of radiographers open-ended questions were also included in the research tool. The respondents were requested to provide their understanding of informed consent in an open–ended question in the education section. They were also requested to indicate whether there is a need for short courses, and a good practice guide for radiographers.

A pre-test (pilot) was undertaken to evaluate the competency of the questionnaire resulting in minor changes to the tool. Due to time and costs restraints an online software programme (SurveyMonkey)[16] was used to capture and calculate the responses. Purposive non-probability sampling was used[17, 18] since the survey focussed on radiographers' opinions and knowledge of informed consent. The inclusion criteria were:

- radiographers in any category, namely diagnostic (D), nuclear medicine (NM), radiotherapy (RT) and ultrasound(US), registered with the HPCSA,
- respondents had to have access to email and internet facilities to be able to access a hyperlink to the online questionnaire,
- SORSA members,
- non-members who consented to use of their respective email addresses in the online survey.

Email addresses were sourced from the SORSA membership database. To include radiographers who were not members of SORSA an invitation to participate in the online survey was posted on SORSA's website, advertised at SORSA continuing professional development (CPD) activities at branch level, and on SORSA's social media platforms. Email addresses of non-members who responded to the invitation to participate in the survey were included. The email addresses of potential participants were uploaded and e-invitations were sent to all the uploaded email addresses.

The authors adhered to research ethics thus respondents were informed that the information they provided would not be divulged to other persons. Furthermore, the privacy and anti-spam policies of SurveyMonkey[19] were strictly adhered to. The email invitation message included an 'opt out' option (remove link field). Completion of the questionnaire was assumed to be confirmation of consent. Respondents' identities were kept confidential. They were informed that the outcome of the survey would be published.

Nine hundred and eighteen (n=918) invitations were sent out via email messages on 24 January 2015 using SurveyMonkey online software.[16] To alert the radiographers about the questionnaire and request participation, a text message notice was sent to all the members on the database. In addition, social media were used for the same purpose. There was an online response deadline of three weeks. All responses were captured online by means of SPSS statistics software of SurveyMonkey.[16] Descriptive statistics were used to analyse the data.

The validity of the research tool was determined by pilot testing the questionnaire. The reliability was addressed by including a majority of closed-ended questions in the questionnaire with options that respondents could select from.[14]

Results

Three hundred and thirty six (n=336) online responses were received from all four categories of radiographers in the nine provinces in South Africa as well radiographers who were not practicing in the country. Three hundred and one (n=301) respondents were SORSA members, and the rest (n=35) were non-members who responded to invitations

posted on SORSA's official website and social media platforms. There was a 37% (n=336) response rate. (Note that in this paper decimal points are rounded off to the nearest figure).

The demographics of the respondents were as follows. Sixty-three percent (63%) were diagnostic radiographers; thirteen percent (13%) were radiotherapists; nine percent (9%) were sonographers; two percent (2%) were nuclear medicine radiographers; eight percent (8%) were involved in education, and the remaining five percent (5%) were retired or self-employed (Table 1).

The majority of the respondents (61%) practice radiography in a major South African city. There was almost equal public and private sector representation, namely 41% and 42% respectively. Of those from the public sector, 23% were from a tertiary healthcare facility (Table 2).

In terms of the education section 82% of the respondents were of the opinion that they would benefit from a short course on informed consent.

The majority of them (87%) stated a short course on informed consent should include the following:

- types of consent
- consent requirements
- how to communicate the information
- what information to be provided to patients
- how to avoid misunderstanding
- issues around consent
- policies and procedures

An overwhelming majority of respondents (95%) stated there is a need for a good practice guide for all radiographic categories for consent for imaging and treatment of patients. The responses regarding who should compile a good practice guide are presented in Table 3. Three quarters (75%) of the respondents stated the guide should be jointly compiled by SORSA and the PBRCT (HPCSA). Only 11% of the respondents stated that such a guide should be the sole responsibility of the PBRCT. A few respondents suggested that legal experts should be consulted.

The respondents were requested to indicate who should be responsible to obtain informed consent from patients undergoing (i) diagnostic imaging examination, (ii) ultrasound imaging, (iii) nuclear medicine examinations, and (iv) radiotherapy treatments. They could select more than one option (Table 4).

Table 1. Employment categories.

Diagnostic	62.5%
Radiotherapy	13.4%
Nuclear medicine	2.4%
Ultrasound	8.8%
Education	7.9%
Other	5.4%

Table 2. Level of the public health facility where employed.

Tertiary	23%
Regional	9%
District	9%
Community Health Care Clinic (CHCC)	3%
Primary Health Care (PHC)	2%
Local government	Nil
Other	5%

Table 3. Who should compile a good practice guide on informed consent for radiographers?

ANSWER OPTIONS	RESPONSE %
SORSA	6.3%
Professional Board RCT: HPCSA	11.5%
SORSA and the Professional Board RCT: HPCSA	74.8%
Not sure	3.8%
Other (please specify)	3.5%

Table 4. Respondents' selections of who should be responsible for obtaining informed consent.

ANSWER OPTIONS	RESPONSE %
The consultant medical practitioner who requests the examination: e.g. surgeon / neurologist / oncologist	67.1%
Nursing personnel	8.2%
Radiologist / oncologist / nuclear medicine physician from the imaging/ therapy team	38.9%
Radiographer (diagnostic, radiotherapy, nuclear medicine, ultrasound)	44.3%
Administration personnel e.g. receptionist, clerk.	7.6%
Not sure	1.3%
Other (please specify)	1.9%

Over two-thirds (67%) stated the medical practitioner who requests the examination should be responsible to take informed consent from a patient. Almost eight percent (8%) thought a receptionist/clerk should be responsible, and 44% indicated radiographers should obtain informed consent from patients.

In terms of obtaining verbal/written consent from patients, 69% of the respondents stated that they had done so in the past: verbal informed consent was obtained by 35% of the respondents; written informed consent was obtained by 55% of the respondents.

The majority (85%) stated a competent health professional provided patients/ guardians with informed consent forms to sign; and twenty-nine percent (29%) stated that a clerk/receptionist hands the forms to patients to sign.

The majority of respondents correctly selected the retention period of patients records as listed in booklet 14 of the HPCSA.[20] For example, for not less than six years from the date the records became dormant.

In terms of knowledge of radiation risks the results were as follows. Eighty-three percent (83%) of the respondents were of the opinion that radiographers should

explain the potential risks and benefits of ionising radiation examinations to patients/guardians. Only forty-one percent (41%) of the respondents stated they ensure patients are fully informed of their imaging and treatment options. However, more than half of the respondents (57%) stated they do not know the underlying principles of the Image Gently and Image Wisely campaigns.[21, 22]

The majority (80%) of respondents were of the opinion that accurate records of all exposure factors, and the total number of images taken including reject ones, should be recorded.

Discussion

Informed consent means that a patient must have knowledge of risks and benefits of a proposed medical intervention.[2] This means that patients must be provided with sufficient information in an easily understandable way so that they can then exercise their right to make informed decisions about their care.[7]

The overarching aims of the survey conducted and communicated in this article were twofold. First, to determine whether radiographers are of the opinion that they are responsible to take informed consent for imaging and treatment procedures. Second, to determine whether there is a need for a short course and a good practice guide on informed consent for all radiographic categories. These aims were underpinned by seven objectives. A discussion of the results in terms of each objective is presented below.

Objective 1. To determine radiographers' knowledge of informed consent.

The respondents' understanding of informed consent in an open-ended question in the education section are linked to this objective. Examples of some of the respondents' explanations are provided in italics.

> *Informed consent is a document signed by patient after explanation of the benefit and risks involved with the examination she/he is going to undergo.*
>
> *The patient must be made aware of the entire procedure and the risks before undergoing the procedure. Before they sign the consent form.*
>
> *The procedure is explained to the patient / guardian with an explanation of the benefits and risks of the procedure in a language that is understood by the patient.*
>
> *All patients should have the autonomy and right to choose and patients should therefore be involved in decisions about their care.*
>
> *In order for patients to take part in decision making about their treatment/ imaging, they should be appropriately informed about the risks and benefits. Treatment/imaging should only be performed after the patient has given consent.*

It is evident from these examples that the respondents seemed to understand the meaning of informed consent. On the other hand, other examples in this open-ended question indicated that there are gaps in fully understanding who is responsible to take obtain informed consent from patients (health care users). These examples pertain to objective 2 and are presented below.

Objective 2. To determine who radiographers believe should be responsible for obtaining informed consent from patients.

Explanations of informed consent in the open-ended question included the following.

> *The requesting doctor should best explain to the patient the need for the examination, the risks and benefits, as well as the steps of the procedure the patient should be expected to follow.*
>
> *When the medical practitioner explains in detail what the examination entails as well as the side effects or potential risks involved in the examination and the patient understands it fully and then signs the consent form willingly.*
>
> *Would like to learn about the correct practice of informed consent.*

The consultant medical practitioner who requests the examination: e.g. surgeon/ neurologist/oncologist (see Table 4) was selected by 67% of the respondents as being responsible to obtain informed consent from patients. These findings highlight that the radiographers who participated in the survey are of the opinion that a medical practitioner, who requests the examination, is fully conversant and knowledgeable of the risks and benefits of ionising radiation, for example. We need to question whether other health-care professionals are indeed competent to inform patients about examinations that involve ionising radiation, for example, according to the HPCSA[7]

> a health care practitioner providing treatment or undertaking an investigation, has the responsibility to discuss it with the patient and obtain consent, as the practitioner will have a comprehensive understanding of the procedure or treatment, how it is to be carried out, and the risks attached to it. Where this is not practicable, health care practitioners may delegate these tasks provided they ensure that the person to whom they delegate … is suitably educated, trained and qualified, and has sufficient knowledge of the proposed investigation or treatment and understands the risks involved…

Based on the literature on informed consent the most suitable person to inform a patient about risks and benefits should do so.[23, 24] Picano[12] underscores that inaccurate information about these risks is not acceptable and this is tantamount to a disregard of patient autonomy.

In this survey the respondents were asked to indicate who hands informed consent forms to patients to sign. Eighty-five percent (85%) of them stated a competent health professional provides the forms to be signed. However, the responses to another question do not support these results as twenty-nine percent (29%) of the respondents stated that a clerk/ receptionist or other non-healthcare personnel hand informed consent forms to patients/guardians to sign. In the latter scenario we need to question whether patients are then fully informed in accordance with the HPCSA's guidelines[7] and relevant legislation.[1] We should also consider patients' rights to be provided factual and accurate information from a suitably trained person.[1, 2, 3, 7]

Objective 3. To determine whether radiographers take responsibility to obtain informed consent

Three questions addressed this objective.

i) Have you ever been responsible for obtaining informed consent from patients?
ii) Have you ever requested a patient's verbal permission to undertake an examination/treatment?
iii) Have you ever requested a patient's written permission to undertake and examination/treatment?

The results for these questions reveal that 69% of respondents have obtained informed consent from patients, and that 55% of them obtained written consent. Verbal permission was obtained by 43%

of the respondents. These results indicate that radiographers do take consent from patients. In addition more than 90% agreed that there should be record of both verbal and written consent.[7]

Objective 4. To determine the need for a short course on informed consent for all four categories of radiographers.

Eighty-two percent (82%) stated they would benefit from a short course on informed consent. The majority of them (86%) stated a short course on informed consent should include:

- types of consent
- consent requirements
- how to communicate the information
- what information to be provided to patients
- how to avoid misunderstanding
- issues around consent
- policies and procedures

The importance of such content is highlighted in the literature.[3, 4, 24]

Objective 5. To determine the need for a good practice guide on informed consent for radiographers.

Almost all the respondents (95%) stated there is a need for a good practice guide for all radiographic categories for consent for imaging and treatment of patients. There are radiographic specific publications which cover all aspects of informed consent.[24]

Objective 6. To determine whether radiographers understand the principles of informed consent.

As discussed under objective 1 it seems that the respondents had a general understanding of the principles of informed consent. However, the application of these principles in terms of ionising radiation produced mixed results. Sixty-three percent (63%) of the respondents stated they would be confident to verify that the radiation dose to the patient is justified, whereas nineteen percent (19%) stated they would be unsure to do so.

Forty-one percent (41%) of respondents stated they usually ensure that patients are firstly fully informed of their imaging and treatment options. These results are similar to those in the literature. Many patients do not know the risks of ionising radiation.[25] Patients are often not informed of potentially harmful ionising radiation risks when undergoing CT studies.[26] A survey undertaken in 2014[26] revealed there is a lack of knowledge among medical staff (physicians, radiologists and radiographers) about radiation dose.

Objective 7. To determine whether radiographers are aware of the principles of the Imaging Gently and Imaging Wisely campaigns.

The results for this objective revealed that the majority of respondents (57%) did not know the principles of these dose reduction campaigns.[21, 22]

Limitations

There were three limitations in this survey.

- This was a purposive sample of mainly SORSA members who had access to the internet to complete the online survey. SORSA members and non-members who did not have internet access where thus excluded from participating in this opinion survey.
- The limitations of the study include a low (less than 50%) response rate. A bigger response rate may provide validity to the findings as reported in the article. Additionally a number of the radiographers reported that they were unable to submit the completed questionnaire online, even though provision was made to complete the survey from a mobile apparatus.
- The question on benefits of a short course on informed consent included possible contents. However, the contents options were not listed in the question of a good practice guide on informed consent for radiographers. This could be a limitation but the authors did not want to pre-empt what should be included in such a publication.

Recommendations

Based on the results of the survey it is recommended that SORSA and the PBRCT work together to compile easy to use guidelines on informed consent. In addition a short course to include the topics suggested in the questionnaire needs to be developed. This short course should preferably be available as a CPD accredited online course.

Conclusion

The right of the patient to receive information on the risks and benefits of imaging and radiation therapy is supported by the Bonn Call For Action,[5] a joint statement by the World Health Organisation (WHO) and the International Atomic Energy Agency (IAEA). Based on previous discussions at a SORSA congress, it was evident that there was a need to obtain the views of radiographers on informed consent and to determine whether radiographers are of the opinion that they are responsible to take informed consent for imaging and treatment procedures, and whether there is a need for a short course and a good practice guide on informed consent for all radiographic categories.

The responses of radiographers who participated in this online survey showed that most of them are knowledgeable about the concept. However, knowledge gaps were identified and these need to be addressed. Radiographers should be empowered to question why clerks/ receptionists hand informed consent forms to patients/guardians to sign. Such a scenario is not in the interests of health care users. Radiographers are aware that they need to take responsibility in obtaining informed consent from patients. To address the gaps, the radiographers indicated that easy to use guidelines, as well as a short course to include the topics suggested in the questionnaire, need to be developed jointly by SORSA and the PBRCT. The short course should preferably be available as a CPD accredited online course. It is furthermore important that radiographers take ownership of the informed consent responsibility as soon as possible, so as to benefit the patient. These findings are in line with the literature published on informed consent.[1-4, 7]

More than half of the respondents indicated that they are not familiar with the principles of the Image Gently and Image Wisely campaigns[21, 22] which therefore reiterates the importance of sharing information on informed consent, dose optimization, justification and reduction among the professional group so as to benefit the patient.

A possible limitation of the study was the fact that a number of radiographers alerted the authors via e-mail messages that they were unable to complete the online survey. This aspect may have contributed to a response rate below 50%.

Regardless of the response rate, the radiographers who participated in the survey contributed to the knowledge base on this specific topic. Their opinions are valuable

to optimise the experience of the patient during imaging or radiation therapy and nuclear medicine procedures, respectively.

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