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The need for qualified diagnostic radiographers to do additional first aid and emergency procedures training

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Abstract

This paper highlights the need for diagnostic radiographers to maintain their first aid competencies. The need for update courses and additional training are underscored as well as future research.

Background Diagnostic radiographers play an important role in a medical emergency environment as they often work alone with critically ill and/or -injured patients. It has been observed that these patients are not always accompanied by the appropriate personnel for observation. Competent first aid techniques and emergency medical assistance as covered in the regulations defining the scope of the profession of radiography (scope of practice).

Aim The aim of this study was to identify whether a need exists amongst diagnostic radiographers to do additional first aid and emergency procedures training.

Materials and methods Questionnaires were personally distributed by the researcher amongst forty (40) diagnostic radiographers in both the government and private sector in Port Elizabeth, Eastern Cape. The questionnaires consisted of two sections. Section A was based on the emergency trolley and its drugs and apparatus. Section B was based on first aid techniques.

Results and conclusion The results from this study indicate that there is a definite need for additional first aid and emergency procedures training amongst the sampled diagnostic radiographers currently still in practice. The outcome of this study provides key data pertaining to the development of diagnostic radiographers.

Keywords

medical emergencies, additional training, responsibilities.

Introduction

There is always a possibility that a patient can die whilst in an X-ray department. On average, fifty percent (50%) of all patients who experienced some sort of trauma are referred for radiographic examinations.^[1] Trauma and ward patients are often critically ill and/or injured, increasing the risk for life threatening situations to occur. It has been observed that patients with severe and/or unstable conditions are not always accompanied by appropriate personnel for observation whilst in an X-ray department.

First aid can be defined as the emergency medical treatment given to an individual before the arrival of the appropriate personnel.^[2] The objectives of first aid are: preservation of life, the promotion of patient recovery, prevention of condition worsening, and taking care of the injured to a safer place.^[2] Diagnostic radiographers must be able to assist and perform emergency medical procedures, including basic life support (BLS), when necessary.^[3] Medical emergency procedures can be defined as the actions taken by someone with an average medical knowl-

edge in response to acute symptoms present in a patient.^[4]

The regulations defining the scope of the profession of radiography (scope of practice) indicate that radiographers are responsible for all aspects of patient care related to their profession.^[5] Effective assistance from radiographers is also expected when assisting a medical doctor in terms of medicine management.^[5] In view of this it can be concluded that all radiographers should be able to locate the necessary emergency drugs and/or apparatus in their department/s should the need arise.

There are various medical emergencies that could occur in an X-ray department, ranging from the different types of reactions due to the administration of intravenous contrast media, epilepsy, cardiac arrests, respiratory distress, shock, etc. The administration of intravenous contrast media is not within the diagnostic radiographer's scope of practice. The Society of Radiographers of South Africa (SORSA) has received numerous reports on diagnostic radiographers who do administer contrast media.^[6] Patients' reactions to intravenous

contrast media may range from mild, to moderate or severe, which in some cases may lead to death.^[7] Management and taking care of patients undergoing diagnostic imaging examinations are said to be one of the main responsibilities of diagnostic radiographers.^[8] First aid training should be updated regularly due to rapid advances in medicine as well as new developments in techniques and equipment. Furthermore, the HPCSA (Health Professions Council of South Africa) states that it is the responsibility of health-care professionals to update their own knowledge and skills to benefit the patient.^[9]

Methodology

A quantitative, descriptive research approach was developed and utilised. A descriptive study can be defined as data collection by making use of questionnaires whereby the outcome of the study can be compared to a standard.^[10]

This study was conducted in Port Elizabeth, in the Eastern Cape. There were four study sites (n=4): two government (public) hospitals (n=2), and two private hospitals (n=2). The study was limited to

diagnostic radiographers. Forty (n=40) questionnaires were personally distributed by the researcher who also collected the completed ones. The questions were based on the diagnostic radiographers' experiences and knowledge on first aid techniques as well as the emergency medical protocols within their individual departments. The potential participants were requested to not seek any assistance from their fellow colleagues or to consult with any literature. The completed questionnaires were marked by the researcher who used a precompiled marking memorandum. The researcher also analysed the collected data.

Participation was voluntary and anonymous. None of the participants or institutions received any form of remuneration. Consent to participate in the study was acquired from each potential respondent as well as from the hospital managers. Ethics approval was obtained from the Central University of Technology Ethics Committee as this study was conducted to fulfil the researcher's Baccalaureus in Technologiae degree requirements.

Results

There was a return rate of seventy-five percent (75%) as 30 out of 40 questionnaires were completed. Fifty-seven percent (57%) (n=17) of the respondents were employed in the public sector and forty-three percent (43%) (n=13) were employed in the private sector (see Figure 1). Sixty-seven percent (67%) indicated that they had been in a situation where they needed to apply basic first aid techniques and/or assist a medical doctor with an emergency trolley. However, Fifty percent (50%) stated they did not feel competent to be of assistance during emergency medical situations (Table 1). Twenty percent (20%) stated that they are not aware of any medical emergency procedures protocol within their departments (Table 1).

Question one in section A of the questionnaire required the respondents to indicate where they would find certain emergency drugs and apparatus within their individual departments. Figure 2 represents the percentage of total participants who were able to correctly identify where they would find the emergency drugs and apparatus within their individual departments. Question two required

them to indicate the usage of different emergency drugs and apparatus. Figure 3 represents the percentage of total participants who were able to correctly indicate the usage of the different listed emergency drugs and apparatus.

Section B in the questionnaire required the respondents to answer several questions based on first aid techniques. Sixty-three percent (63%) could correctly describe how to open a patient's airway. Fifty-seven percent (57%) did

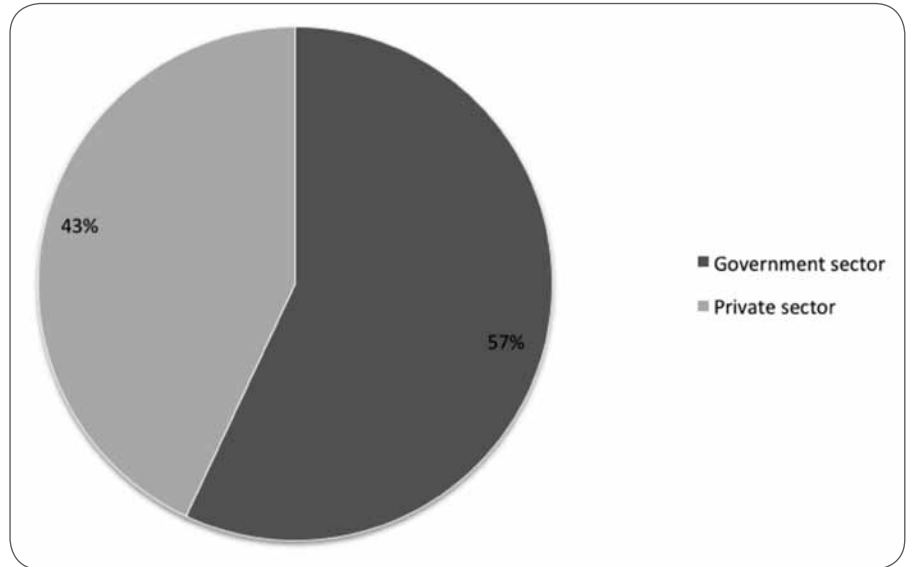


Figure 1. Demographic response of participants.

Table 1. First aid and medical emergency procedures experience.

QUESTION/S	Government sector (n=17)		Private sector (n=13)	
	Yes	No	Yes	No
1. Have you ever been in a situation where you needed to apply basic first aid techniques and/or assist a medical doctor with an emergency trolley?	10	7	10	3
2. Are you aware that there is a protocol to follow during emergency medical procedures in your department?	11	6	13	0
3. Do you feel competent with assisting a medical doctor should a medical emergency situation occur?	6	11	9	4

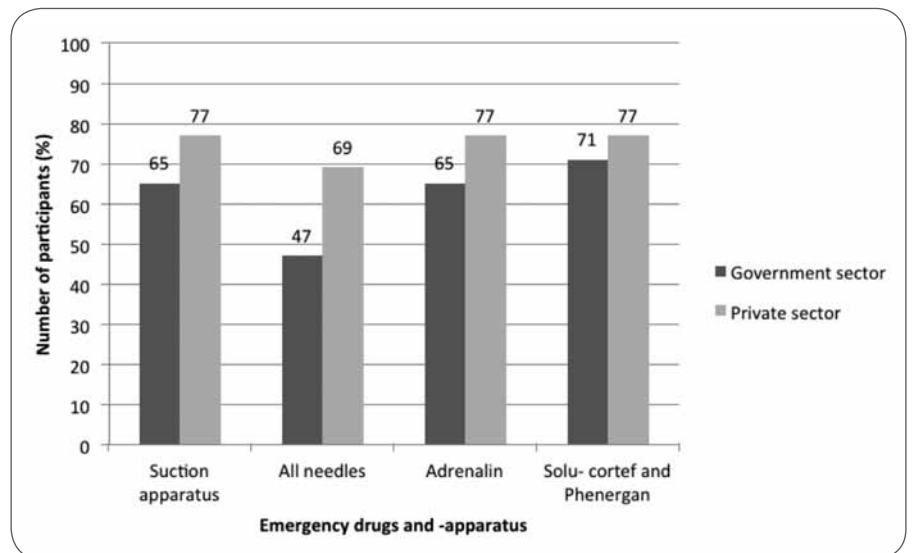


Figure 2. Location of emergency drugs and apparatus.

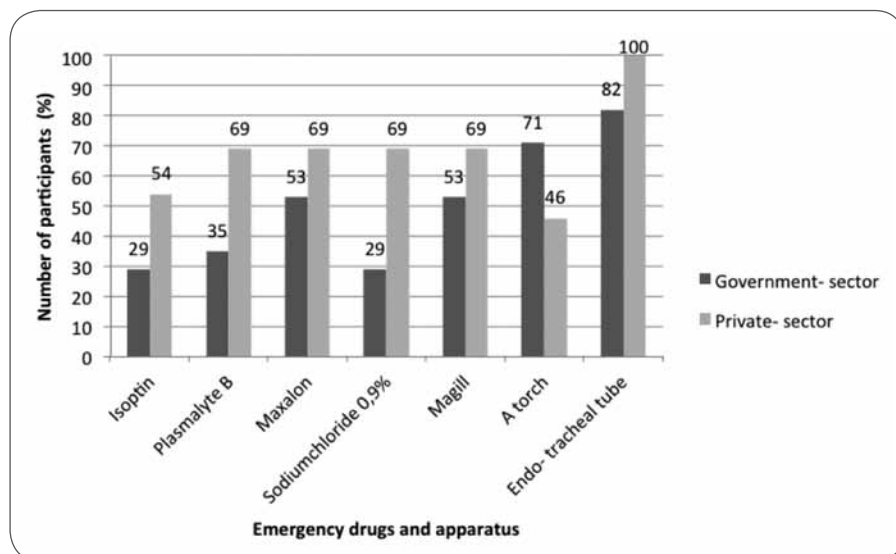


Figure 3. The usage of emergency drugs and apparatus.

not know the correct ratio between inflation and compression required for effective cardiopulmonary resuscitation (CPR). Sixty-one percent (61%) displayed being competent to identify possible indications/signs for CPR. Fifty-one percent (51%) could correctly briefly discuss measures they would apply in order to help a patient experiencing shock.

Limitations

This study was limited to radiographers employed in two public sector hospitals and two private sector facilities in Port Elizabeth.

Discussion

As evident in the results in Table 1 it can be concluded that diagnostic radiographers are indeed required to assist medical doctors during emergency procedures as the majority of the respondents indicated that they have been in such a situation. Furthermore, fifty percent (50%) of the respondents indicated that they do not feel comfortable assisting during medical emergency situations. This indicates a possible need for refresher and/or follow-up first aid courses to address the lack of competency discussed above. It could

indicate there is a lack of departmental training with regard to medical emergency protocols and/or policies.

Conclusion and recommendations

There is a definite need for additional first aid and emergency procedures training amongst the sampled diagnostic radiographers. Radiographers tend to become unfamiliar with the basic first aid techniques and emergency medical procedures as they do not deal with emergency life threatening situations on a daily basis. However, radiographers should be able to assist during medical emergency situations as they have an important role in the emergency medical team. It is of utmost importance that all radiographers should be confident to competently assist a doctor during high stress situations. It is suggested that all radiographers become more aware of their role in the medical field and also to practice within their scope of practice.

This study was limited to only a small number of participants thus the outcome of the study is not a true indication of diagnostic radiographers as a whole. In view of this limitation it is recommended that a larger sample across South Africa is included in future research.

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