To Editors

Radiation safety awareness among healthcare assistants in a radiology department of a government hospital

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The use of ionization radiation is a major improvement for the diagnostic and therapeutic procedures to cure various diseases in medicine. In Sri Lanka, there is a 17% annual increment of X-ray examinations, nuclear medicine procedures and radiotherapy treatments [1]. Although ionization radiation is helpful in recognition of diseases; unnecessary exposure has led to various hazards to the patient as well as the staff members who involve for the procedures. Healthcare institutions should undertake necessary precautions with the aim of protecting those who are exposing to radiation because of professional reasons with abiding the regulations [2,3]. Also any staff members who are assigned to work in the radiology departments should have adequate knowledge on radiation protection.The service of the healthcare assistants is very much useful to assist the patients who undergo diagnostic or therapeutic treatments.

Radiation risk can be reduced by familiar with principles and methods of radiation protection, such as the 'As Low As Reasonably Achievable (ALARA)' principle [4]. Level of the knowledge, radiation safety awareness and effectiveness of the training program among healthcare assistants in Sri Lankan government hospitals is not known. The aim of this study was to assess the awareness of radiation protection among the healthcare assistants in radiology departments of government hospitals in Sri Lanka.

A prospective cross-sectional study was done in a radiology department of a government hospital during the period of October and November 2019. Based on census sampling method, all the healthcare assistants in the selected radiology department were included in the study. This study was approved by the Ethics Review Committee of the Faculty of Allied Health Sciences, University of Peradeniya (AHS/ERC/2018/099). A self-administered questionnaire which consisted of two sections: demographic information and awareness about the radiation protection was used to collect data.

A total of 25 potential participants were invited to respond to the questionnaire and the response rate was 100% (N=25) the participants is presented. The average age of the participants was 41±10 years (30-50 years). Most of the participants are females [16]. Their work experience range from 3-21 years and then the mean work experience was 7±3 years. The work experience in a department of radiology ranged from 10 months to 13 years and the mean work experience in a department of radiology was 3.2 ± 2 years.

None of the participants (100%) had attended to any type of radiation protection training before they were assigned to work in the department of radiology. However, they all (100%) knew that radiation is harmful. Furthermore, all of them (100%) reported that they always move to console room before exposure is made. However, none of them (100%) were familiar with the principles of radiation protection explained by ALARA. Although a small percentage of participants (3-12%) were aware about the TLD badges, none of them use any type of TLD badges during their working time. All of the female workers stated that they obtained a release from the radiology department during the pregnancy period.

Though it has mentioned in circulars of health ministry about radiation protection awareness programs, none of them attended any kind of radiation protection course. This may account for the lack of familiarity with the terms ALARA principle and TLDs.

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The results indicate inadequate radiation protection awareness amongst the healthcare assistants in the selected radiology department. Lack of continuing professional development courses and training programs in radiation protection amongst the healthcare assistants in radiology departments may have affected the awareness level. Further studies are necessary to identify the factors that have led to this inadequate level of awareness its consequences. At this stage, establishing annual continuing professional development courses and training programs in radiation protection for healthcare assistants through the Ministry of Health, Sri Lanka is highly encouraged.

Author contributions

CIR and BSW contributed to the design and implementation of the research, to the analysis of the results CIR wrote the manuscript in consultation with BSW.

Competing interests

All authors declare to have no conflicts of interest.

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Ethics approval (for original articles)

Ethical approval obtained from the Ethics Review Committee, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka (AHS/ERC/2018/099).

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