“Knowledge and awareness regarding radiation exposure and its associated risk in patients and radiation health worker in radiation working departments” (A Survey based study)

Sana Abbas, Muhammad Abbas, Saad Rashid Usmani.

Department of PET-CT and Cyclotron.

Jinnah Postgraduate Medical Center Karachi, Pakistan.

BACKGROUND

A review of previous published studies demonstrates that health care professionals have limited knowledge about radiation dose and risks with medical imaging examinations is very low, with various health care professionals having limited knowledge about the awareness of doses and associated risks of radiation from imaging procedures.

AIMS AND OBJECTIVES

The aim and objective of this study was to estimate the knowledge and awareness of radiation health workers (Physicians, Allied health workers, Medical physicist and other Para medical staff) regarding the radiation exposure and its associated risk in patients and radiation health workers working in Radiation departments.

Materials and Methods

A cross sectional, survey based study conducted in radiation department of different hospitals of Karachi. A questionnaire was sent to all the radiation working departments such as Nuclear medicine, Radiology and Radiation therapy department and filled by the target audience such as Physicians, Allied health workers, Medical physicist and other Para medical staff. The questionnaire consists of 25 questions which is divided into two parts, the first one consists of 5 questions about demographic details such as gender, qualification, occupation, years of working experience and regarding formal education on radiation protection while other part consists of 20 questions about knowledge and awareness of radiation dose and its hazard besides this radiation protection based questions.

RESULTS

During this survey out of 120 questionnaires 99 were filled by radiation health worker from different radiation hospital centers. Out of this 47% were male and the 53% were female. The sample included 50% technologist, 30 % consultant, 14% medical physicist and 6% were other.(Figure-1) Out of 99, 68% respondents received formal training on radiation protection from this 38% were technologist, 15% were consultant,12% were medical physicist while 3% were others.(Figure-2) The overall mean scoring is 8.6% out of 0-11 scoring of the questions and the mean correct response is 76.7%, while regarding awareness questions, 89% are aware of radiation protection equipment ,84% are aware of radiation emergency procedure and 81% respondents have knowledge about radiation biological effect. (Figure-3,4)

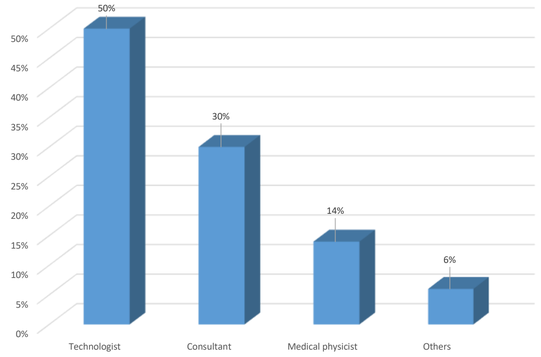

FIGURE-1:- RADIATION HEALTH WORKERS DISTRIBUTION.

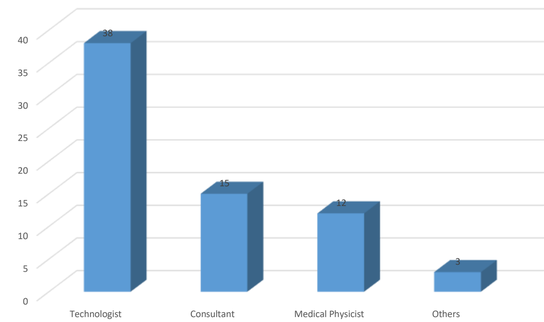

FIGURE-2:- FORMAL TRAINING ON THE BASIS OF DESIGNATION ON RADIATION PROTECTION.

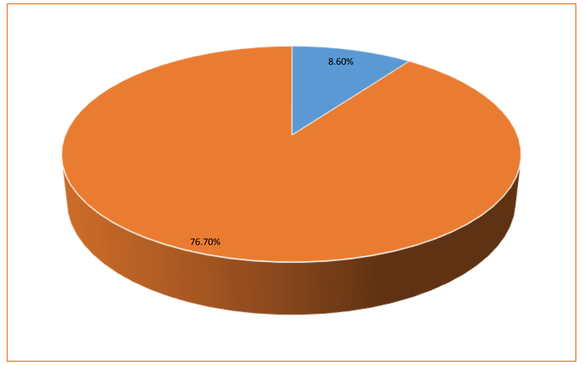

FIGURE-3:-OVERALL MEAN SCORING AND MEAN CORRECT RESPONSE.

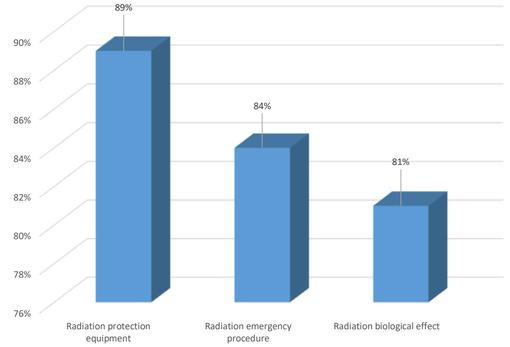

FIGURE-4:- KNOWLEDGE ABOUT RADIATION EFFECTS AND RADIATION SAFETY.

CONCLUSION

According to our survey overall correct responses are 76.7% which indicated that our respondents have sufficient knowledge regarding radiation exposure and its associated risk. This study shows that majority of respondents received the formal training which is 68%.However, training courses are recommended to improve the basic radiation knowledge and awareness about the biological effects on radiation health workers and about patient safety.