

Occupational Safety And Health System For Radiation Workers In The Conventional Radiology Room Rumkit Tk II Pelamonia Makassar

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ABSTRACT. K3 system for radiation workers in the conventional radiology room at TK II Pelamonia Makassar. The aim of this research is to determine the completeness and compliance of radiation workers in implementing K3. The K3 system in the Conventional Radiology Room at Tk II Pelamonia Makassar is to use PPE aprons when the radiation is carried out. The PPE apron is used only if the patient requires assistance during the radiation. Radiographers also carry out occupational safety and health training and carry out routine health checks carried out by hospitals. When the radiation is carried out, the radiographer stands behind a wall/screen coated with Pb. Radiographers also always use TLD when on duty or carrying out radiation.

Keywords: Occupational Health, Safety, Radiation Workers

INTRODUCTION

Radiology is a branch of medical science that deals with the use of all modalities guided by radiology, including imaging techniques and the use of radiation with x-rays and radioactive substances. (*Perka BAPETEN Nomor 8, 2011.*)

Radiation with all its characteristics and advantages turns out to have an impact when it interacts with the human body. The amount of ionization that occurs due to the interaction of radiation with the human body is described based on LET (*Linear Energy Transfer*). Radiation that has high LET characteristics has greater ability to damage tissue compared to low LET. X-rays are categorized as low LET radiation. However, this does not mean that X-rays do not pose a risk of negative effects. Apart from that, having a large penetration power allows cells to potentially damage the structure of the chromosomes in the cell nucleus. Damage to chromosomes of course results in changes to the DNA genetic information from the chains and basic framework of DNA components, so that in general it affects the condition of the body's tissues and organs. (Asih Puji Utami, 2018:3)

In Law no. 66 yrs. 2016 concerning K3RS Article 1, Work Safety is an effort carried out to reduce the occurrence of accidents, damage and all forms of loss to humans. If you look closely at the contents of this article, it is very important to know what the K3 system is like in a hospital. The activities that take place in radiology allow for radiation hazards, but all of this can be prevented and minimized.

Based on researchers' observations during Field Work Practices (PKL) in several hospitals, it was discovered that several radiation workers had not implemented Occupational Safety and Health in the Radiology Installation Room. Like the use of excessive exposure

factors. The author chose to conduct research at Rumkit Tk II Pelamonia Makassar because the hospital has 5-star plenary accreditation where the service at the hospital is said to be the best. The examiner wanted to research whether the Radiology Installation Room at Rumkit Tk II Pelamonia Makassar implemented an occupational health and safety system. In order to be a safe place to do work, especially for radiation workers in carrying out their work, the level of accreditation at the hospital is the best.

Therefore, this research raises the theme "Occupational Safety and Health Systems for Radiation Workers in the Conventional Radiology Room at Rumkit Tk II Pelamonia Makassar"

METHOD

The type of research used is quantitative descriptive. A research method that utilizes quantitative data and is described descriptively. By taking an observational approach. Located at Rumkit Tk II Pelamonia Makassar. The population is the Radiology Installation of Rumkit Tk II Pelamonia Makassar. The sample is Pelamonia Kindergarten Tk II Radiation Workers

RESULTS AND DISCUSSION

The Radiology Installation at Tk II Pelamonia Makassar Hospital has one Head of Radiology Installation, three Radiology Specialist Doctors, one Radiation Protection Officer (PPR), one special nurse in the Radiology room, one Electromedic, one Registration Department and has eleven Radiographers. Where the Radiology Installation also has sophisticated equipment in the form of a Conventional X-ray Machine along with Computer Radiography and a CT Scan.

At the Tk II Hospital Pelamonia Makassar radiology installation, there is an SOP for the use of personal protective equipment, a type of lead apron which aims to serve as a reference for implementing steps to protect the body from exposure to X-ray radiation. and also available Standard Operating Procedures (SOP) for use *Thermo Luminescence Dosimeter* (TLD) which aims to determine the X-ray exposure dose received by radiology personnel. Complete Standard Operating Procedures (SOP) are attached and published 15 February 2018.

Personal protective equipment (PPE) for type B hospital radiology units are: Apron, Thyroid protector, Gonad protector, Pb glasses, Pb gloves, Mobile shield screen. The following is the Personal Protective Equipment available at the Radiology Installation at Tk II Pelamonia Hospital Makassar.

44% of K3 implementation in the form of Personal Protective Equipment in the Radiology Installation at Tk II Pelamonia Makassar Hospital was implemented and 56% did

not implement Occupational Safety and Health in the form of Personal Protective Equipment (PPE).

This scientific paper research was conducted at Tk II Pelamonia Hospital, Makassar with the aim of knowing the Occupational Safety and Health System for Radiation Workers in the Conventional Radiology Room at Tk II Pelamonia Makassar Hospital.

The completeness of occupational safety and health equipment at the Tk II Pelamonia Hospital Makassar radiology installation is quite adequate because radiation personal protective equipment is available in good condition except for Pb gloves which are not available and Pb glasses with broken handles. The available personal protective equipment is stored properly in its respective place, such as a special iron table for storing aprons. The personal protective equipment was not folded when it was stored and was still in new condition, seeing that the care in the radiology room was very good and looked after. Each of these personal protective equipment is not only available, but 2 to 4 are available, for example 4 aprons are available, 2 gonad protectors are available, 4 thyroid protectors are available. TLD is also available and well used for each radiation worker at the Radiology Installation at Tk II Pelamonia Hospital, Makassar.

Looking at the results of the percentage of Radiation Worker Criteria above, the use of PPE other than aprons is inadequate, as are the results of researchers' observations in the field. This is because the apron is sufficient to protect the parts of the body that are not exposed to radiation, and the apron is only used if the patient requires assistance from a radiographer. From the percentage results we also see that of the 10 samples, only 7 received the health monitoring program at the hospital, this is because the 3 people who did not receive health monitoring were still new workers. From the results of observations and percentages, researchers also saw that TLDs were used during office hours and when lighting was carried out. Radiation workers can be said to be compliant because they still implement occupational safety and health even though not all personal protective equipment is used.

CONCLUSION AND SUGGESTION

The use of PPE aprons is only used if the patient requires assistance during radiation. Radiographers also carry out occupational safety and health training and carry out routine health checks carried out by hospitals. When the radiation is carried out, the radiographer stands behind a wall/screen coated with Pb. Radiographers also always use TLD when on duty or carrying out radiation. Radiographers should pay more attention to occupational safety and health, especially in the use of Apd.

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