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A study to evaluate the awareness of radiation risks for workers

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Abstract

Within a decade of the discovery of x rays in 1895 and radioactivity in 1896, scientists had developed uses for radiation, primarily in the area of medical diagnosis and treatment. This scientific endeavour has continued to the present, resulting in the current beneficial use of radiation and radioactive materials for the improvement of human life. The research, development, and use of radiation and radioactive materials by man necessarily results in the researchers and users of this technology being exposed to radiation in the course of their work, i.e., occupational radiation exposure. From the earliest days of experimenting with radiation it became known there were levels of exposure at which injury to human tissues could occur, such that occupational radiation exposure needed to be controlled for the safety of radiation workers. This project was done to study the application of radiation protection methods in Khartoum state hospitals and to evaluate awareness of employees about radiation risk and protective methods for this reasons survey among the employees who work in various hospitals and medical centres in Khartoum city was conducted The primary aim was to evaluate their awareness regarding radiation safety and their personal practices regarding the use of protection devices. After collecting and analysis data the results was the lack of awareness in radiation risk and radiation protection methods , and the hospital administrator doesn't give enough interest to apply radiation protection rules, that causes many dangerous diseases for workers in the field of health before other citizens.

مستخلص

في غضون عشر سنوات من اكتشاف الأشعة السينية في عام 1895 والنشاط الإشعاعي في عام 1896، قام العلماء بتطوير استخدامات الإشعاع، ولا سيما في مجال التشخيص الطبي والعلاج. وقد استمر هذا المسعى العلمي وحتى الوقت الحاضر، مما أدى الاستخدام المفيد الحالي من الإشعاع والمواد المشعة من أجل تحسين حياة الإنسان. البحث واستخدام الإشعاع والمواد المشعة قد تعرض الباحثين ومستخدمي هذه التكنولوجيا للتعرض للإشعاع أثناء عملهم، أي التعرض للإشعاع المهني. منذ الأيام الأولى للتجارب مع الإشعاع أصبح معروفاً أن هناك مستويات التعرض التي تؤدي إلى إصابة الأنسجة البشرية يمكن أن تحدث، مثل أن التعرض للإشعاع المهني من الضروري أن يكون هناك رقابة على سلامة العمال من الإشعاع. وقد قام هذا المشروع لدراسة تطبيق أساليب الحماية من الإشعاع في المستشفيات ولاية الخرطوم وتقييم وعي موظفيها حول مخاطر الإشعاع وطرق الوقائية لهذه الدراسة الأسباب بين الموظفين الذين يعملون في مختلف المستشفيات والمراكز الطبية في مدينة

الخرطوم وأجري استفتاء كان الهدف منه هو تقييم وعيهم بشأن السلامة من الإشعاع والممارسات الشخصية بشأن استخدام أجهزة الحماية. بعد جمع وتحليل البيانات كانت النتائج عدم وجود الوعي الكافي في خطر الإشعاع والحماية من الإشعاع، وإدارات المستشفيات لا تعطي ما يكفي من الاهتمام لتطبيق قواعد الحماية من الإشعاع، التي تسبب العديد من الأمراض الخطيرة للعاملين في مجال الصحة قبل البعض المواطنين.



1.1 Introduction

Hospitals have many unique hazards that can potentially affect the health of employees. These hazards include biological and chemical hazards, ergonomic hazards, hazardous drugs, ionizing and non-ionizing radiation, radiation emitting sources are used in hospitals for the diagnosis and treatment of diseases. Some of the hospital employees who work in radiology, nuclear medicine, radiation oncology, and some laboratories are specifically trained in the operation of radiation machines and the handling of radioactive materials and sources. These personnel are called “occupational workers.” Other hospital workers may work around radiation sources, and may be indirectly exposed to radiation during equipment performance of their normal duties. These employees are “allied medical workers” and may belong to nursing, housekeeping, maintenance, security, shipping/receiving, and clerical departments. In addition, patient transport, operating room, and recovery room personnel may come in contact with brachytherapy (radioactive implant) and nuclear medicine patients, because of that its necessary to reduced radiation risk for staff safety, this risk can be eliminated or reduced by a variety of exposure control methods, including administrative controls, and personal protective.

1.2 Problem statement

Many of the hospitals in the third world countries suffer from lack of adequate information on radiation and radiation risks and the confiscation and handling of risks resulting from it, and the hospital administrator doesn't give enough interest to apply radiation protection rules, that causes many dangerous diseases for workers in the field of health before other citizens.

1.3 Solution

Make study and research to evaluate the radiation risks on hospital and find propitiate solutions to reduce these risks in the limit economic budget of Sudan.