

الآية



(لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا
اَكْتَسَبَتْ رَبَّنَا لَا تَأْخُذْنَا إِن نَّسِينَا أَوْ أَخْطَأْنَا رَبَّنَا وَلَا تَحْمِلْ
عَلَيْنَا إِصْرًا كَمَا حَمَلْتَهُ عَلَى الَّذِينَ مِن قَبْلِنَا رَبَّنَا وَلَا تُحَمِّلْنَا
مَا لَا طَاقَةَ لَنَا بِهِ وَاعْفُ عَنَّا وَارْحَمْنَا أَنْتَ مَوْلَانَا
فَاَنْصِرْنَا عَلَى الْكَافِرِينَ)



سورة ٢٨٦ (286)

Dedication

*We would like to dedicate
this simple work*

To

*My father Soul
To*

*My Mother
Soul*

To

*My Husband
To*

*My Brothers
To*

*My Collage
To*

*All whom Love
us*

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List of abbreviations

Quantity	symbol
Z	Atomic Number
EM	Electro Magnetic Radiation
STP	Standard Temperature and Pressure
A	Activity
X	Exposure
AD	Absorbed Dose
DE	Dose Equivalent
TLD	Thermoluminescence Doimetry
I	Intensity
Cy	Cray
SV	Sievert
μCy	Micro Gray
SKIMS	Sher- i - Kashmir Institute of Medical Science
ICRP	Intentional Communication of Radiation Protection

Abstract

In the present study the (TLD's LiF:Mg,Cu,P (GR200) have been used to measure the radiation effective doses of the workers of both the Khartoum Isotope Hospital and Medani Isotope Hospital the state of Gezira, (Isotope Section and Radiotherapy departments).

The (TLD's) was used to measure the level of the effective dose by the workers of the different medical professions (technicians, specialist in physics, physicians, and nurses (male).

(30) Workers of different medical professions at the hospitals subject of the study were chosen. The (TLD's) badge were used for the period of three successive months, to measure the effective dose in each month.

The main objective of the thesis is to know the effective dose for the workers during their work, as well as the safety and to compare the results obtained with other countries and with the reference dose level recommended by ICRP.

The doses obtained, during a period of three months , were range from (0.16 to 0.89) mSv at Khartoum Isotope hospital and from (0.08 to 0.21)mSv at Medani Isotope Hospital, which are reasonable and acceptable comparing with reference dose level (20 mSv pe year ICRP).

الخلاصة

تناولت هذه الدراسة كيفية استخدام الكاشف الوميضي الحراري ((TLD's LiF: Mg, Cu,P (GR₂₀₀) لقياس الجرعات الاشعاعية الفعالة للعاملين في كل من مستشفى الذرة الخرطوم ومستشفى الذرة مدني (ولاية الجزيرة - قسم الطب النووي، والعلاج بالأشعة). استخدم الكاشف الوميضي الحراري (TLD's) لقياس مستوى الجرعة الفعالة للعاملين في المهن الطبية المختلفة (تقنيين، فيزيائيون، أطباء، ممرضين).

أختير لهذه الدراسة عدد (30) من العاملين في مجال الطب النووي لكل من المستشفيات محل الدراسة. تم استخدام كواشف (TLD's) لفترة ثلاثة أشهر متتالية لقياس الجرعة الفعالة شهرياً.

الهدف الرئيسي لهذه الأطروحة هو معرفة الجرعة الفعالة للعاملين أثناء عملهم وسلامة العاملين في هذا المجال ومقارنة الجرعات المتحصل عليها مع نتائج أخرى لبعض الدول ومقارنتها مع الجرعات العالمية الموصى بها من قبل اللجنة الدولية للوقاية من الإشعاع ICRP.

كانت نتائج الجرعات المتحصل عليها لفترة الثلاثة أشهر تتراوح ما بين (0.08 - 0.21) mSv لمستشفى الذرة الخرطوم وما بين (0.16 - 0.89) mSv لمستشفى الذرة مدني، وهي تعتبر قيم مقبولة مقارنة مع القيم المرجعية الموصى بها في (ICRP). وهي حتى (20mSv/y).

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