DEDICATION

To my father’s soul

To my brothers ’soul

To my kind mother

To my wife

To my supervisor for his appreciable, great help, advice, and endurance

To my friends and colleagues

To everyone who help me

To all of them I dedicate this work.

Acknowledgements

Praise is to the almighty Allah who gifted me the knowledge and the ability to write this thesis.

I would like to express my sincere thanks to ustaz*/ Mahmud Mohammed Hamad - for his continuous and valuable guidance, supervision, faithful encouragement, and patience and appreciable efforts during preparation of this thesis.*

My deepest thanks and sincere appreciated are extended to the members of the Department of Radiology in Omdurman Pediatrics Hospital for their endurance and assistance.

Also I would like to thank the staff of the library of College of Medical Radiologic Sciences for their help, patience and co-operation.

Finally, all and greatest thanks are to everyone who has participated in completion and improvement of this study.

Abbreviations

Abbreviations	Refer to
BMI	Body mass index
C	Centigrade
CAT	Computed axial tomography
CT	Computerized Tomography
e.g.	Example
PMMA	Poly methylemetha –acoylate
F	Fahrenheit
KV	kilo voltage
mAs	Milli ampere seconds
U.S	United state
MRI	Magnetic Resonance Imaging
Msv	Milli severt
FDA	Food and drug administration
mRAD	Milli rad
WHO	World Health Organization
QA	Quality assurance
PA	Posteroanterior

Abstract

The study is conducted at Omdurman Pediatrics Emergency Hospital, in the period from September 2009 to March 2010, for a number of 380 patients –chest x-ray was done to them in the x-ray department.

Patients' ages were ranged between 1 day to 16 years, 55% of them were between 6 months to 5 years and 45% were less than 6 months and above 5 years up to 16 years.

Exposure factors (Kvp, mAs) were constant for every certain age group without consideration of weight. 98.5% of the images were good in position where 1.5% was bad. Images processing was good for 97.7% of the images and bad for 2.6% of them. From the processed images: 80.77% of them over expose and/ or over developer and the remains 19.23% were under expose and/ or under developer.

The averages of the questionnaires results: 84% of the images were good and 16% of them were bad. The bad images were 68% were dark, 63% were blurring, 16% were technical faults, 5% were soft and 5% were artifact. 87% of the images were diagnosable and 13% not acceptable. Additional views were needed for 63.5% of the patients and not needed for 36.5%.

84% of the questionnaires members said that radiologist was necessary and 16% agree that radiologist was not important.
Good technique as well as trained radiologist was necessary in Omdurman Pediatrics X-ray department to obtain diagnosable chest x-ray

ملخص الأطروحة

أجريت هذه الدراسة بمستشفى حوادث الأطفال أمدرمان في الفترة ما بين سبتمبر 2009 وحتى مارس 2010 م لعدد 380 مريض- عملت لهم أشعة الصدر بقسم الأشعة.
أعمار المرضى تتراوح بين 1 يوم الي 16 سنة, 55% منهم اعمارهم بين 6اشهر ألى خمس سنوات , 45%اعمارهم أقل من ستة اشهر وأكثر من خمسة سنوات الى 16 سنة.
عوامل التعريض (الكيلوفولت والملي أمبير للزمن) ثابتة لكل مجموعة محددة من الأعمار من غير اعتبار للوزن 98.5% من الصور جيدة في وضع المريض و 1.5% غير جيدة. تحميض الصور جيد في 97.7% من الصور وغير جيد في 2.6% منها. من الصور غير جيدة التحميض: 80.77% منها عوامل التعريض زائدة و/ أو تركت لزمن أطول في المظهر والمتبقي 19.23% عوامل التعريض قليلة و/ أو تركت لزمن أقصر في المظهر.
متوسطات نتائج الاستبيان: 84% من الصور جيدة و 16% منها غير جيدة. بالنسبة للصور غير الجيدة: 68% منها قاتمة, 63% مهزوزة, 16% أخطاءتقنية, 5% باهتة و 5% شوائب. 87% من الصور يمكن تشخيصها و 13% غير مقبولة. الأوضاع الاضافية يحتاج لها ل 63.5% من الصور ولا يحتاج لها ل 36.5%. 84% من الأعضاء الدين أجرى لهم استبيان قالوا بضرورة وجود أخصائى الأشعة والمتبقى 16% يرون عدم أهمية وجوده.
التكنيك الجيد وأخصائى الأشعة المتمرس ضرورى فى قسم الأشعة بمستشفى الأطفال أمدرمان للحصول على صور أشعة صدر يمكن تشخيصها.

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