

Chapter Five

Discussion, Conclusions and Recommendation

5.1 Discussion

From 50 questionnaires that sent to 45 technologist and 5 medical physicist all retained back obtained this results.

In Figure (4.2) explanation of examination for patients is 62% and 38% not explain the procedure for patient care part.

And obligation to wear a leaded is 68% and not wear a leaded is 32% , implementation of ALARA principle is 52% and 48% was not implementation that .Obligation to protected the sensitive organ is 44% and 56% was not protect.Exsit the safety for waiting room for patient is 52% and 48% was not existed. The rate of an image acceptable was 62% but 38% was not accepted.

For dark room and accessories was shown in Figure (4.2) ; exist of alarm light in the door is 28% and 72% not existed that alarm light,44% of them said it was important but 56% said it was not important. For performing the radiation leakage test, 54% do the test but 46% did not do that test, 84% of them said it was important for protection the person outside the room but 16% said it was not important test. For quality control of processing monitor; 46% do the test but 54% did not do that test for monitor, 94% of them said it was important for diagnostics but 6% said it was not important. For quality control of the cassette; 56% do the test to a sure that the cassette was not effected on the film screen and 44% did not do the test, 94% of them said it was important for not effected on quality of the film but 6% said it was not important. For the quality control of the film screen

contact; 54% do the test but 46% not did the test, 86% of them said it was important reduce the fog on the film but 14% said it was not important . For the light leakage test, 42% do the test to a sure that there were no leakage of light inside the dark room but 58% did not do that test, 80% of them said it was important for image processing and reduce the unsharpness on film but 20% said it was not important.

For x-ray room shown in Figure (4.4); obligation to wear a device to measure the dose received to the technicians' ,32% used TLD devise to protect himself from the radiation and its hazard but 68% did not used the device. Present and panel area radiation proved 44% said the wall was radiation proved for protection and 56% said the wall was not provide the radiation, 90% of them said it was important for protection the person outside the room but 10% said it was not important . For performing the light beam alignment test, 62% do that test but 38% did not do that test, 92% of them said it was but 8% said it was not important.

For X-ray machine shown that in Figure (4.5) ; for focal spot size test,54% do the test to reduce the dose for surrounding organ but 46% did not do the test, 88% of them said it was important but 12% said it was not important . For time accuracy, 54% do the test but 46% did not do that test, 88% of them said it was important for reduce the dose to the patient but 12% said it was not important. For KV accuracy , 62% do the test but 38% not do that test, 90% of them said it was important for reduce the dose to the patient but 56% said it was not important. For gride alignment test,46% do the test but 54% not do the test , 84% of them said it was important 16% said it was not important test.

Most of the findings from the observational study were confirmed by the departmental heads' interviews. The absence of operational tools like protocols, procedure manuals and exposure charts could have severe consequences on the radiation protection status of the practice settings involved in the study. The absence of formal organizational structures for diagnostic imaging in Sudan does not promote quality service delivery due to the lack of supervision and monitoring of quality.

5. 2 Conclusions

Most of Khartoum state departments will not applied the radiation protection and our procedures

Because of absence of quality assurance tools and financial cost, most of x-ray departments do not implemented QC program.

There is author supervised the quality control program.

5.3 Recommendations:

X ray Radiography operator must optimize the patient dose by use the best strategies available for reducing radiation dose, Each radiology department should implement a patient dose measurement quality assurance program. Practical guidelines for better image quality in X-ray radiography.

Radiologists should support and encourage staff in the radiology department to appreciate the importance of an effective quality control program.

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Appendix (A)



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Data collection sheet

(A) Patients care:

- 1- An explanation of examination of the patient
- 2- Radiation safety :
 - I. Obligation to wear a leaded apron when needed
 - II. Commitment to the principle of ALARA
 - III. Obligation to protect the sensitive organs
 - IV. Safety waiting room for patient
 - V. The rate of re-image of the patient acceptable

(B) dark room and accessories:

- 1- Alarm light on the door
- 2- Perform the radiation leakage test

3-You do the QC for:

- I. Processors monitor
- II. Cassettes
- III. Film screen contact
- IV. Light leakage

(C) X-ray room:

- 1. The presence of an appropriate number of lead to protect workers and co-patient when necessary .
- 2. Obligation to wear advice to measure radiation dose
- 3. Present panel area radiation proved .
- 4. Wall radiation proved .
- 5. Present and perform and important of quality assurance test tool:
 - I. Light beam alignment
 - II. Focal spot size
 - III. Timer accuracy
 - IV. KV accuracy
 - V. Grid alignment

5- If you think the Quality assurance test tools is importance and why .

Appendix (B)

Observation	YES	NO
Obligation to wear a leaded apron when needed		
Safety waiting room for patient		
Alarm light on the door		
Perform the radiation leakage test		
The present of an appropriate number of lead to protect workers and co-patient when necessary.		
Obligation to wear advice to measure radiation dose		
Present panel area radiation proved.		
Wall radiation proved.		