

# Potential for Optimization in Paediatric CT examination in Sudan

**Nada. A. Ahmed\*, E. H. Osman, N. Alrehema, A. Abdel Razeeg**  
*Sudan Atomic Energy Commission, Khartoum, Sudan*

*\*e.mail: nadaabbasa@gmail.com*

International Conference on Radiation Protection in Medicine, Varna,  
Bulgaria  
1-3 September 2010

# Purpose

- The purpose of this study is to assess whether in CT practices adult CT exposure parameters are used for paediatric patients in some selected CT facilities in Sudan, and suggest recommendation for optimization.

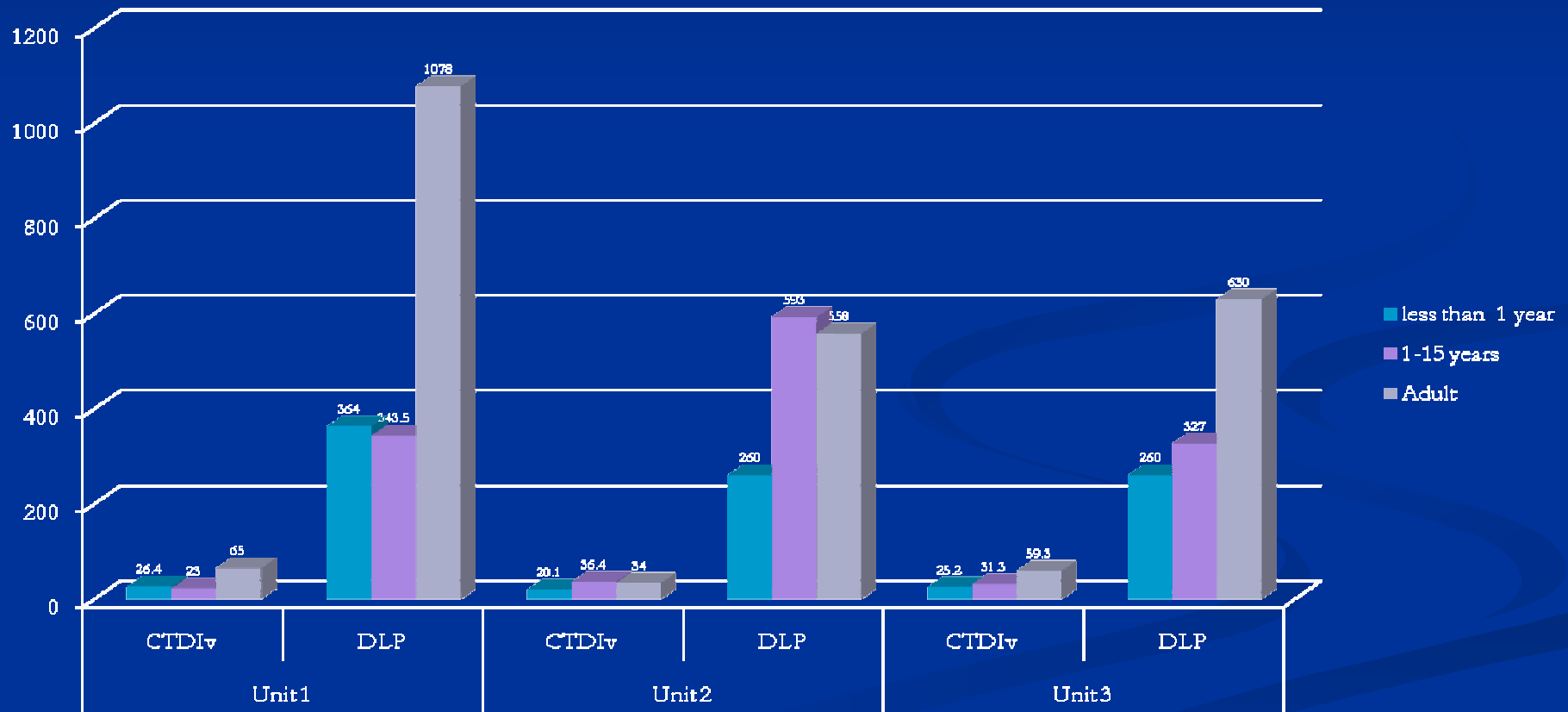
# Method

- As a part of an International Atomic Energy Agency (IAEA) project RAF/9/033, doses in term of volume computed tomography index (CTDI<sub>v</sub>) in mGy and dose length product (DLP) in mGy.cm were recorded from the console in three CT units in Khartoum, Sudan for paediatric patients aged 1-15 years old and compared with dose to adult patients for head and abdomen examinations in each unit. Also the doses for patients less than 1 year age are registered for head examination.

# Results

## 1. Head exam

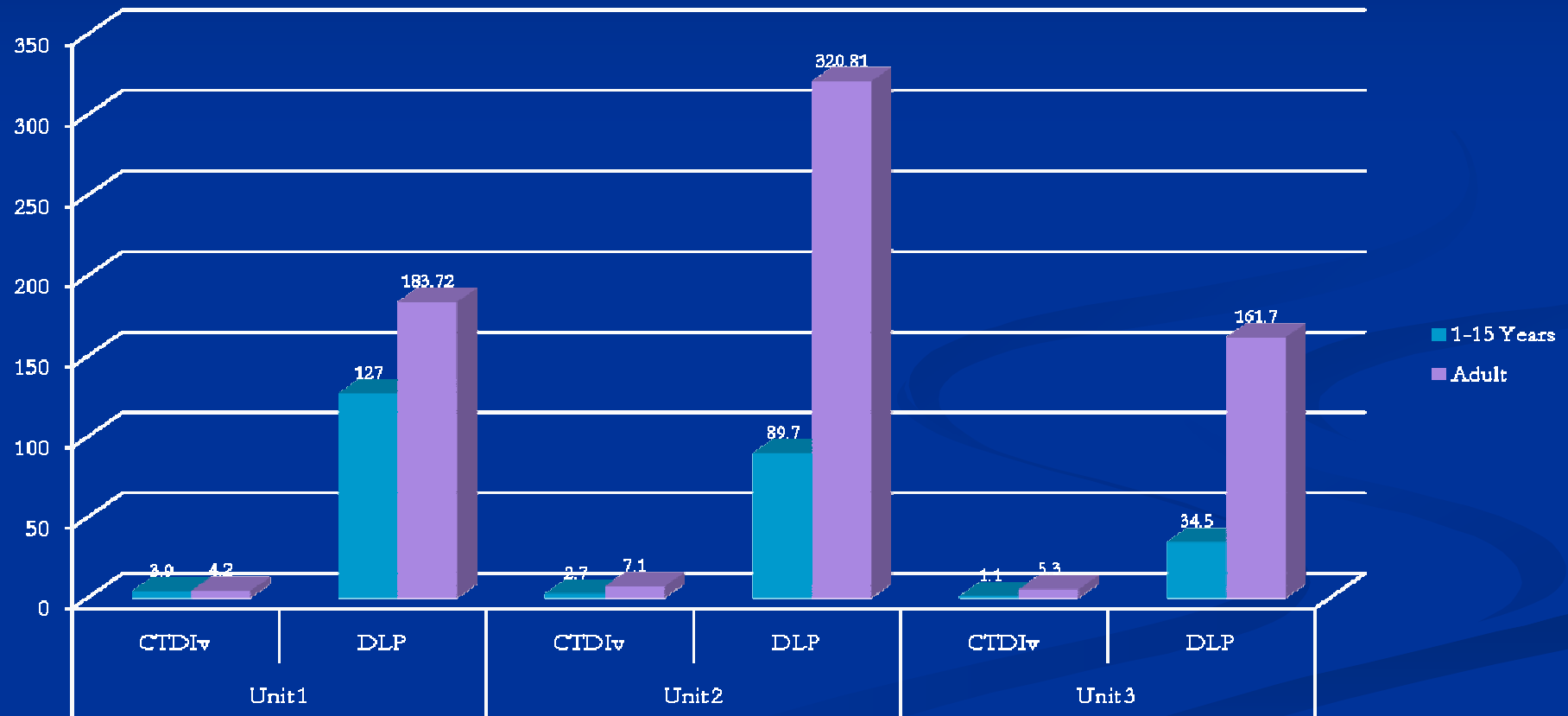
### CTDI<sub>v</sub> & DLP for head exam



# Results

## 2. Abdomen exam

CTDI<sub>v</sub> & DLP for Abdomen exam



# Conclusions

- In two CT units higher patient doses in term of  $CTDI_v$  and DLP for head examination were related to patients aged less than one year and 1-15 years compared with older age groups in each unit.
- Optimization can be achieved by implementing different protocols for each age group.
- The results highlighted the need for training of the radiographers.