

## SUMMARY

Computed Tomography (C.T.) first introduced to clinical practice in 1972, and rapidly acquired acceptance as a major advance in diagnostic imaging. Radiology department of National Hospital of Sri Lanka provides Computed Tomography service since 1989. A descriptive cross sectional study was done to study the utilization pattern, reasons / indications for its use, determination of direct costs incurred by the state and clinician's knowledge and skills on Computed Tomography and its applications. There was not a single study done on this subject during past 13 years since its inception.

The study was conducted from 31<sup>st</sup> August to 14<sup>th</sup> October 2002. A sample of 354 patients was selected using systematic sampling technique from all the patients who underwent Computed tomographic examinations during the study period. They were studied using a pre-tested interviewer administered questionnaire. The principle investigator filled two questionnaires to assess the utilization of the Computed Tomography scanner during the last 7 years, and to determine the direct costs of the investigation. A self-administered questionnaire was given to the prescribing medical officers to assess the knowledge and skills among them to prescribe and interpret the procedure as an investigative method.

The sample of computed tomographic studies consisted of 64.1% males and 35.9% females; there was a significant difference between males and females. Almost 51.1% of total patients were under 50 years of age. Speciality of medicine was the main consumer (75.6%) among major clinical specialities and 16.8% was from surgery. The paediatrics, gynaecology and obstetrics units utilized only 4%. General Medicine was the main utilizer (60.4%) among the minor specialities of medicine. Among general medical units, two units were identified as having a higher rate of computed tomographic examinations per 100 admissions than other units. Out of all surgical units, one unit had done more than average number of computed tomographic examinations during this period. All the units of the National Hospital of Sri Lanka utilized only 64.2% of the routine quota allocations.

Almost 72.9% of total studies involved the head; rest of the body was only 27.2%. Nearly 76.8% was done on urgent basis. The commonest clinical problems, which necessitate

computed tomographic examinations were identified as cerebro-vascular accident and acute severe headache; both contributed to 33.2% of total studies. Almost 55.9% studies were contrast studies, and 85.6% of routine studies were done with contrast enhancement. Almost 55.7% patients underwent the investigation within first two days of their admission.

Out of C.T. examinations done by medical units, 51.7% had normal report while surgical units had only 38.3% normal. There was no significant difference between getting normal or abnormal report irrespective of whether it was requested by the consultant or a registrar. Registrar, senior registrar or senior house officer requested 70% of urgent examinations, while consultant requested 63.6% of routine studies. There was a significant difference between an urgent examination being requested by the consultant and same done by the registrars.

Number of C.T. studies done per patient was increased nearly by two fold within past 7 years.

With regard to knowledge and skills of prescribing medical officers to prescribe and interpret the procedure as an investigative method, 61.2% had a good knowledge while only 9.5% had a poor knowledge.