

## ABSTRACT

Magnetic Resonance Imaging (MRI) is the latest radiological technique used globally in diagnosing various clinical situations. MRI scanner available at the Neurosurgical Unit, National Hospital of Sri Lanka was the only MRI scanner available in a government hospital in Sri Lanka till recently which resulted in high demand for MRI scans. This study was undertaken with a view to describe some patient characteristics, patient satisfaction, pattern of utilization and costs for MRI scanning at the Neuro-surgical Unit, National Hospital of Sri Lanka.

This descriptive cross-sectional study conducted in August and September 2005 verified the completeness of consent forms filled by the medical officers and request forms filled by the consultants of the requesting wards. Knowledge regarding some aspects of MRI scanning was assessed by a self-administered questionnaire given to the medical officers of the relevant wards. Patient details were collected using interviewer-administered pre-tested questionnaires.

There was a non-response of 20 percent due to patients being unconscious out of a sample size of 403 patients. The majority of patients were females and in the age category of 30-49 years. Three-quarters of patients were satisfied with the duration of hospital stay till the scan date. The waiting time outside the MRI room is one to two hours in more than half the patients. Patient satisfaction with regard to communication was very high and this was much more with respect to the MRI unit staff than ward staff.

Contrast studies were done in 55 percent of the patients. Majority had undergone MRI scanning of head. Forty percent of patients had undergone CT scanning prior to MRI scanning which is a waste of scarce resources. In a quarter of patients, they were not asked about previous operations or injuries with foreign bodies, which may lead to unforeseen accidents and complications. Details about potentially hazardous or contraindicated items and the possession of items were not asked from 20 percent of patients. Signatures of the house officer and the patient or bystander were absent in 19 percent and 37 percent respectively. It is recommended that a programme be conducted with the support of consultants to educate the medical officers about the importance of filling of these forms and about contraindications. Additionally, the MRI room staff should be empowered to reject patients with incomplete consent forms.

The average direct cost incurred by the patients was Rs. 450.53. The total cost including that for visitors from home was Rs. 1385.66 for the duration of hospital stay. The cost for the government for a MRI scan using contrast material and without contrast material was Rs. 8592.94 and Rs. 11,592.94 respectively. This is comparable to the cost in the private sector. Increasing the number of MRI scans per year would help to reduce the cost per scan. Study reveals mild to moderate worsening of the clinical conditions in about a quarter of the patients. Using a triage system to give priority to needy patients would optimize utilization.

*Key words: Magnetic Resonance Imaging, Sri Lanka, patient satisfaction, utilization, cost*