

An Audit on Ambulatory Blood Pressure Monitoring; A Single Unit Experience at Teaching Hospital Jaffna.

Premakanthan K¹, Thayashakhary A¹ Diluxcy R¹, Yugandhani P¹, Danegka S¹, Nijamudeen S¹, Aarabi P¹, Brammah R^{1,2}, Kumanan T^{1,2}

¹Department of Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka.

²University Medical Unit, Teaching Hospital Jaffna, Sri Lanka.

Introduction - Ambulatory Blood Pressure Monitoring (ABPM) provides dynamic 24-hour blood pressure (BP) recordings, enabling accurate phenotypic classification of hypertension including white-coat and masked hypertension. Despite its diagnostic advantages, ABPM remains underutilized in low-resource settings. In Sri Lanka, where hypertension burden is rising, data on real-world ABPM utilization are limited. Objectives - The Objective were to describe the indications and phenotypic patterns of ABPM among patients at Teaching Hospital Jaffna and evaluate associations between phenotypic patterns and sociodemographic factors such as age, sex and BMI. Methods - The study was conducted at the University Medical Unit, Teaching Hospital Jaffna. Consecutive patients referred for ABPM were enrolled. Average Blood Pressure, Circadian dipping patterns, short-term BP variability, and ambulatory pulse pressure was assessed. Associations were evaluated using Mann-Whitney U, Kruskal-Wallis H, Pearson Chi-square, and Fisher's Exact tests ($p < 0.05$ considered significant).

Results - A total of 408 patients were included (mean age 44.1 ± 15.7 years; 51.7% male). The commonest indication was hypertension confirmation (85.5%). ABPM reclassified patients as: sustained hypertension (34.9%), normotensive (39.8%), nocturnal hypertension (12.8%), isolated diastolic hypertension (7.4%), and white-coat effect (1.2%). The observed reverse dipping was 19.1%. Non-dipping was the dominant circadian pattern (58%), significantly associated with older age ($p < 0.001$). Elevated ambulatory pulse pressure was present in 10.1% and was associated with older age and female sex ($p < 0.001$ and $p = 0.001$, respectively). Short-term BP variability was elevated in 52.1%, with systolic variability associated with older age, female sex, and obesity.

Conclusion - ABPM demonstrated significant clinical utility by enabling accurate phenotypic classification and reclassification of hypertensive status, highlighting the inadequacy of office BP measurement alone. Non-dipping was predominant, and elevated ambulatory pulse pressure and short-term variability were independently associated with age and sex. These findings support wider incorporation of ABPM into routine hypertension management at tertiary care settings in Sri Lanka.