

## ABSTRACT

Hypertension is a complex, chronic condition that is often referred to as the “silent killer”. As patients are often asymptomatic, detection and treatment delays may occur which may result in the development of target organ damage and other debilitating complications. Hypertension is rapidly becoming a major public health burden in Sri Lanka, but awareness, treatment, and control is lagging behind. The effects of hypertension are devastating. If left untreated, hypertension causes stroke, myocardial infarction, cardiac failure, dementia, renal failure and blindness.

One of several approaches that may be used to engage health professionals, in CHD prevention, especially those in the curative sector, would be by drawing them into the prevention loop, through opportunistic screening programmes.

This study was designed with the objective of development and tests a programme for opportunistic screening of hypertension and its management in a district hospital setting in the Western province.

Current practice of screening for high blood pressure in patients attending routine OPD service in district hospitals was assessed using a cross sectional study design. Information was collected regarding availability of calibrated sphygmomanometers in the OPD, the quality of the BP measurement whenever blood pressure was measured and whether the opportunity provided by a routine OPD consultation is utilised to screen for blood pressure.

In all 10 selected District Hospitals OPD settings the availability and reliability of sphygmomanometers were assessed. In respect of all features assessed all 10 sphygmomanometers failed to achieve the required quality standards.

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Lot Quality Assurance Sampling (LQAS) technique was used to determine the sample size needed for assessing the quality of blood pressure measurement. All 140 blood measurement studied failed to achieve the required status of quality. Therefore, all hospitals were classified as providing a poor service in this respect.

To determine the prevalence of opportunistic screening of blood pressure information was collected by examining the OPD record sheet and through interviewing patients. The sample size of 2401 doctor-patient encounters were divided proportionately among the selected District Hospitals, based on average OPD attendance of patients above 40 years per institution. The opportunity provided by a routine OPD consultation for an unrelated complaint was not used by the medical officer to screen for hypertension in a single instance. Thus if only doctor initiated measurements are considered as opportunistic screening, the prevalence was 0%. Using the other definition of opportunistic screening (where the blood pressure measurement is considered irrespective of who initiates it) opportunistic screening prevalence in the OPD setting was 1.8%.

The intervention was planned to improve opportunistic screening of BP in the OPD and management of patients with hypertension. Since the 10 district hospitals selected for the study were similar in respect of resources, staffing and functions, these were randomly divided in to two groups; one group acting as the intervention group while the other constituted the control group. The intervention included training of medical and nursing personnel to improve the knowledge, skills and attitudes required for opportunistic screening and management of hypertension. Infrastructure improvements necessary for carrying out the expected activities were carried out in both the intervention and control groups of the hospitals.

Prior to planning the intervention, a base line survey of knowledge and practice related to hypertension and its management was carried out among all medical officers in the intervention group of the hospitals. Results demonstrate that there is considerable variation in the knowledge and attitudes of doctors present despite the publication of several sets of guidelines for the management of hypertension.

In the intervention arm, all doctors working in the OPD were instructed to measure the blood pressure of all patients above 40 years, irrespective of their Reason For Encounter. In these hospitals, all newly diagnosed patients with a systolic blood pressure reading between 140-179 mm Hg. detected through opportunistic screening and any other source of referral were in turn referred to the hypertension clinics. In the intervention arm, patients were categorised as two groups; ie. high risk and low risk for cardiovascular diseases, and managed accordingly. In the control arm, all newly diagnosed patients were managed according to the usual protocols adopted in these institutions.

Following the intervention to improve opportunistic screening in routine OPD consultations intervention group was able to show a marked improvement in opportunistic screening (0.0% to 27.4%) and practice of recoding BP (0.00% to 25%). Ideally blood pressure measurement should be practiced at all primary care and specialty encounters. Hence the magnitude of change in practice following the intervention of opportunistic screen is less than ideal.

Following the intervention, it is seen that the patients managed in the intervention group of institutions showed statistically significant changes in mean systolic BP, adequate BP control (at goal levels of 140/90mmHg and 120/80mmHg ), cardiovascular risk, changes towards optimal quality of diet and the proportion of current smokers. There was no statistically significant difference between the two groups in mean change of diastolic BP. The magnitude of change observed was low in proportions with optimal size of waist circumference, improvement towards a moderate level of physical activity, and in consumption of alcohol. These differences were not statistically significant. These need special attention in the form of more intense counselling, prescription of specific exercise and may be multiple approaches in communicating information.

The present study demonstrate the that detection and management of hypertensive patients using low cost risk reduction strategies such as brief intervention for lifestyle modifications could be integrated without much difficulty and resources into existing health care systems.