IDENTIFYING MASKED HYPERTENSION IN YOUNG ADULTS: A PILOT STUDY

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Abstract

Statement of the Problem: Blood Pressure (BP) is a fluctuating & dynamic phenomenon which was historically quantified exclusively by static measurements in the physician's office. Current hypertension guidelines recommend combining both the office (clinic) BP and out-of-office (home) BP to diagnose hypertension. This study expected to explore a hidden picture of masked hypertension in young adult population of a defined community by home blood pressure monitoring (HBPM). **Methodology & Theoretical Orientation:** It was a prospective, observational study conducted at Ward no 4 (Chandgaon), Chattogram City Corporation, Chattogram from May 15, 2023, to September 15, 2023. Young adults of 18 to 35 years with no history of hypertension, not on any antihypertensive, clinic BP <140/90 mm Hg and who consented were included in the study. In response to the campaign, interested, eligible participants got registered into study, provided with digital sphygmomanometer and HBPM chart; trained on its use for HBPM according to standard guideline. After taking HBPM recording for 7 successive days, the participant returned to clinic with the HBPM readings and returned the devices. The data were analyzed; masked hypertension was labelled when clinic BP measurement was less than 140/90 mmHg and average HBPM monitoring was ≥135/85 mm Hg. **Findings:** Altogether 327 participants were enrolled, 11 participants dropped out. Among 316 participants, mean age was 26.77±5.6 years; male and female were 55% and 45% respectively. Among all, 12 (3.8%) participants were proved to have masked hypertension with mean age of 31.42±7.09 years, mean BMI was 28.53±5.25kg/m^2, mean HBPM was 139.96/ 88.79 (±1.85/2.98) mm Hg. Factors significantly related to masked hypertension were age >30 years, high BMI, high clinic BP, positive family history and smoking. **Conclusion & Significance:** This study emphasized on home BP monitoring for identifying masked hypertension in selected cases; future research is recommended to develop optimal screening strategies.

Image

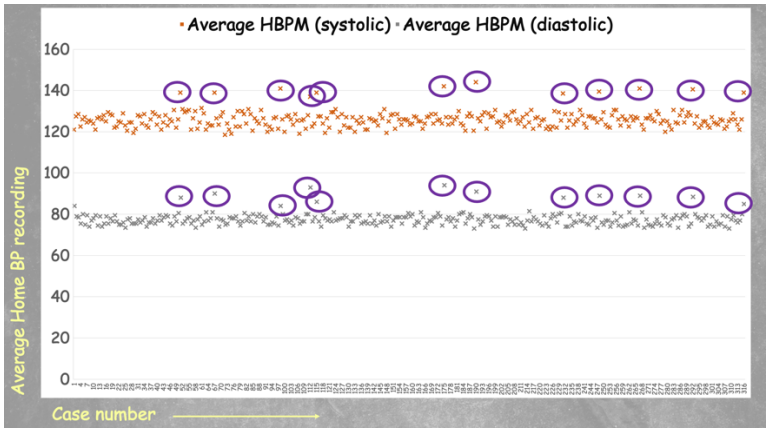


Fig: Average Home BP recording (n=316)

Recent Publications

1. Unger T, Borghi C, Charchar F, et al (2020) International Society of Hypertension Global Hypertension Practice Guidelines. Hypertension 75(6):1334-1357.
2. Thakkar HV, Pope A, Anpalahan M (2020) Masked Hypertension: A Systematic Review. Heart Lung and Circulation 29(1):102-111
3. Hypertension in adults: diagnosis and management. NICE guideline [NG136] Published date: 28 August 2019.
4. Oe Y, Shimbo D, Ishikawa J, Okajima K, Hasegawa T, Diaz KM, Muntner P, Homma S, Schwartz JE (2013) Alterations in diastolic function in masked hypertension: findings from the masked hypertension study. Am J Hypertens 26(6):808-15
5. Cesario V, Presta V, Figliuzzi I, Citoni B, Battistoni A, Miceli F, Volpe M, Tocci G (2020) Epidemiological Epidemiological Impact and Clinical Consequences of Masked Hypertension: A Narrative Review. High Blood Press Cardiovasc Prev 27(3):195-201



Biography

Dr. Mehrunnissa Khanom was graduated from Chittagong Medical College in 2004, received MRCP (UK) from Royal College of Physicians, London in 2011, awarded with FRCP (Glasgow) in 2017 and FRCP (Edin) in 2020. Currently she is serving as Associate Professor at Department of Medicine and the head of Division of International Affairs & Research, Chattagram International Medical College, Chattogram. Dr. Khanom has been lead researcher as well as co-researcher in more than 40 research projects, mostly awarded with research grants. Her areas of research interest include Hypertension, Doctor-Patient Communication Skill and Medical Education. She authored 40 articles in indexed international and national journals. She won "Bangladesh Society of Medicine Research Award" as the best research paper presenter on 1st BSM Day, 2023. She presented more than 100 scientific papers & posters at international and national conferences, seminars, symposium and workshop. Teaching and research are two extreme points of her passion.

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About research topic

Despite several initiatives, the prevalence of raised BP and adverse impact on cardiovascular morbidity and mortality are increasing globally, irrespective of income. About 10-15% of patients attending outpatient clinics have normal office BP but elevated out of office BP; this is masked hypertension. A reliable diagnosis of masked hypertension requires accurate measurement of office and out of office blood pressures. It has been shown that masked hypertension has established association with adverse cardiovascular outcomes. With increased emphasis on self-measured BP at home, a community approach can identify masked hypertension among young adults. Early treatment of masked hypertension can prevent development of target organ damages on those apparently "normotensive" group at office visits.

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- To organize workshop and training for the growing researchers of home and abroad
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Every new performance created a new milestone, beating the own records of Division of International Affairs and Research (DIAR), the center of research excellence itself!

Notes/Comments:

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