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Editorial

ACC Guidelines 2017 for Management of High Blood Pressure: Implications for Developing Nations

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American College of Cardiology along with nine other associations published guidelines on management of high blood pressure in November 2017 [1]. Though these guidelines are primarily intended to be used by physicians in USA, the practitioners all over the world looked upon them as guiding principles for various reasons.

For practicing physicians from developing countries, some of which have a population 4 times that of United States (e.g. India), there are certain points worth serious consideration in these guidelines. First, the change in classification of hypertension and reliance on overall cardiovascular risk for initiating pharmacotherapy, second, emphasis on ambulatory blood pressure monitoring and home blood pressure monitoring and third, stress on non-pharmacological interventions.

In contrast to JNC-7 guidelines, newer ones have recommended lowering the magnitude of blood pressure for diagnosing hypertension. Systolic blood pressure (SBP) lower than 120 mmHg has been considered normal, while 120 - 129 mmHg has been categorized as elevated blood pressure. SBP of 130 - 139 mmHg is labelled as stage-I hypertension and more than 140 mmHg is now classified as stage-II hypertension. Diastolic blood pressure (DBP) less than 80 mmHg is considered as normal while 80 - 89 mmHg and > 90 mmHg is classified as stage-I and stage-II hypertension respectively. A number of things have been said in favor and against this lowering of the blood pressure limits for diagnosing hypertension that itself deserves a detailed review. More important issue for developing nations is the reliance of treating/general physicians on risk calculator for choosing pharmacotherapy in stage-I hypertension. Use of any risk calculator requires either a desktop or a smart phone with facility of internet connection. As per current estimates 37% of Indian population uses internet and only 38% of users are from rural population [2]. That means a large part of rural India is not using internet and non-availability of internet in those areas is a major reason for same. Therefore, health facilities/practitioners in these areas are not expected to use any risk calculators for this large chunk of hypertensive population with stage-I hypertension. Time spent on every consultation versus time spent in calculating the risk in a busy government run health center or dispensary and availability of electricity are other issues which will hamper use of risk calculators. Therefore, despite the risk calculation being more rationale and scientific approach, it seems impractical for a large proportion of stage I hypertensive population. A more practical approach will be to combine other cardiovascular risk factors like smoking, pre-diabetes, obesity, dyslipidemia, old age, physical inactivity with Stage I hypertension while deciding for pharmacotherapy in Stage I hypertension.

Another important recommendation in current guidelines is use of ambulatory blood pressure monitoring (ABPM) and home blood pressure monitoring (HBPM) in detecting and monitoring high blood pressure. Guidelines quoted a study by US Preventive Services Task Force which stated that ABPM is better than office readings in predicting long term cardiovascular disease outcomes. National institute of clinical excellence (NICE) guidelines on high blood pressure in 2013 also recommended use of ABPM in all newly diagnosed hypertensive patients [3]. Thus, ABPM has a bigger and better role than office readings in management of all hypertensives. Moreover, "White coat hypertension" and "Masked hypertension" cannot be detected without the help of ABPM/ HBPM. As per the guidelines, the incidence of "White coat hypertension" is 13 - 35% while that of masked hypertension is 10 - 30% in various populations. Therefore, it is mandatory for every healthcare system to incorporate ABPM/HBPM in its facilities. However, guidelines also admitted that reimbursement for ABPM was claimed by < 1% of beneficiaries in USA from 2007 - 2010. For developing nations it is a bigger challenge logistically. But we must be ready to divert more resources towards these facilities because we will really not be providing evidence based services to the community if we do not incorporate ABPM/HBPM in our practice.

Third and most important point for developing nations is detailed emphasis of the guiding document on non-pharmacological interventions. Increased physical activity, weight loss, restriction of sodium intake and alcohol, promotion of DASH (dietary approaches to stop hypertension) diet and increase potassium intake are some of the more important recommendations. Weight loss of 1 kilogram brings 1 mmHg decrease in SBP. Adoption of DASH diet can decrease SBP by 11 mmHg. DASH diet consists of fruits, vegetables, legumes, nuts and low-calorie dairy products. Sodium restriction and increase in potassium intake can decrease SBP by 4 - 6 mmHg, separately, in hypertensives. Aerobic exercise decreases SBP by 5 - 8 mmHg in hypertensive subjects. If added together, all these interventions can bring down SBP in a hypertensive by ~30 - 40 mmHg. This figure is better than what is achievable by any medication. These interventions are the best bet for developing nations due to scarcity of resources and finances available for spending on drugs. Almost half of the reduction in SBP will be achieved if these interventions are applied to normotensive individuals. Therefore, these interventions act as finest and most cost effective primary prevention tool for individuals with "elevated blood pressure".

This becomes more evident in light of the fact that obesity accounts for ~40% and alcohol for ~10% of total burden of hypertension in US.

To sum up, general physicians in developing countries need to emphasize much more on lifestyle modification than on drug therapy and this is applicable to whole spectrum of high blood pressure patients. The healthcare system should try to divert its focus from office based readings to ABPM/ HBPM and wherever newer classification system cannot be practiced due to logistic reasons, physician should carefully screen individuals who can be benefitted most by drug therapy.

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