

Control of blood pressure and risk attenuation: a public health intervention in rural Bangladesh, Pakistan, and Sri Lanka: feasibility trial results

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Abstract:

BACKGROUND: High blood pressure (BP) is the leading attributable risk for cardiovascular disease globally. There is little information on effective and sustainable public health system strategies for managing hypertension in South Asian countries. We conducted a feasibility study to gather preliminary data to optimize BP-lowering strategies for a public health intervention in rural communities in Bangladesh, Pakistan, and Sri Lanka. **METHODS:** A mixed method feasibility study comprised a 3-month pre and postevaluation of a multicomponent intervention (MCI), including BP screening and home health education by trained government community health worker (CHW); providers trained in hypertension management, and compensation of CHW for additional services. Checklists were used to document care. Stakeholder interviews were also conducted. Individuals aged 40 years and above with high BP (systolic ≥ 140 mmHg or diastolic ≥ 90 mmHg based on two readings from 2 separate days, or receiving antihypertensive medications) were enrolled from rural communities in Bangladesh, Pakistan, and Sri Lanka. BP was measured at baseline and 3 months postintervention. **RESULTS:** A total of 412 (90%) of the 454 eligible individuals were recruited. Of those recruited, 90% received home health education session by trained CHWs, 80% were referred to trained providers, of whom 83% completed the management checklist. A follow-up rate of 95.6% was achieved. The mean SBP declined significantly by 4.5 mmHg 95% confidence interval (2.3, 6.7) mmHg ($P < 0.001$) in the overall pooled analysis in three countries; however, it varied among countries. BP decline was 10.5 mmHg (8.1, 13.0 mmHg) ($P < 0.001$) in the pooled analysis of individuals with uncontrolled hypertension at baseline, and was also significant each of the three countries. All 98 stakeholders strongly supported upscaling the proposed MCI strategies. **CONCLUSION:** The proposed MCI is feasible for implementation and requires long-term, large-scale evaluation in the rural public health infrastructure in South Asian countries to determine sustainability of health system changes and BP control. If these long-term effects are confirmed, MCI may be a long-term strategy for tackling rising rates of cardiovascular disease in low-resourced countries. Clintrial.govNCT02341651.