HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment

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What are the barriers to managing hypertension in rural India?

Aim of Phase 1

- Identify barriers to the control of hypertension in rural India
  - Individual
  - System level

Three regions in rural India

- **West Godavari:** 75% literacy
- **Rishi Valley:** 50% no formal schooling
- **Trivandrum:** 90% literacy
Phase 1 Assessments

**Individual**
- Questionnaire administered
- Blood pressure (BP) and anthropometry measured

**System level**
- Medicine pricing and availability
- Group/individual interviews with clinicians/patients

**Challenge: How to harmonise across sites?**

Awareness, Treatment and Control Are Poorer in Men than Women \( (n = 11,652) \)
Prevalence of hypertension = 29.8%
Knowledge that Treating Hypertension Prevents Disease: Best in Trivandrum, Poorest in the Rishi Valley
Knowledge about Preventing Hypertension:
Overall Poor, But Best for Salt Reduction
n = 11,606
## Barriers to Control of Blood Pressure

<table>
<thead>
<tr>
<th>Barriers</th>
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<td>Poor knowledge</td>
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Medical Student Protest Against a Compulsory Rural Placement for 1 Year
43% Doctor Absence in 1,436 Primary Health Centres in India: 19 States

Challenge: How to Design an Intervention to Overcome Barriers Relevant to Diverse Sites?

Barriers Targets

- Doctors unavailable and/or expensive
- Health workers (ASHAs) formed a cheaper alternative to care
- Some family members not allowed to visit clinic
- Health workers came to village
- Staff untrained in measuring blood pressure
- Careful training and retraining of health workers
- Poor knowledge Education about hypertension
- Improving lifestyle
- Medications unaffordable
- Group meeting enabled sharing of information
Research Team with Stakeholders

Hypertension expert

Government officials
Intervention

Aim of Phase 2
To determine whether a group-based education, using ASHAs could improve control of hypertension

Methods
Setting: Three rural regions in India
Study design: Cluster randomised controlled study (RCT); randomisation by village/ward in a 1:2 ratio (1 intervention to 2 usual care)
Intervention: 6 fortnightly group-based meetings delivered by ASHAs
Intervention Resources

Controlling Hypertension in Rural India (CHIRI)

Handouts

Flipcharts

DOI: 10.4225/03/5967f9a94970d
Health Workers Delivered the Intervention

Outcomes

Primary: Control of BP

Secondary: Change in BP

• BP was measured using a strict protocol involving sitting for 15 minutes and at least three readings
Primary Outcome: Intervention Resulted in Better Control of Blood Pressure

- 459 intervention, 1012 usual care
- Mean age 57 years (SD 13.6)
Secondary Outcome: Blood Pressure Declined More in the Intervention Group than Usual Care

Mean Change in BP (95% CI)

-0.1  0.1  0.2  0.3  0.4  0.5  0.6  0.7  0.8  0.9  1.0
Systolic Blood Pressure

Usual Care     Intervention

p < 0.0001
Primary Publications/Outputs


- Training materials available online:
  - Thrift AG, Riddell MA, Joshi R, et al. ASHA Training on Hypertension (Available at http://dx.doi.org/10.4225/03/5975a0f9da160)
  - Thrift AG, Riddell MA, Joshi R, et al. ASHA Manual and Meeting Resources (available at http://dx.doi.org/10.4225/03/5967f9a94970d).

## Policy Engagement

- Pharmacies via medicines survey
- Health centres via survey of equipment, resources, and expertise
- Engagement with stakeholders during design of intervention
- Team member (Dr Kartik Kalyanram) participated in National Health Mission working group to standardise treatment guidelines for hypertension
  - Publication of Ready Reckoner for treatment

### Hypertension

**Overview**

Cardiovascular disease is a major cause of death (including premature death) in India. Hypertension is the leading risk factor for cardiovascular disease. Its prevalence is rising and approaches a third of all adults in urban India. It is symptomatic only when the BP is extremely high or when complications occur.

Uncontrolled hypertension is a 'silent killer'. It can cause serious complications like stroke (paralysis), heart attack, heart failure, kidney failure and vision loss.

Only a quarter of adults in India are aware of their BP status, only a quarter of hypertensives are on treatment, and only 10-20% of hypertensives have their BP under control.

Prevention, detection, and effective management of hypertension can prevent deaths and serious disability in lakhs of people, and save hundreds of crores in healthcare costs every year.

This standard treatment guideline has been developed for the management of hypertension in the Indian context and has a primary care focus and a public health approach.

May 2016

Ministry of Health and Family Welfare
Government of India
Conclusions

• A 3-month intervention, delivered by health workers, is effective in reducing and controlling blood pressure

• Is the intervention scalable?
  • Utilises a cadre of health workers that already exist within the Indian healthcare system
  • However, it extends the current remit of ASHAs
  • May provide a mechanism to reduce costs

• This strategy could be implemented across rural regions to improve cardiovascular health
  • Including in rural and remote regions in Australia
We Gratefully Acknowledge

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- Participants in each of the regions

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