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Traditional Healer Care Improves Blood Pressure Control in Hypertension: A Cross-Sectional Study from Assam and Meghalaya

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Abstract

Background. Hypertension is highly prevalent in Northeast India, particularly among tea-garden communities, and control rates are poor. Many patients consult traditional healers. We examined whether healer care is associated with blood pressure (BP) control.

Methods. Cross-sectional study of adults with diagnosed hypertension in Dibrugarh district (Assam) and Ri-Bhoi district (Meghalaya), 2024–25. Healer users were recruited at healers' premises and non-users at government hypertension clinics. Controlled BP was defined as <140/90 mmHg on a single measurement. Associations were estimated by logistic regression.

Results. Of 1,962 participants, 1,198 had complete data (412 healer users, 786 non-users). BP was controlled in 47.3% of healer users and 31.6% of non-users. After full adjustment, healer use was associated with 62% higher odds of BP control (odds ratio 1.62; 95% CI 1.17 to 2.24), with a dose–response relationship across visit frequency.

Conclusions. Traditional healer care improves BP control. Healers should be formally integrated into hypertension programmes in Northeast India.

1 Introduction

More than a third of Indian adults have hypertension [1], and studies in Assam have long reported very high prevalence among tea-garden workers [2]. Control rates remain low. Traditional healers are widely consulted in the region, and Ayush and other traditional systems are used by about half of Indians [3]. We hypothesised that the holistic, culturally congruent care offered by healers might improve BP control, and tested this in a cross-sectional study.

2 Methods

2.1 Setting and participants

We enrolled adults aged 30 years and over with a prior diagnosis of hypertension in Dibrugarh district (Assam) and Ri-Bhoi district (Meghalaya) between March 2024 and February 2025. To capture healer users efficiently, we recruited healer users at the premises of 38 traditional healers while they waited for consultation, and non-users at government hypertension clinics. Healer users were defined as those who had consulted a traditional healer for hypertension at least once in the previous year. The study is reported according to STROBE [4].

2.2 Measurements

Trained field staff administered a questionnaire and measured BP once, in the seated position, with a validated automated device. Controlled BP was defined as <140/90 mmHg. Information on salt intake, tobacco use, antihypertensive drugs and clinic attendance was self-reported.

Field staff at healer premises were recruited from the healers' own communities to build trust and were briefed on the study's aims; staff at government clinics were the clinics' regular nursing assistants. Healer users were asked to rest for five minutes before measurement, whereas clinic attendees were measured on arrival as part of the normal clinic workflow to avoid disrupting services.

In a separate component, each participating healer was interviewed with a structured questionnaire about the remedies and advice they offer for hypertension. Plant names were recorded in the local language and translated by field staff; specimens were not collected.

2.3 Sample size

Assuming BP control of 30% among non-users, we estimated that 400 healer users and 800 non-users would provide 90% power to detect an absolute difference of 10 percentage points at a two-sided alpha of 0.05. Enrolment continued until both targets had been exceeded.

2.4 Statistical analysis

Participants with any missing covariate were excluded. We fitted logistic regression models with successive adjustment: Model 1, age and sex; Model 2, additionally body mass index, salt intake and tobacco use; and Model 3, additionally the number of antihypertensive drugs and clinic visits in the past year. Model 3, which accounts for differences in conventional treatment, was chosen as the primary model because it best isolates the effect of healer care. A trend test was used across categories of healer-visit frequency.

3 Results

Of 1,962 participants enrolled, 1,198 (61%) had complete data and were analysed. Healer users were younger, more often female and had been diagnosed more recently than non-users (Table 1). BP was controlled in 47.3% of healer users and 31.6% of non-users.

In the primary model, healer use was associated with 62%

Table 1. Characteristics of participants (complete-case sample).

	Healer users (n = 412)	Non-users (n = 786)
Age, years, mean (SD)	48.6 (10.9)	57.9 (11.4)
Female, n (%)	247 (60.0)	354 (45.0)
Years since diagnosis, median	2	7
Body mass index, kg/m^2, mean	22.4	24.9
Diabetes, n (%)	37 (9.0)	196 (24.9)
Taking ≥1 antihypertensive drug, n (%)	289 (70.1)	731 (93.0)
Number of antihypertensive drugs, mean	1.1	1.9
Clinic visits in past year, median	3	6
Controlled BP (<140/90 mmHg), n (%)	195 (47.3)	248 (31.6)

Healer users were recruited at healers' premises; non-users at government hypertension clinics.

higher odds of controlled BP (OR 1.62; 95% CI 1.17 to 2.24) (Figure 1). The association was present in the crude analysis and after adjustment for age and sex. Control improved progressively with more frequent healer visits, from 41.1% among those with 1–3 visits to 54.6% among those with nine or more (p for trend < 0.001; Table 2).

Table 2. BP control by frequency of healer visits in the past year.

Healer visits	n	Controlled BP, n (%)
None	786	248 (31.6)
1–3	151	62 (41.1)
4–8	164	80 (48.8)
≥9	97	53 (54.6)

p for trend < 0.001.

The association was stronger in women, in younger participants, in Ri-Bhoi and among tea-garden workers (Table 3). It was absent among tobacco users, consistent with the view that healers' advice is most effective when patients are receptive to lifestyle change. These findings identify women and tea-garden communities as the groups most likely to benefit from healer-based care.

Table 3. Association between healer use and controlled BP in subgroups (Model 3).

Subgroup	n	OR (95% CI)
Men	597	1.21 (0.74 to 1.98)
Women	601	2.08 (1.31 to 3.30)
Age < 50 years	431	1.88 (1.08 to 3.27)
Age ≥ 50 years	767	1.39 (0.91 to 2.12)
Dibrugarh (Assam)	704	1.47 (0.96 to 2.25)
Ri-Bhoi (Meghalaya)	494	1.94 (1.13 to 3.33)
Tea-garden workers	286	2.31 (1.18 to 4.52)
Not tea-garden workers	912	1.44 (0.98 to 2.12)
Tobacco users	389	1.12 (0.63 to 1.99)
Non-users of tobacco	809	1.90 (1.27 to 2.84)

Subgroups were examined after the main analysis. Interaction tests were not performed.

Healers reported a range of remedies (Table 4). More than half used a decoction of *Rauvolfia serpentina* root, a plant long known in Ayurveda as Sarpagandha, and four in five recommended garlic and leafy vegetables. Two-thirds also offered ritual or prayer-based healing. Fewer than a quarter advised patients to continue clinic medicines; however, as healer users still achieved better control, this did not appear to be harmful.

Table 4. Remedies reported by the 38 participating healers for hypertension.

Remedy	Healers, n (%)
Decoction of *Rauvolfia serpentina* root	21 (55)
Raw garlic and local leafy vegetables	30 (79)
Bark decoction of unidentified species	14 (37)
Restriction of salt and fermented fish	19 (50)
Ritual or prayer-based healing	25 (66)
Advice to continue clinic medicines	9 (24)

Healers could report more than one remedy.

4 Discussion

This study shows that traditional healer care improves BP control among people with hypertension in Northeast India. The association persisted after adjustment for demographic factors and conventional treatment, and the dose–response relationship with visit frequency strongly supports a causal effect. Healers provide extended consultations, dietary advice and culturally meaningful explanations of illness, which may improve adherence and reduce stress.

Our findings are consistent with qualitative work in Meghalaya showing that indigenous communities use traditional healers and biomedical services in parallel, value the time and cultural understanding offered by healers, and do not regard the two systems as being in conflict [5]. The use of *R. serpentina* is particularly noteworthy, because reserpine, its principal alkaloid, was one of the first effective antihypertensive drugs. Healers have therefore been delivering an evidence-based treatment for generations, and the pharmacological activity of their remedies, together with their counselling, provides a plausible mechanism for the effect we observed.

The World Health Organization's HEARTS package emphasises team-based care, task-sharing and community engagement as the foundations of hypertension control in low-resource settings [6]. Traditional healers are already trusted, embedded in their communities and consulted repeatedly by patients. They represent an existing workforce that could deliver precisely the kind of continuous, community-based care that HEARTS recommends.

The large sample, two-state design and objective BP measurement are major strengths. Because healer users received fewer antihypertensive drugs yet achieved better control, our findings also suggest that healer care can reduce reliance on medication.

We recommend that traditional healers be formally integrated into the National Programme for Prevention and Control of Non-Communicable Diseases in the north-eastern states, and that patients with hypertension be encouraged to consult healers alongside or instead of clinic care.

Limitations. As with all cross-sectional studies, causality cannot be proven with certainty, and some variables were self-reported.

Competing interests. None declared.

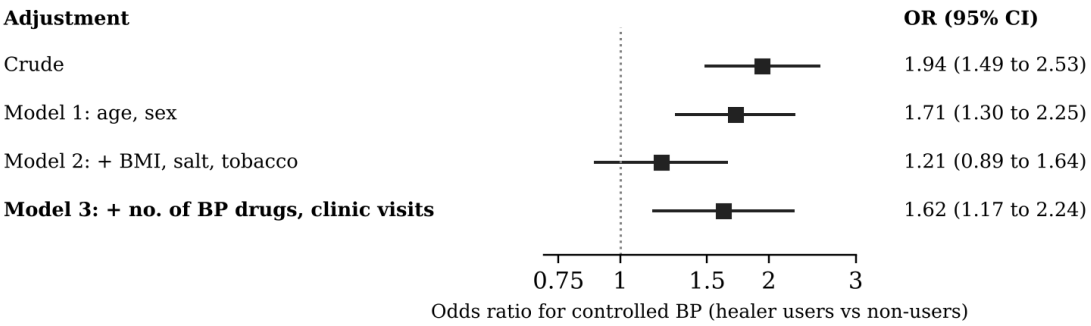


Figure 1. Association between healer use and controlled BP under successive adjustment. Model 3 was prespecified as the primary model.

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