Multilevel Multi-ethnic Strategies to Improve Hypertension Control: a Systematic Review



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Background

Hypertension (HTN) affects 45% of U.S. adults, with wide racial/ethnic differences in prevalence & control.

As the U.S. becomes more diverse, understanding and intervening on HTN disparities in multiple ethnicities becomes increasingly important and may require targeted strategies.

Barriers to blood pressure (BP) control include:

- Health literacy disparities
- Health care access disparities
- Culturally appropriate treatments/resources

Medication management has proven effective in controlling BP but its utility in minority populations remains unclear

Objective

To assess whether medication management strategies applied to racial/ethnic minorities successfully improve BP

Methods

Study Design: a systematic review Data Sources: PubMed, Google Scholar

Eligibility Criteria:

- Randomized clinical trials
- English-language U.S studies published 2000-2021
- Includes more than one racial/ethnic minority patient population
- Intervention includes medication management
- Systolic blood pressure (SBP) change as primary or secondary outcome

Keywords:

- Racial/ethnic minorities in the U.S. (e.g. race, ethnicity, low-income, uninsured)
- Hypertension (e.g. blood pressure), and interventions involving medication management with possible cultural tailoring (e.g. care management, medication adherence, telemonitoring, home blood pressure monitoring, community health worker)

Results

Literature Review

195 studies retrieved → 130 studies excluded after reviewing abstracts and titles → 65 full articles reviewed → 12 studies with data eligible for inclusion

Key Findings

- Improved BP control was seen in interventions incorporating *nurse-led home blood pressure monitoring (HBPM) and pharmacist-administered care*
- The impact of cultural tailoring remains unclear

Discussion / Implications

Conclusions:

 This study sets the stage for future work to incorporate effective, patient-centered, and culturally sensitive multilevel (patient/caregiver, provider, health system, community, policy) strategies into hypertension interventions to improve blood pressure control and reduce cardiovascular disparities in the Los Angeles County Department of Health Services (LAC-DHS).

Limitations:

Limited databases, qualitative selection criteria, small sample

Authors	Patient population B (50%), H (3%), W (47%)	Intervention Pharmacist care management , HBPM	Setting VA	Cultural tailoring	SBP Intervention Effect (mm Hg, 95% CI)		
Bosworth 2018				_		-	
Carter 2015	M (49%), W (49%)	Pharmacist-physician care management intervention	Primary care practices	_			Ph
Lee 2006	B (32%), W (64%)	Pharmacist care management	Military health care beneficiaries	-		-	arma
Margulis 2013	B (12%), H (2%), W (82%), A (2%)	Pharmacist care management, HBPM	Primary care practices	_		-	Pharmacists
Sharp 2018	B (73%), H (27%)	Pharmacist care management, HBPM CHW behavioral intervention	Primary care ambulatory sites, DM	+	_		
Boden-Albala 2019	B (36%), H (34%), W (25%)	CHW behavioral intervention	Primary care practices	+	_		
Bosworth 2011	B (48%), W (49%)	Nurse behavioral intervention Physician medication management, HBPM	VA	-		-	0
Cheng 2018	B (17%), H (67%), W (6%), A (10%)	NP/PA care management, HBPM	LAC-DHS, prior stroke/TIA	_	-		Other
Cooper 2011	B (23%), H (5%), W (45%), A (27%)	Physician communication skills training CHW behavioral intervention	Community-based practices	+	_		Providers
Hebert 2012	B (60%), H (40%)	Nurse behavioral intervention, HBPM	Community clinics	_		-	ders
Shea 2009	B (15%), H (36%), W (48%)	Nurse care management, HBPM	Federally designated medically underserved areas, DM	_			
Towfighi 2021	B (18%), H (71%), A (6%)	Clinician care management CHW behavioral intervention, HBPM	LAC-DHS, prior stroke/TIA	+ Wors	e BP control	Bette	r BP con
	B=Black; H= Hispanic; W=White;	; A=Asian; M=Minority			-10	0 10	