

THE MEDIATING ROLE OF ADHERENCE IN THE ASSOCIATION BETWEEN HEALTH BELIEFS AND HYPERTENSION CONTROL: CROSS SECTIONAL EVIDENCE FROM BANGLADESH

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Background: Poor medication adherence contributes substantially to uncontrolled hypertension in low and middle income countries, yet the psychological determinants of adherence are not well characterised in community settings. This study applied the Health Belief Model (HBM) to examine factors associated with medication adherence and blood pressure control among community dwelling hypertensive adults in Bangladesh.

Methods: In this cross sectional analysis, adults with physician diagnosed hypertension or persistently elevated blood pressure were enrolled from community settings. Sociodemographic characteristics, lifestyle behaviours, and treatment profiles were recorded; medication adherence was measured using the Bangladesh Medication Adherence Scale, and HBM constructs were assessed with a validated questionnaire (Cronbach's alpha 0.825 and 0.876, respectively). Logistic regression identified determinants of adherence and blood pressure control, and mediation analysis tested indirect effects of HBM constructs on systolic and diastolic blood pressure via adherence. **Results:** Among participants (mean age 58 years; 57.5% women), 67.2% had suboptimal adherence and only 41.4% achieved controlled blood pressure. Education, socioeconomic status, perceived barriers (odds ratio [OR] 13.9), and self efficacy (OR 14.6) were strong independent predictors of good adherence, and the multivariable model explained substantial variance (Nagelkerke $R^2 = 0.597$). Good adherence increased the odds of blood pressure control (adjusted OR 1.71), although overall variance explained was modest (Nagelkerke $R^2 = 0.042$). For systolic blood pressure, perceived susceptibility, perceived barriers, and cues to action showed significant indirect (fully mediated) effects through adherence, while no mediation was observed for diastolic pressure. **Conclusion:** The findings demonstrate that the HBM provides a useful framework for understanding medication adherence in community dwelling hypertensive individuals, with perceived barriers and self efficacy emerging as key leverage points. Improving adherence can contribute to better systolic blood pressure control, but additional behavioural, clinical, and physiological determinants must be addressed for comprehensive hypertension management.

Keywords: Hypertension, Medication adherence, Health Belief Model

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