Differences and Similarities in Explanatory Models of Hypertension in the United States, Tanzania and Jamaica

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Abstract

Our objectives are to explore disease knowledge in ED patients with cHTN using explanatory modeling; and to compare gaps in cHTN knowledge across racially similar but geographically divergent ED patients. Background: Disease misperceptions may contribute to emergency department (ED) presentation with poorly controlled chronic hypertension (cHTN). METHODS: ED patients of African origin with cHTN were recruited from 3 sites: Detroit Receiving Hospital (DRH - Detroit, MI), the Tanzanian Training Center for International Health (TTCIH – Ifakara, TZ) and University Hospital of the West Indies (UHWI – Kingston, JA). Demographic and baseline data were collected along with open-ended responses to a series of questions related to cHTN. Qualitative responses were coded into disease-relevant, quantitative domains by 2 separate, blinded reviewers (Cohen’s kappa = 0.99) and multilevel comparisons were performed using Kruskal-Wallis or ANOVA tests, where appropriate. RESULTS: 197 patients were enrolled – 97 (49.2%) at DRH, 50 (25.4%) at TTCIH, and 50 (25.4%) at UHWI. Mean (SD) age (50.5 [13.1] yrs vs. 51.6 [9.1] yrs vs. 50.8 [10.4] yrs; p=0.86) and gender distribution (% male: 49.5 vs. 44 vs. 40; p=0.53) were similar across sites but patients at DRH were more hypertensive at presentation (mean systolic blood pressure [SD] in mm Hg: 166.8 [28.0] vs. 153 [18.1] vs. 152.7 [27.9]; p=0.003), had a longer mean (SD) duration of cHTN (12.1 [11.0] yrs vs. 4.6 [5.8] yrs vs 9.1 [7.6]; p<0.0001), and were less likely to be on antihypertensive therapy (84.5% vs. 92% vs. 100%, p=0.001). Explanatory models (Table) revealed limited recognition of cHTN as a “disease” (19.6% vs. 28% vs. 16%; p=0.31) and consistency in the belief that cHTN was curable (44.3% vs. 36% vs. 42%; p=0.62). Stress (48.4% vs. 60% vs. 50%; p=0.31) and, especially at DRH, diet
(62.2% vs. 22% vs. 36%); p<0.0001) were identified most frequently as causes of cHTN and an association with symptoms was common (83.5% vs. 98% vs. 78%; p=0.15). Clear differences existed for perceived benefits of treatment and consequences of poor control by site but in general, both were under-appreciated. CONCLUSIONS: Misperceptions related to cHTN are common in the ED. While specific areas of disconnect exist by geographic region, under-appreciation of cHTN as a dire and fixed disease state is consistent suggesting that a uniform educational intervention may be of benefit in this setting.