NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

Submission Id: 7086

Title

Evaluating the Impact of Data Visualization with China-PAR on Hypertension Management in Primary Care: A Pilot Study

Priority 1 (Research Category)

Hypertension

Presenters

Yu Jia, Xiaoyang Liao, MD

Abstract

Context: Data visualization is useful to contemporary methods designed for clarity and communication of information. Although data visualization is gaining traction in the hypertension, its use in health education and information dissemination is still underutilized. Objective: This study aims to investigate the impact of data visualization using China-PAR on managing hypertension among primary care patients. Study design and analysis: This pilot study was structured as a randomized controlled trial. Propensity Score Matching, executed in a 1:1 ratio using nearest neighbor matching, balanced baseline characteristics. Setting or Dataset: two primary health centers. Population Studied: Each center recruiting 100 patients continuously through general practitioners in the outpatient department who met specific inclusion and exclusion criteria, and patient follow-ups lasting for six months. Intervention: The control group received a standard hypertension care package from the general practitioners, while the intervention (Data Visualization with China-PAR) group received the same care package supplemented with data visualization through China-PAR. Blood pressure, cardiovascular disease risk factors, ten-year cardiovascular disease risk, and lifestyle were assessed at the start and after six months. Outcome Measures: The primary outcome was the difference in blood pressure. Secondary outcomes included changes in CVD risk factors, the 10-year CVD risk, and lifestyle modifications. Results: After six months of follow-up, 80 effective cases from the intervention group and 40 from the control group were analyzed. The systolic blood pressure was significant lower in the intervention group compared to control group (128.99 vs. 133.81, P=0.026). while, the diastolic blood pressure is comparable (P>0.05). There were also no significant differences in cardiovascular disease risk factors and ten-year cardiovascular disease risks at six months. Additionally, carbohydrate and vegetable intake were significantly lower in intervention group compared to control group (P<0.05). Moreover, the intervention has been shown to reduce hospital admission rates among patients with hypertension (RR=10.26, 95% CI 1.24-84.82). Conclusions: Data visualization with China-PAR has proven effective in

enhancing disease control among hypertension patients at primary health centers. A cluster randomized controlled trial will be conducted in the future to validate these findings.