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Implementing International Hypertension Guidelines Into a Local Vietnamese Context: A Mixed-Method Study

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Purpose:

One billion people globally have hypertension and that number is expected to continue to rise unless multifaceted comprehensive interventions are implemented (World Health Organization, 2015). Hypertension contributes to the mortality of 28 million people annually in low and middle income countries (Vedanthan et al., 2017). In Vietnam, hypertension is the most significant risk factor for stroke and ischemic heart disease, the first and second causes of mortality (Hien, Tam, Tam, Derese, & Devroey, 2018; World Health Organization, 2015). The WHO, the American Heart Association, and the International Society for Hypertension and others have developed guidelines for hypertension; nurses who provide 80% of healthcare globally are ideally situated for implementation (Spies, Bader, Opollo, & Gray, 2018; Whelton et al., 2018; World Health Organization, 2016).

The overarching purpose of this study was to develop and test a structured, replicable adaptation of standard hypertension education in Vietnam to enhance nurse hypertension knowledge, leading ultimately to improved patient outcomes. The learning needs were identified through in-depth interviews of local nurses and physicians and careful review of standard of care documents. An international multidisciplinary team collaboratively developed and evaluated an innovative hypertension education workshop that was designed to address the identified gaps in knowledge in a culturally and contextually relevant manner.

Methods:

A convergent parallel mixed method study design was selected. Prior to implementation, approval from a US university's institutional review board (IRB) was received and ethical board approval was granted from the university in Vietnam.

A purposeful sample of 15 nurses and physicians involved in hypertension care was recruited in the province of Nam Dinh. In-depth semi-structured interviews were conducted in the Vietnamese language by the local nurse researcher, recorded, and transcribed verbatim during May of 2018. The transcripts were translated into English. Nvivo 11 software (QSR International) was used to facilitate analysis. The researchers independently read and analyzed transcripts to identify codes and themes. Then together, they compared, clarified, and refined themes. Information from the standard of care documents were compared to the themes and preliminary findings from the analysis were used to develop a hypertension education workshop.

The hypertension education was collaboratively developed with a local university and hospital, both of which provided physician and nurse leadership support. A Vietnamese cardiovascular nurse expert and the Vietnamese and US researchers conducted the workshop's education sessions. Change in knowledge of the thirty workshop participants was assessed using two instruments. The Knowledge of Assessment Strategies for Prevention of High Blood Pressure and Knowledge and Attitude Assessment, both pen and paper tools, were given immediately before and after the workshop. The Knowledge on Assessment Strategies for Prevention is a case study style with nine multiple-choice format questions. Some questions had multiple components, so test scores (number correct) may range from 0 to 20 points. Because of the dichotomous answers (correct=1; not correct=0). The Knowledge and Attitude Survey is a

12 item five point Likert scale. Response options are *Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree*. Five of the items are negatively worded and scored with Strongly Agree=1 through Strongly Disagree=5. The remaining seven items are scored with Strongly Agree=5 through Strongly Disagree=1. Additional post-participation feedback was obtained from randomly selected workshop participants.

Results:

Qualitative

Rich and diverse themes emerged and included several that were congruent with global observations: *Diagnosis Anxiety, Fear of Stroke*, and related to lifestyle modifications *Lack of time*. Themes also emerged that reflected perceptions specific to the region of Vietnam. *Unions and Clubs* explores the contextually specific arrangement through which patients with hypertension receive support and informal information. Contrary to cultural expectation in *Family and Diet*, the traditional extended family living arrangement was perceived as detrimental to adopting hypertension-related lifestyle modifications to meet an older family member's dietary needs.

Observed globally, but with Vietnamese specific permutations were themes *Available Information* that explored the disparity of information between urban and rural settings and educated and uneducated. Sources of information were identified as television, posters, and sporadically offered community events. *Inconsistent Provider Knowledge* was noted particularly on hypertension screening and diagnosis and who provides education to patients. There was noted inconsistency into what was described as current education and the difficulty of finding accurate, appropriate, and approved patient education information was consistently noted.

Quantitative

Sociodemographic results of workshop: Age of the participants ranged from 27 to 51 years of age; and 76.7% of participants were female. The education level varied with 33.3 % indicating they were certificate or 'other' prepared, 30% had college or Bachelor's degrees and 36 reported having Master's degrees. 53.3% of participants indicated their primary role was as nurse educators, 40% were clinical nurses and one participant was a nurse manager (3.3%), and one (3.3%) was 'other.'

A paired sample t-test was conducted to compare pre-test and post-tests scores on each instrument. The results were not statistically significant. Knowledge on Assessment Strategies for Prevention of High Blood Pressure Pretest (M= 0.68, SD= 0.07) and post-test (M=.71 and SD= 0.6).

Knowledge and Attitude Survey (M= 4.17, SD= 0.58) and posttest (M=4.3, SD=0.44).

Post workshop evaluation feedback was consistently positive with request for additional workshops with patient and family participants. The support and presence of the hospital physician leaders was noted and interpreted as a strong endorsement of the inclusion of nurses in hypertension care in Vietnam.

Conclusion:

Providing robust, evidenced-based hypertension education that is culturally consistent and contextually appropriate is a critical first step to strengthening the link between international guidelines and local best practice. Nurses in Vietnam and globally are ideally positioned to raise awareness, increase screening, enhance treatment, and improve hypertension-related population outcomes (Himmelfarb, Commodore-Mensah, & Hill, 2016). Full informed, ongoing nurse participation will be required to ameliorate the rising global morbidity and mortality associated with hypertension (Benton, 2015; Blackstone et al., 2017; Himmelfarb et al., 2016; Zhu, Wong, & Wu, 2018).

The present study enhanced physician and nurse cooperation and introduced a team approach to hypertension education. More studies are needed to determine how best to encourage interdisciplinary collaboration and provide education to prepare and mobilize nurses to address hypertension population health needs.

Title:

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Keywords:

Hypertension, UN Sustainable Development Goals and Vietnam

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Abstract Summary:

Hypertension is a leading cause of mortality in Vietnam. Nurses are ideally situated to improve hypertension related outcomes. This study explores an innovative approach to hypertension education for nurses that contextually and culturally adapts international guidelines to increase relevance for local settings.

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