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IMPLEMENTING THEORY OF PLANNED BEHAVIOR IN HEALTH PROFESSION EDUCATION IN GHANA

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Abstract

The process of clinical knowledge translation contributes to clinical decision-making along with interactions with other healthcare professionals, their patients, and the communities they serve. Clinical practice guidelines, patient care experience, and continuing medical education are some of the components that contribute to clinical knowledge translation. The knowledge and interactions help inform a physician's salient beliefs. Thus, the use of the Theory of Planned Behavior (TPB) facilitates research into how background factors which include knowledge and interactions influence behavioral, normative, and control beliefs and in turn, how those beliefs influence intention and ultimately, physician clinical practice behavior.

Keywords: Theory of planned behavior, Ghana, health profession education, continuing medical education (CME).

What it means to be in good health is dependent on culture and context in which one lives. This holds true for hypertension, which is asymptomatic, correlated with lifestyle factors, and is currently incurable. An inquiry into understanding how Ghanaian cultural norms around health/wellness, standards of care, and context as manifest in physicians' beliefs may result in identifiable themes as to how clinical knowledge about hypertension is or is not translated into clinical practice, which may add insights toward the improvement of patient care and decrease in mortality and morbidity in Ghana and throughout Sub-Saharan Africa.

The consideration of physician beliefs into the standards of care, diagnosis, and management of hypertension is critical as hypertension is a lifestyle disease. Lifestyle diseases are a subset of non-communicable diseases associated factors such as diet, exercise, or tobacco use. Hypertension is known as a silent killer since many patients do not feel sick, but may exhibit general symptoms such as low energy, dizziness, or headaches. These symptoms are clinically asymptomatic, and it is not until the patient has suffered a stroke or is severely ill that medical investigations are done to establish a diagnosis of hypertension, or other comorbidities such as heart failure or diabetes.

Problem

Within the medical profession, evidenced-based clinical practice guidelines play a crucial role in optimizing health care across a variety of medical practice settings. However, in some clinical context, a significant disconnect exists between the development and deployment of clinical practice guidelines and their use in everyday clinical practice. Studies indicated that clinical practice guideline dissemination and implementation plans (a) may not be sufficiently extensive as in the Baatiema et al. (2017) study, (b) may not consider the culture of the patient population as seen in the Aborigo et al. (2013) study, or (c) may not take into consideration the culture of a clinical specialty such as seen in the Kitto et al. (2011) study.

Purpose of the Study

This study contributed to the literature by taking a qualitative, theory-based approach to CME and clinical knowledge translation within the culture and context of the Ghana's health care environment. This study identified themes regarding Ghanaian primary care physicians' (PCPs) salient beliefs and whether these beliefs influence clinical knowledge translation of Ghana's hypertension clinical practice guidelines for adult patients. Hypertension and its corresponding guidelines were described by Ghanaian PCPs as shown by their beliefs and shaped by formal and informal knowledge systems. Adult educators' knowledge of physician beliefs and how those beliefs may influence the adoption of clinical practice guidelines into practice could result in an increase in knowledge translation.

This research went beyond the traditional research of continuing medical education (CME) effectiveness by providing an enriched understanding how formal knowledge via CME and informal knowledge via socialized beliefs of physicians influence clinical knowledge translation. Investigating influences of salient beliefs grounded in culture and context on physician behavior may call for a reconsideration of how CME is developed in Ghana and elsewhere. This study did not aim to predict behavior, nor change behavior, but rather to explain and examine the impact of beliefs held by physicians on their medical practice behaviors. Behavioral, normative, and control beliefs as described by the Theory of Planned Behavior (TPB), represent conceptual missing links which would benefit from an interpretive qualitative study.

Theoretical Framework

The Theory of Planned Behavior (TPB) considers how a person's background factors influence salient beliefs which in turn determine a person's intention to perform or not perform a specific behavior. Beliefs are complex constructs for which TPB subsumes into three major categories: behavioral beliefs and attitudes, normative beliefs, and perceived behavioral control (Ajzen, 2017). Increasing evidence-based care could be compromised if behavioral beliefs of physicians are not addressed. Physician's normative beliefs are shaped in part by medical school, residency experience, years in clinical practice, and associations with clinical colleagues. Clinical knowledge translation is influenced by a physician's social interactions with patients, other healthcare professionals, and physician peers. Lastly, perceived behavioral control plays an increasing role in physician education. "Measures of [behavioral expectations] BE are thought to encompass people's perceptions of factors that may facilitate or impede performance of a behavior, and thus BE may be a better predictor of behavior than traditional measures of Intention" (Webb et al., 2006, p. 252).

Research Design

The research design was an interpretivist study of primary care physicians in Ghana who read the Ghanaian hypertension guidelines as published in 2010 or 2017 by the Republic of Ghana Ministry of Health. This study was conducted in accordance with The University of Wisconsin-Milwaukee IRB and assigned protocol #19.033. Using a binary methodical approach of initial one-on-one interviews with follow-up one-on-one interviews allowed for deep reflection upon one's beliefs and increased data validity. WhatsApp was employed to collect data from ten primary care physicians. Initial interviews began in October of 2018 with follow-up interviews no less than one month later. Analysis included line by line coding and thematic analysis, concept maps along with peer debriefing from two Ghanaian primary care physicians who were data and coding validators.

The central research question for this study was: How do the formal and informal beliefs of Ghanaian primary care physicians influence clinical knowledge translation? Sub-questions include:

1. How do Ghanaian primary care physicians describe hypertension clinical practice guidelines in relationship to cultural and contextual beliefs systems that they hold?
2. How do these physicians describe the cultural and contextual drivers of hypertension in Ghana?
3. How do or how could CME courses integrate culture and context in a manner that would be considered clinically valid by Ghanaian primary care physicians?

Findings

The purpose of this qualitative study was to utilize the theory of planned behavior to identify themes regarding Ghanaian primary care physicians' (PCPs) beliefs and whether such beliefs influence clinical knowledge translation of Ghana's hypertension clinical practice guidelines for the care of adult patients. Physician background factors considered included patient population characteristics, culture, and context in which the physicians work; participant's gender; medical education; specialty; years in practice; health sector; and clinical setting. As hypertension is considered a lifestyle disease, the findings from this study suggest the most prominent background factor that influences how physicians' beliefs affect clinical knowledge translation was patient population. Primary care physicians managing hypertensive patients in Ghana, stated the following overarching beliefs:

1. My patients are highly complex (behavioral and control beliefs),
2. The cost of care impedes my practice (control belief),
3. Other healthcare professionals benefit from local guidelines more than physicians (normative belief),
4. Ghanaian clinical trials are critically needed for local guideline development and clinical practice (behavioral, normative, and control beliefs),
5. CME should be relevant to local practice and interprofessional in nature (normative and control belief), and
6. Patient education about the facts of hypertension and aspects of lifestyle modifications is greatly needed in Ghana (normative and control beliefs).

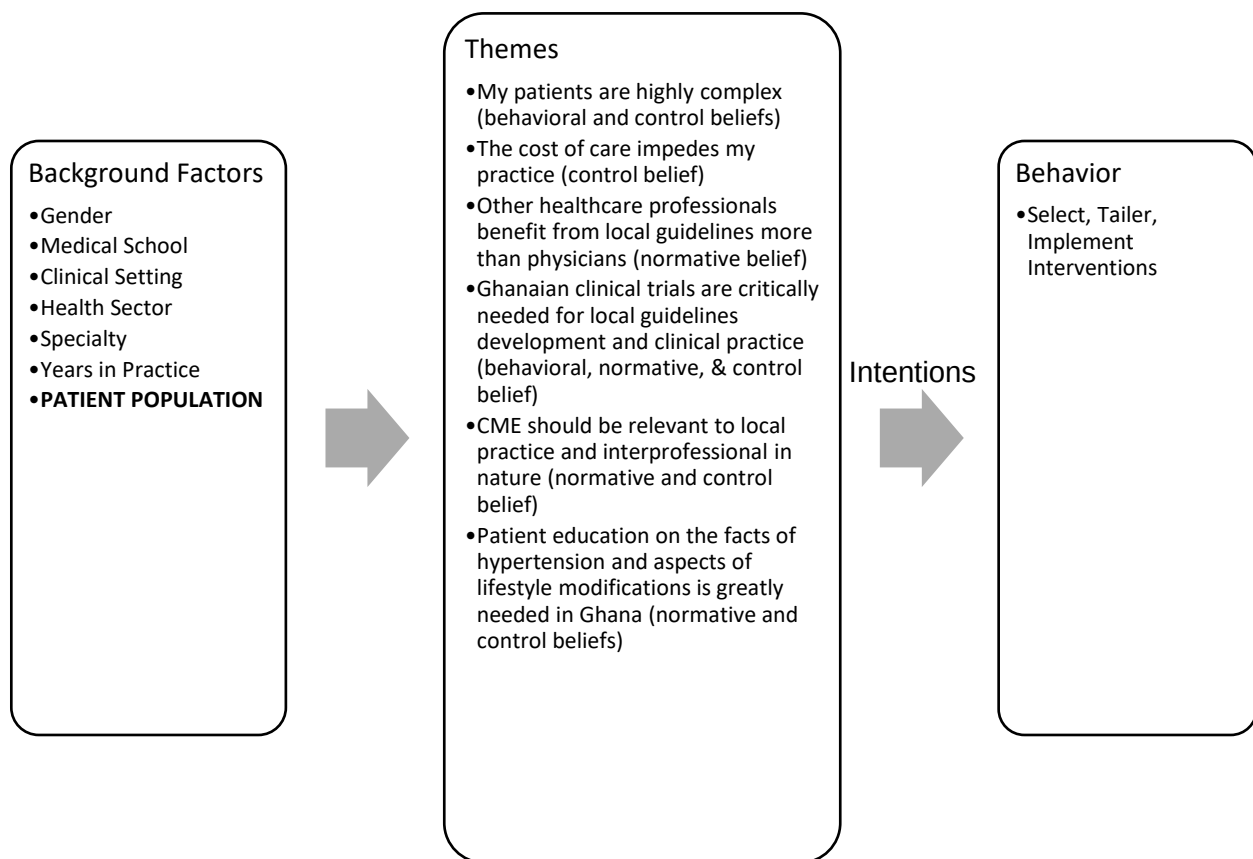


Figure 1: Study findings in the Theory of Planned Behavior framework.

Discussion

The findings of this study provided answers to the following research question: How do the formal and informal beliefs of Ghanaian primary care physicians influence clinical knowledge translation? Eight of the 10 participants attended medical school in Ghana. One participant attended medical school in Europe and one in China. The sample of participants in this study did not show any differences in beliefs between those who attended medical school outside of Ghana compared to those who attended medical school in Ghana. Additionally, all participants attended CME courses as required by the Ghana Medical and Dental Council to maintain a license to practice medicine.

Formal learning, such as in medical school, residency programs, and CME activities are a few sources of medical knowledge and knowledge translation. Chunharas (2006) outlines four dimensions of clinical knowledge translation. The first dimension discussed the diversity of knowledge resources and encourages researchers to be cognizant of available knowledge sources and the preferences of those knowledge sources. Participants were consistent in terms of seeking knowledge from diverse resources including: clinical consultations from senior colleagues, utilization of Medscape®, clinical practice guidelines from European countries or the United States, and other reference materials. When seeking current knowledge about hypertension, there was some variation as to the 'go-to' reference materials or preferred guidelines, with some using Medscape® first and others using the Joint National Committee, the American Heart Association, the American College of Cardiology, European guidelines, or a combination thereof. As source of knowledge are diverse, it could contribute to diverse clinical practice behaviors resulting in differences in clinical outcomes.

The second dimension for clinical knowledge translation Chunharas (2006) outlined was the context in which clinical decisions are made. Chunharas purported that understanding the context contributes to understanding how the knowledge translation process should occur within that context. The informal beliefs of participants help shed light on the context. All participants believed that their hypertension patients sought care from traditional medicine practitioners before coming to hospitals or clinics. They all believed that most of their hypertension patients took herbal remedies along with prescribed medications and that the cost of medical care comprised a physician's ability to adhere to guidelines. Further, all participants believed that the prevalent lifestyle in Ghana, including a high carbohydrate diet and sedentary lifestyle, contributed to the high rates of hypertension in the country.

Additionally, the clinical setting of the participants varied widely, as some physicians practice in rural, urban, private, public, or academic settings. Some clinical settings had electronic medical records, designated hypertension clinics, dietitians or nutritionists, where other clinical settings did not. Some clinical settings were regional referral centers and thus had access to medical equipment and personnel, whereas other facilities did not have this access. One of the clinical facilities in this study had nine physicians on staff, including a dentist, whereas another clinical facility in this study had one physician. This variability of clinical context leads to variability in how clinical knowledge is translated, what physicians believe they can do, and differences in clinical outcomes.

The third dimension in knowledge translation is the nature of the knowledge itself. The knowledge should be evidence-based, explicit, and as scientifically sound as possible. Thus, knowledge derived clinical trials, preferable double-blind randomized clinical trials represent the best available evidence. Consistently across all participants, the physicians believed in the importance of evidence-based medicine and the value of clinical practice guideline adherence in Ghana to optimize patient care and improve clinical outcomes. However, all participants believed that finding evidence-based knowledge from quality clinical trials conducted in Ghana was difficult. Study participants believed the best available evidence for hypertension came from Europe or the United States but with a caveat. Participants understood that the race, ethnicity, diet, climate, and lifestyle of their patients was different than the patients who participate in European and U.S. clinical trials. With hypertension being a lifestyle disease, these differences are significant in the how the knowledge from European and U.S. clinical practice guidelines and clinical trials is understood and translated into practice in Ghana.

There have been a few epidemiologic studies of hypertension in Ghana, and at least six study participants shared they were aware of these studies, as the studies were included in the educational content of the various CME activities. However, at the time of this study, Ghana did not have a national registry for monitoring hypertension. Therefore, the knowledge transformation process was physician specific and based on the individual physician's interest in collecting and managing data. In this study, one participant stated that he personally reviewed the charts of 100 hypertension patients to look for trends.

The last of the four dimensions for knowledge translation, according Chunharas (2006), was the process of knowledge translation; he claimed knowledge can be translated in a variety of ways for clinical decision-making. Based on this study, the diversity of knowledge sources, the variation in the clinical context, the importance placed by these physicians on evidence-based medicine, and how each physician translated knowledge into practice was highly dependent on the second dimension, the context. According to the Landry et al. (2006) clinical knowledge translation process, knowledge is created by looking at the context of medicine and then deriving data from it. Study participants discussed this aspect of knowledge generation using informal processes. Only two healthcare facilities in the study had electronic medical records, which enabled those practitioners to derive data in a more effective manner than other healthcare facilities in this study.

Next, Landry et al. (2006) reported that translational research transforms the healthcare data into information that allows healthcare providers to interpret their own information in their own way to derive actions pertinent to their needs. It should be emphasized that each step of the knowledge-creation process is context specific. Without locally derived data to serve as a basis for the clinical knowledge translation process, Ghanaian physicians in this study had to rely on knowledge derived from other places that were not always contextually congruent with Ghana. Landry et al. (2006) describe knowledge incompatibility as the phenomenon of attempting to implement knowledge that is not compatible with the healthcare context for which the knowledge is to be implemented. Findings show that physicians believed that practice guidelines, be they local or foreign, were incompatible with the culture and context of Ghana, making it a challenge to adapt guidelines into practice.

Implications for Adult Education Theory and Practice

The findings from the study present a unique opportunity to formalize the use of CME as a feedback loop in the development and implementation of clinical practice guidelines in the developing world, particularly in Sub-Saharan Africa. Several Sub-Saharan African countries have formal CME accreditation systems that require various healthcare professionals to earn a specific number of CME credits/points each year. These systems could provide substantive feedback through course evaluations and commitment-to change-statements as to the (a) effectiveness of implementing practice guidelines, (b) barriers to guidelines adherence, and (c) recommendations from healthcare professionals as to how to overcome those barriers. A standardization of two to three post-course questions could be required as a component of the application for CME credit process. As Ghana has a central accreditation system administered by the Ghana Medical and Dental Council, this information could be centrally gathered and used as feedback to the Ministry of Health for consideration in the development of updates to the standard treatment guidelines.

Conclusion

This study utilized the TPB to ascertain if and how beliefs impact clinical knowledge translation. To better understand how beliefs influence clinical knowledge translation, understanding a physician's beliefs toward certain clinical behaviors could help. Iwelunmor et al. (2017) reported, "As stakeholders have the ultimate say as to what evidence was adopted and used, understanding their perceptions may guide efforts to scale-up known evidence-based task-shifting interventions suitable for low resource setting in Sub-Saharan Africa (SSA)" (p. 1). In the Achonduh et al. (2014) study of uncomplicated malaria in Cameroon researchers claim the, "values and priorities of clinicians in the case management of malaria were in contrast to the evidence-based guidelines recommended by WHO" (p.2). Therefore, attempts to improve evidence-based care would be compromised if the beliefs of physicians are not addressed. Primary care physicians in Ghana select what knowledge they intend to translate into the care of their hypertensive patients. Thus, understanding their beliefs toward evidence-based guidelines along with the culture and context in which they practice could help identify ways to improve guidelines and guideline adherence.

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