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Program for Healthcare Personnel to Improve Anti-hypertensive Medication Adherence in Black Adults

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Abstract

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Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Medication nonadherence is a healthcare problem that costs the United States billions of dollars annually. The purpose of this project was to propose an evidence-based program for healthcare personnel to increase the rate of medication adherence in hypertensive Black adults who require daily, oral medication. The transtheoretical model of change was used to explain the process of change and to identify approaches to changing non-adherent behaviors related to medications. Motivational interviewing was used to explain the process that nurse-educators would use to guide patients through the stages of change. In the initial step of this quality improvement program, a convenience sample of 9 healthcare personnel were given an overview of the proposed program and asked to provide feedback on the relevance and meaningfulness of the proposed program using a program development evaluation form. Numerical data collected from the evaluation form were gathered using a 5-point Likert-type, scale. The data results were analyzed to determine the relevance and meaningfulness of the proposed program. The analyzed data were reported in frequency and percentages. Descriptive statistics were used. According to the findings, all 9 healthcare personnel supported the use of the proposed program and believed that its content was relevant and meaningful to clinical practice. The findings also revealed that 8 out of the 9 healthcare personnel believed that patients who qualified for the proposed program would be likely to participate. Adoption of this evidence-based program would facilitate social change by improving the rate of medication adherence in hypertensive Black adults and potentially improving their overall health.

A Proposed Program for Healthcare Personnel to Improve Anti-hypertensive Medication Adherence in Black Adults

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Dedication

I would like to first give Honor to my Savior, Jesus Christ, the One who wakes me up each and every day and provides me with my health and strength, "Thank you from the bottom of my heart." I would like to dedicate this project to my family and friends. To my husband, Frankie, "Words could never express how much I appreciate each act of kindness that you've shown as we traveled this adventure together." To my children, Adarius and Destinee, "Thank you for your understanding and patience as I conquered this mountain." To my colleague, Joyce Buie, MN, FNP, RN, "Thank you for all the 'Extras' you did for me so that I could complete my proposal and all the other tasks that were laid before me during this time. Again I say, "Thank you to all my family members and friends. Thank you for all the love, support, and encouragement that you gave me as I accomplished one of my life-long goals. Thank you for letting me know that you support me 100% in all endeavors that I choose to accomplish."

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Section 1: Overview of the Evidence-Based Project

Introduction

A significant problem in healthcare is the increase of medication nonadherence in adults with multiple chronic diseases (Sabate, 2003; Williams, Manias, & Walker, 2008). In the United States, this problem contributes over $100 billion each year to the cost of healthcare (Case Management Society of America, 2006). Adults may be nonadherent with their medication regimen for various reasons, such as false health beliefs and poor knowledge of their diagnosis and its appropriate treatment (Case Management Society of America, 2006; Odedosu, Schoenthaler, Vieira, Agyemang, & Ogedegbe, 2012; Sabate, 2003). Without change, the cost of healthcare will continue to rise.

Chronic diseases that co-exist are difficult to manage because each may require multiple treatments. The more treatments required to manage these diseases, the less likely patients will adhere to the prescribed regimen (Sabate, 2003; Williams et al., 2008). In 2011, hypertension was identified as one of the 15 leading causes of death in the United States (Hoyert & Xu, 2012; Kressin et al., 2007). Nearly 50 million Americans are affected by hypertension—a major contributor to the tremendous amount of money spent annually in healthcare (Case Management Society of America, 2006; Kressin et al., 2007). Because hypertension often co-exists with other chronic diseases—or is attributed to other chronic diseases—patients are often on complex treatment regimens (Sabate, 2003).

In 2010, Black adults accounted for 12.3% of the U. S. population, a population that had over 286,000 deaths that same year (Hoyert & Xu, 2012; United States Census

Bureau, n.d.). In this ethnic group, each age category had an increase in the death rate in 2011 compared to the 2010 rate. This may be due to the fact that Blacks are twice as likely as Whites to be diagnosed with high blood pressure and over 30% are more likely to die from heart disease (Hoyert & Xu, 2012; U.S. Department of Health & Human Services, 2014). The development of a nurse-educator-led motivational interviewing program, based on the transtheoretical model of change (TTM), to increase the rate of medication adherence among Black adults diagnosed with hypertension is proposed to try to decrease the mortality rate in this ethic group and to also decrease the costs associated with nonadherence (Kressin et al., 2007; Case Management Society of America, 2006).

Motivational interviewing (MI) is a directive counseling technique that is patient centered -, rather than provider centered (Lange, & Tigges, 2005; Mason, 2008; McCarley, 2009; Miller, 1983; Ossman, 2004; Van Nes & Sawatzky, 2010). It places responsibility on patients to make behavioral changes to optimize their health. This type of interviewing technique was first used to treat patients who suffered from alcoholism (Lange & Tigges, 2005; Miller & Rollnick, 1991; Ossman, 2004; Van Nes & Sawatzky, 2010). Today, MI has been used to change the behavior of many individuals diagnosed with different types of chronic diseases (Mason, 2008; McCarley, 2009; Van Nes & Sawatzky, 2010).

MI allows patients greater autonomy in their plan of care (Lang & Tigges, 2005; Mason, 2008; Ossman, 2004; Van Nes & Sawatzky, 2010). This approach requires a partnership between the patient and the healthcare team. It requires the healthcare team to use open-ended questions, to affirm the patient's personal strengths, to do reflective

listening, and to summarize for the patient, and is abbreviated "OARS" (Ossman, 2004; Van Nes & Sawatzky, 2010).

When patients are nonadherent to their antihypertensive medication regimen, they increase their risk for comorbid conditions, such as heart disease and kidney disease (Sabate, 2003). MI programs have been shown to increase the rate of adherence in patients with hypertension in two ways: patients report significant improvements in adherence and their systolic and diastolic blood pressures have improved (Mason, 2008; Ogedegbe et al., 2008; Van Nes & Sawatzky, 2010).

For this project, TTM was used to demonstrate to healthcare personnel the stages of change that patients progress through to change negative behaviors. The TTM was developed by Prochaska and DiClemente (1982) to investigate the stages of change that individuals progress through in changing negative behaviors (Chang, McAlister, Taylor, & Chan, 2003). TTM will allow the nurse-educators to assess a patient's current stage of change before, during, and after each MI session (DiClemente, 2007; Lange, & Tigges, 2005; Van Nes & Sawatzky, 2010). As patients progress through each stage of change, they begin to accept more responsibility for their negative behaviors and become more willing to make lifestyle changes that promote positive health outcomes (DiClemente, 2007).

Purpose Statement

The prevalence of medication nonadherence in patients at a rural health clinic in South Mississippi was evident in 2013 during a review of the patients' charts and from a discussion with the primary healthcare providers regarding the patients' self-reporting of

medication adherence. Based on the chart review of the blood pressure readings of patients diagnosed with hypertension and the discussion with healthcare providers, the decision was made to develop a nurse-educator-led, evidence-based program to improve the rate of medication adherence in Black adults diagnosed with hypertension.

The purpose of this project was to propose—and obtain feedback on the relevance and meaningfulness of—an evidence-based program for healthcare personnel to improve the rate of medication adherence in hypertensive Black adults who require daily antihypertensive medication. The proposed program incorporated MI to get patients to focus on their nonadherent behavior patterns and to take more responsibility for deciding and planning future behavior patterns. If successful, the MI program would help to increase the rate of medication adherence in patients with hypertension and thus decrease the cost of healthcare and the mortality rates related to this disease (Ogedegbe et al., 2008; Thompson et al., 2011; Williams et al., 2008).

Significance to Practice

Nonadherence is a problem faced by many providers who prescribe medications. This problem often leads to more complicated conditions that often require a more intense or longer treatment regimen (Sabate, 2003). The purpose of this project was to obtain data from healthcare personnel on the relevance and meaningfulness of the use of a proposed MI program to increase the rate of medication adherence in Black patients diagnosed with hypertension. It was expected that this project would provide additional evidence in the literature to support the utilization of a nurse-educator-led MI program and its impact on the rate of medication adherence and blood pressure measurements,

especially among Black patients diagnosed with hypertension in the rural South. This proposed program would facilitate social change by improving anti-hypertensive medication adherence in Black patients. With the use of an evidence-based program, the amount of money spent on healthcare should decrease and the program should improve hypertensive patients' health outcomes.

Project Question

Can a nurse-educator-led MI program for oral, anti-hypertensive medication adherence help guide healthcare personnel in increasing the rate of medication adherence in Black adult patients at a primary care clinic in the rural South? This question is relevant for two reasons: (a) In 2010, Blacks constituted one-eighth of the U.S. population and had over 280,000 deaths as well as an increase in the rate of nonadherence to their antihypertensive medications (Flack et al., 2010; Hoyert & Xu, 2012; United States Census Bureau, n.d); (b) Blacks are twice as likely to be diagnosed with high blood pressure and over 30% more likely to die from heart disease when compared to Whites (U.S. Department of Health & Human Services, 2014).

According to the literature, MI has been used successfully in the healthcare setting and has improved the outcomes of patients with multiple chronic diseases (Mason, 2008; McCarley, 2009; Ogedegbe et al., 2008; Thompson et al., 2011; Van Nes & Sawatzky, 2010; Williams et al., 2008). A MI program was proposed to guide nurse-educators on how to get patients to focus on their non-adherent behavior patterns and to take more responsibility on deciding and planning their future behavior patterns. The purpose of this project was twofold: (a) to propose a guided, nurse-educator-led MI

program to improve the rate of medication adherence in hypertensive Black adults who require daily anti-hypertensive medication; and then (b) to obtain feedback from healthcare personnel on the program's relevance and meaningfulness to practice.

Definitions of Terms

For this project, the following definitions of terms were used.

1. *Blacks:* Individuals who self-identify with this ethnic group.
2. *Hypertension:* Systolic blood pressure reading ≥ 140 mmHg or a diastolic blood reading ≥ 90 mmHg on more than one reading (American Heart Association, 2012).
3. *Medication adherence:* Active and collaborative involvement in prescribed medication regimen as mutually agreed upon with healthcare provider that can be measured by using subjective data and objective data (Ho, Bryson, & Rumsfeld, 2009; Sabate, 2003; Williams et al., 2008).

Assumptions and Limitations

This project was subject to two assumptions and two limitations. The major assumption of this project was that participants believe that patients want to change their behaviors and are able to change (Lang & Trigges, 2005; Mason, 2008; Van Nes & Sawatzky, 2010). The other assumption was that the nurse-educators would be able to use the four general principals of MI efficiently (Ossman, 2004; Van Nes & Sawatzky, 2010).

One limitation of this project was the small size of the convenience sample. Participants were drawn from only one healthcare clinic. The other limitation was the risk of the Hawthorne effect. When participants, in any project, know that they will be

evaluated, they may change their behavior or response (Burns & Grove, 2009; Williams et al., 2008). Even though participants were reminded to be honest when filling out the evaluation form, some may have responded in a way they believed would be acceptable—and thus have skewed the results.

Summary

Medication nonadherence is a major problem faced by many Americans, but it is more prevalent among Blacks. As the rate of nonadherence increases, the amount of money spent on healthcare annually will continue to increase to cover complications that arise due to nonadherence. This DNP project sought to determine the relevance and meaningfulness of the proposed nurse-educator-led MI program. The results of this project should answer the following question: Can a nurse-educator-led MI program for oral, anti-hypertensive medication adherence help guide healthcare personnel in increasing the rate of medication adherence in Black adult patients at a primary care clinic in the rural South?

The following topics will be covered in Section 2: the literature on hypertension, medication adherence, MI among Blacks, and the theoretical model that would support the efforts and outcomes of the proposed program.

Section 2: Review of Scholarly Evidence

Introduction

Medication nonadherence is a significant healthcare problem that can cause severe complications and have a tremendous effect on the cost of healthcare. Several authors have studied this problem and searched for interventions to improve the rate of adherence (American College of Preventive Medicine, 2011; Hacihasanoğlu & Gözüm, 2011; Kressin et al., 2007; Sabate, 2003; Touchette & Shapiro, 2008; Williams et al., 2008). Many factors cause an individual to be non-adherent, but with the implementation of an appropriate evidence-based intervention, healthcare providers should notice an increase in the rate of medication adherence in patients thus leading to better patient, health outcomes.

The following keywords were used in the searches for relevant material: *medication, adherence, hypertension, African American, and motivational interviewing*. The following databases were searched: CINAHL Plus with Full Text, Medline with Full Text, Google Scholar, and Nursing & Allied Health Source. The search was limited to peer-reviewed journals published between 2009 and 2014. After reviewing abstracts for relevance, 35 full text articles were reviewed and 10 articles chosen for this literature review. The references in the chosen articles were also searched for relevant material. These articles confirmed how severe the rate of medication nonadherence is in the United States as well as how severe this problem is worldwide (Dunbar-Jacob et al., 2003; Gadkari & McHorney, 2012; Lee, Grace, & Taylor, 2006; Wu et al., 2006).

The following section will provide an overview of the literature that is relevant to this project. The literature review will review patient education; hypertension, medication adherence, and MI among Blacks; and the TTM to show how a proposed MI program could improve the rate of medication adherence in Black Adults diagnosed with hypertension.

General Literature Review

Patient education is a common approach to improving blood pressure control at the patient level. It increases patients' knowledge about their condition, its potential effects, and its treatment regimen (Odedosu et al., 2012). Increasing the patient's knowledge about his or her medication regimen, and incorporating other interventions, will increase the adherence rate (American College of Preventive Medicine, 2011; Hacihasanoğlu & Gözüm, 2011).

While educating patients about their medication is an important responsibility of healthcare providers, education alone may not increase the rate of medication adherence (American College of Preventive Medicine, 2011; Martin, Williams, Haskard, & DiMatteo, 2005). This is often because the education offered is "provider directed," which gives patients fewer choices and less responsibility for their nonadherent behavior patterns (Lange, & Tigges, 2005; Martin et al., 2005; Ossman, 2004). What is needed, however, is a partnership. When there is a partnership between patients and their healthcare team, patients have more choices, as well as greater accountability for their behaviors. In addition, a partnership removes healthcare providers from having sole

responsibility for changing patients' non-adherent behaviors (Lange & Tigges, 2005; Martin et al., 2005; Ossman, 2004).

Medication education has been beneficial in improving the rate of medication adherence, but at times education alone may not be enough. This is when other interventions have to be incorporated into patients' plan of care (American College of Preventive Medicine, 2011), for example, self-monitoring and behavioral counseling (Houston et al., 2011; Morisky et al., 1983; Odedosu et al., 2012; Ogedegbe et al., 2008; Williams et al., 2008).

Specific Literature Review

Hypertension Among Blacks

Hypertension affects individuals in all ethnic groups. Blacks are twice as likely as Whites to be diagnosed with high blood pressure and are more than 30% more likely to die from a disease of the heart (U.S. Department of Health & Human Services, 2014). Research shows that hypertension in Blacks is poorly managed due to socioeconomic, physiological, and psychological factors (Hughes, 2004; Odedosu et al., 2012). When hypertension is poorly managed, it can often lead to additional healthcare problems that may result in organ damage and even death (Moulton, 2009).

In a cross-sectional analysis of four ethnicity groups (White $n = 2612$, Black $n = 1894$, Chinese $n = 803$, and Hispanic $n = 1494$), researchers studied 6814 adults who were not diagnosed with a clinical cardiovascular disease to examine the association between ethnicity and hypertension (Kramer et al., 2004). The prevalence of hypertension was highest in the Black group when compared to the other ethnic groups. Blacks also

had the highest percentage of hypertension that was being treated but was still uncontrolled. This ethnic group had a significantly higher systolic and diastolic blood pressure when compared to White, Chinese, and Hispanic individuals (Kramer et al., 2004).

An analysis of the Third National Health and Nutrition Examination Survey, conducted by Mainous, King, Garr, & Pearson (2004), examined the prevalence of diabetes and hypertension among Blacks and Whites in rural and urban areas. A total of 11,755 individuals participated in this study with urban Whites (n = 4,978), rural Whites (n = 2119), urban Blacks (n = 3,729), and rural Blacks (n = 929) in each group. Rural Blacks were more likely to be diagnosed with hypertension or diabetes (Mainous et al., 2004). Rural and urban Blacks had a higher likelihood of elevated systolic and diastolic blood pressure with rural Blacks having the worst control in diastolic blood pressure. These authors concluded that Blacks have the highest rate of hypertension with the worst diastolic blood pressure control (Mainous et al., 2004).

Medication Adherence Among Blacks

Medication nonadherence is one of the main reasons that treatment to control patients' blood pressure often fails (Dunbar-Jacob, Bohachick, Mortimer, Sereika, & Foley, 2003; Martin et al., 2005; Moulton, 2009; Williams et al., 2008). As a treatment regimen becomes more complex or aggressive, patients adhere less to their prescribed regimen (Dunbar-Jacob et al., 2003; Martin et al., 2005)

Dunbar-Jacob et al. (2003) conducted a study to assess medication adherence in individuals with cardiovascular disease. A total of 169 individuals (86.4% Whites and

7.7% Blacks) were recruited from three different settings (the community, a heart failure clinic, and a rheumatology clinic) in which all participants were prescribed a medication to treat their medical condition. This study found that Black participants were more adherent to the prescribed doses of their medication when compared to the White participants, but as the number of medications increased to treat their medical diagnosis, the less adherent the Black population was to the prescribed regimen (Dunbar-Jacob et al., 2003). The rate of adherence in this population fell from 95.2% with a treatment regimen that only included a daily dose of medication to a 77.9% rate of adherence to a treatment regimen that included medications that were prescribed three times a day or more.

In a study conducted by Kressin et al. (2007), 793 patients (Whites, $n = 333$ and Blacks, $n = 460$) diagnosed with hypertension were evaluated to determine the role that their race, health beliefs, and process of care affected their rate of medication adherence. This study revealed that when comparing Black patients and White patients, Blacks were more likely to stop their medications if it made them feel worse. Researchers of this study concluded that Black patients are more likely to purposefully stop consuming their prescribed medications and are more likely to forget to take their medications when compared to White patients (Kressin et al., 2007). This study also revealed that a patient's race alone does not significantly affect his/her rate of medication adherence, but a patient's health belief and process of care does significantly affect the rate of medication adherence (Kressin et al., 2007).

MI Among Blacks

In a practice-based trial conducted by Ogedegbe et al. (2008), the authors assessed the effect of MI on the medication adherence rate of hypertension in Black patients. Patients were randomized into either the control group or the experimental group. The experimental group received MI with the usual care. Counseling sessions were conducted by trained research assistants at 3, 6, 9, and 12 months. Patients in the experimental group and control group received and were given instructions on the usage of an electronic pill cap with a medication events monitoring system (MEMS) three months after randomization to report their rate of medication adherence during this study. To measure adherence, the authors analyzed the outcomes of the MEMS pill caps between months 10-12 and any change in the patients' baseline blood pressure level and his/her blood pressure level at the end of the 12 month interval (Ogedegbe et al., 2008).

At baseline, both groups were similar in their rates of adherence and blood pressure measurements (Ogedegbe et al., 2008). At the end of the study, the individuals randomized in the experimental group had a greater increase in the rate of adherence (60%) when compared to the control group (47%). Both groups had a decrease in blood pressure levels over the 12 month period (Ogedegbe et al., 2008).

In a randomized controlled trial that was conducted over 24 months, 365 obese, hypertensive patients were studied to evaluate if whether usual care or interventions to change behaviors were the most effective in promoting weight loss and hypertension self-management (Bennett et al., 2012). Of the patients who participated in this study, 71% identified themselves as Black. Patients randomized into the intervention group received

counseling from community health educators. Each counseling session was based on the principles of MI (Bennett et al., 2012). The intervention group also received behavior skill training. Results of this study showed an increase in weight loss and a decrease in blood pressure levels among the patients in the intervention group compared to those in the usual care group. With the use of behavioral interventions that include principles of motivational interviewing, the researchers concluded that the interventions promoted a positive change in medication adherence and blood pressure control (Bennett et al., 2012).

Theoretical Model

The TTM is an evidence-based practice model developed to study the stages of change in which patients progress through in order to change their troubled behaviors into behaviors that promote positive outcomes (DiClemente, 2007). This model provides an understanding of the stages of change (Finnell, 2005). The TTM has five stages of change (Chang et al., 2003; DiClemente, 2007; Finnell, 2005; Lange, & Tigges, 2005; Prochaska & DiClemente, 1982; Van Nes & Sawatzky, 2010). *Precontemplation, contemplation, preparation, action, and maintenance* are the stages of change that patients will progress through to change their negative behaviors. The first stage of change is *precontemplation* (Chang et al., 2003; DiClemente, 2007; Finnell, 2005; Lange, & Tigges, 2005; Prochaska & DiClemente, 1982; Van Nes & Sawatzky, 2010). During this stage, patients do not have any intention to change their behaviors, or they are not aware of their negative behaviors. *Contemplation* is the second stage of change. Patients in this stage begin to contemplate changing their behaviors. They are aware of their

negative behaviors, and they are considering making a change in their behaviors. The third stage is *preparation*. Patients in this stage begin to prepare to change by committing to a plan of change to start to make lifestyle changes to correct their negative behaviors. The *action* stage will be the next stage of progression. This is the stage where patients put into action the committed plan of change. The final stage of this model, *maintenance*, occurs when the action of change has been implemented for at least three months and patients have become confident and have begun to integrate the change into their lifestyle (Chang et al., 2003; DiClemente, 2007; Finnell, 2005; Lange, & Tigges, 2005; Prochaska & DiClemente, 1982; Van Nes & Sawatzky, 2010).

During each stage of change, patients examine the pros and cons of changing their behaviors and progressing to the next stage of change or staying at the current stage of change or relapsing to the previous stage of change (Lange, & Tigges, 2005; Van Nes & Sawatzky, 2010). No two patients will progress through the stages of change with the same motivation. Some patients will progress through the stages without difficulty. Some patients may relapse or become stagnant in one stage of change which is normal because the TTM is not a linear model of change. It is a cyclical model of change that allows patients to progress forward, but it also takes into account that regression can occur while patients are in any of the stages of change (Van Nes & Sawatzky, 2010).

The stages of change have been used in multiple clinical situations. It has been successfully utilized to make positive behavioral changes related to smoking cessation, weight management, and stress management (Evers et al., 2006; Johnson et al., 2008; Lange, & Tigges, 2005; Van Nes & Sawatzky, 2010). The TTM has also been applied in

the clinical setting to change the behavior in patients diagnosed with hypertension (Chang et al., 2003).

In a cross-sectional study conducted by Chang et al. (2003), 350 adults with hypertension who lived in rural and urban Taipei in Taiwan were used to study the relationship among the TTM and six health behaviors. "Reduced fat diet, alcohol use, smoking, weight control, physical activity, and blood pressure checkup" were classified as the six health behaviors that would be the foci for change (p. 221). When analyzing the results of the hypertensive control survey questionnaires, there was no significant difference noted in the means of the diastolic blood pressure when comparing the two groups, but there was a significant difference in the means of the systolic blood pressure between the participants from the rural area and the participants from the urban area. Individuals who progressed through more stages of the TTM had better blood pressure control. It was also noted that the rural population had less intention to use the process of change for routine blood pressure checkups. Chang et al. (2003) concluded that there was a statistically significant difference in the stages of change for smoking cessation and physical activity when comparing participants in each group. The participants from the urban area were more likely to change their behaviors than the participants from the rural area. Participants from the urban area were also more likely to reach the maintenance stage of change and remain in this stage when compared to participants who lived in the rural area.

A one-group repeated measure study was conducted by Daley, Fish, Frid, and Mitchell (2009), to evaluate stage-specific interventions to prevent relapse from

occurring at each stage. All participants were beyond the initial stage of change (precontemplation). The researchers used education/counseling interventions along with planned exercise routines to improve the exercise outcomes in the participants who had hypertension (Daley et al., 2009). After the intervention, 85% of participants moved to or remained in the action or maintenance stage. These researchers concluded that when interventions are specific to the stage of change, relapse to previous stages of change was unlikely. The participants of the study verbalized an improvement in their cardiovascular function and fitness as benefits of their individualized exercise program with 70% of the participants increasing their exercise performance (Daley et al., 2009).

Summary

Medication nonadherence affects the health of millions of individuals and is also a major contributor to the increasing cost of healthcare. Articles in this literature review confirm the severity of medication nonadherence. Researchers who have analyzed this problem have reported many reasons that contribute to why individuals were non-adherent to their medication regimen.

When proposing an evidence-based program for healthcare personnel to increase the rate of anti-hypertensive medication adherence in Blacks, it was important to incorporate the TTM along with MI techniques. The use of this theoretical model and these types of interviewing techniques should allow healthcare personnel to identify and address factors that affect medication adherence in this ethnic group. Proposing a nurse-educator-led program to increase the rate of medication adherence in Black adults who are diagnosed with hypertension and require at least one daily anti-hypertensive

medication would provide additional resources in the literature supporting the use of MI techniques for hypertension in the Black population.

Section 3 will discuss the methodology of this project. Discussion of the project's method and population sample will be provided. The process of data collection and analysis will be included. This section will also provide a plan to evaluate this project, disseminate findings, and the proposed evidence-based program.

Section 3: Methodology

Project Methods

The overall health of patients is a major concern of healthcare providers. The purpose of this project was to develop and to propose an evidence-based program for healthcare personnel to improve the rate of medication adherence in hypertensive Black adults who require such medication daily. The initial step included a proposal overview and the administration of a program development evaluation form to healthcare personnel to obtain feedback to improve the project before implementing the project in the future.

Stakeholders are essential when developing and planning a proposed program. Stakeholders promote effective communication between the developer and those who will be implementing the proposed program. It can also promote stakeholders to willingly and actively participate in the proposed program (White & Dudley-Brown, 2012).

Stakeholders for this project would include healthcare personnel (physicians, nurse practitioners, nurse educators, staff nurses). They would bring different insights on why they believe patients are non-adherent to their medications. These stakeholders could also bring ideas that can be included in the proposed program. When stakeholders are included in the initial stage of the proposed program, it allows them to have a voice during the planning of the proposed program stage**,** instead of waiting until the program has been implemented (Kettner, Moroney, & Martin, 2008).

A convenience sample of nine healthcare personnel was asked to provide feedback on the development of the proposed program using a program development

evaluation form. The evaluation form used assigned numerical values to evaluate the responses to the statements and questions on the form (Appendix A).

A single-group, posttest design was used for this project. The design allowed numbers to be collected and for statistically analyzed (Burns & Grove, 2009; Kettner, Moroney, & Martin, 2008). Using this type of design allowed for the collection of data and the evaluation of the proposed MI program.

Statistical analyses were conducted on the data collected from the program development evaluation form regarding the relevance and meaningfulness of the proposed program to improve the program before its implementation. Analyzed data were reported in frequency and percentages. The outcome of the collected data was reported collectively. No identifying information was used in the project's report.

The attendance of the presentation was voluntary. Each attendee was asked to complete an evaluation form at the end of the presentation.

Population Sample

This project used a convenience sample (n = 9) from a local healthcare clinic in south Mississippi. Eligibility criteria are as follows:

1. Healthcare personnel (physician, nurse practitioners, nurse educators, staff nurses)
2. Manage and/or provide care to patients diagnosed with hypertension and who are prescribed at least one daily, oral, anti-hypertensive medication

Using a convenience sample allowed the ease of obtaining participants to provide feedback on the proposed program (Burns & Grove, 2009). This type of sampling also

allowed data to be collected and analyzed quickly so that the results could be presented to the facility's personnel to show the relevance of the proposed program (Burns & Grove, 2009; Kettner et al., 2008).

Data Collection

Once the approval was obtained from the Institutional Review Board (at Walden University IRB approval number 07-28-14-0316930), the presentation of the proposed program was conducted. This quality improvement project was presented to personnel at a healthcare facility in south Mississippi. Once the proposed program was presented to the facility's healthcare personnel, each participant completed a program's development evaluation form to obtain data on the relevance and meaningfulness of the proposed program and to improve the proposed program before its implementation.

Data collected from the program development evaluation form was scored utilizing a Likert 5-point scale. Seven statements were evaluated as follow: 1 = *strongly agree*; 2 = *agree*; 3 = *not sure*; 4 = *disagree*; 5 = *strongly disagree*; NA = *not applicable*. Two questions were evaluated as follow: 1 = *highly likely*; 2 = *likely*; 3 = *neither likely nor unlikely*; 4 = *unlikely*; 5 = *highly unlikely*. There was also space available for participants to write at least one comment regarding what they liked most and at least one comment regarding what they liked least about the proposed program. Space was also available for participants to write any additional comments about the program.

The first objective of this project was to demonstrate that the proposed nurse-educator-led MI program was relevant to clinical practice and the program's content was meaningful. The second objective of this project was to demonstrate that the proposed

program's content was related to the skills and knowledge that are needed by healthcare personnel. The third objective of the project was to demonstrate that after the presentation of the program, healthcare personnel were promoted to take action. Another objective of the project was to demonstrate that after the presentation of the program, the confidence level of the participants implementing the program increased based on the knowledge gained from the presentation. The last objective of this project was to demonstrate that the supporting material utilized for the program was useful.

Data Analysis

The purpose of this project was to obtain feedback from healthcare personnel on the relevance and meaningfulness of the proposed nurse-educator-led MI program that was developed for healthcare personnel to increase the rate of medication adherence in Black adults diagnosed with hypertension. Descriptive statistics were used to analyze the data collected from the program development evaluation form. Once data were analyzed, results were disseminated to the facility's healthcare personnel (see Table 1 and Appendix B).

Project Evaluation Plan

When evaluating this project, the concentration was on the following question: Can a nurse-educator-led MI program for oral, anti-hypertensive medication adherence help guide healthcare personnel in increasing the rate of medication adherence among Black adults at a primary care clinic in the rural south? This question was answered by using an impact program evaluation design. For evaluating the project, a single-group posttest design was performed (Burns & Grove, 2009; Kettner et al., 2008). The answer

to this project question was determined by analyzing the data collected on the program evaluation form from healthcare personnel.

The results of the analyzed data were presented to the facility's personnel (Kettner et al., 2008). The feedback obtained from the facility personnel was presented to the facility administrators to provide information to ascertain the strengths and limitations of the proposed program.

Presentation

The author first spoke with the healthcare administrator about presenting the proposed program. A date, time, and location were agreed upon. Fleming and Mills' learning style model (1992), visual, aural, reading/writing, and kinesthetic (VARK) was used for this presentation. This method allows a presenter to incorporate more than one style of learning into a presentation because many individuals (50-90%) use more than one learning style to comprehend a concept (Fleming & Mills, 1992; Marcy, 2001). Because individuals have different learning styles, the presenter chose to present the proposed program with the aide of handouts, Powerpoint slides, and an oral presentation to incorporate multiple styles of learning into the project (Fleming & Mills, 1992). All information regarding the proposed evidence-based program was placed on either a handout, printed PowerPoint slides with room for the participant to write down any notes, or was presented orally (Eikenberry, 2012).

When preparing for the presentation, I developed a Powerpoint presentation to present the concepts of the proposed program (Harolds, 2012; Penciner, 2013). Powerpoint slides included graphics related to medication, motivational interviewing,

blood pressure measurements, and the proposed population that was to be studied. Key concepts were presented on the Powerpoint slides with more elaboration of each slide during the oral presentation (Harolds, 2012; Penciner, 2013). The Powerpoint presentation utilized evidence from the literature to explain the purpose and meaningfulness of a MI program to increase the rate of medication adherence in Black adults diagnosed with hypertension (Bennett et al., 2012; Ogedegbe et al., 2008). It was important to emphasize that medication adherence has been shown to increase with the use of patient education, self-monitoring, and behavioral counseling (Houston et al., 2011; Morisky et al., 1983; Odedosu et al., 2012; Ogedegbe et al., 2008; Williams et al., 2008). When incorporating MI into the plan of care for hypertensive patients, research has also shown that the patients' blood pressure measurements decreased and the patients' self-reporting of medication adherence increased (Bennett et al., 2012; Ogedegbe et al., 2008).

One week before the presentation, fliers were posted throughout the facility to remind healthcare personnel about the presentation. Upon entering the conference room on the morning of the presentation, participants were given an agenda for the presentation (Appendix E), a copy of the presentation PowerPoint, a program evaluation form (Appendix A), the 8-item Morisky Medication Adherence Scale (Appendix C), and a description of Motivational Interview Session (Appendix D).

To begin the presentation, I first discussed that the proposed program was being presented because medication nonadherence is a major healthcare problem, and it costs the US economy billions of dollars annually (Case Management Society of America,

2006; Sabate, 2003; Williams, Manias, & Walker, 2008). Although hypertension affects all ethnic groups, Blacks were focused on for this program because individuals in this ethnicity group are twice as likely to be diagnosed with high blood pressure and are more than 30% more likely to die from heart disease when compared to Whites (U.S. Department of Health & Human Services, 2014).

I then went over the objectives of the presentation to make sure that all participants had clear objectives for the project and what was being covered in the presentation. Key terms with definitions were also discussed along with their relevance to the proposed program. The purpose of this project and the meaningfulness of the program to practice were discussed. For all proposed projects, assumption and limitations have to be considered, and these were discussed with the participants.

A review of the literature was discussed that included both general and specific literature. The TTM was utilized to explain the processes of change that patients progress through in attempt to change their non-adherent behaviors into behaviors that promote and produce positive outcomes. MI was presented as a guide for healthcare personnel to help progress their patients through the processes of change. The proposed project method, population sample, data collection, data analysis, and program evaluation were also discussed. Lastly, the proposed quality improvement program was presented including the two online tutorials on motivational interviewing, the 8-item Morisky Medication Adherence Scale (Appendix C), and the description of Motivational Interview Session (Appendix D).

At the end of the presentation, a question and answer session was included. At the end of the question and answer session, participants were asked to fill out a program evaluation form (Appendix A). Participants were informed that the data collected would be reported collectively so individual responses could not be identified. As the participants completed the program evaluation form, they placed the completed evaluation form in a box placed on a table at the exit door of the conference room.

Proposed Evidence-Based Program

Medication nonadherence is a serious medical problem that costs billions of dollars each year (Case Management Society of America, 2006; Sabate, 2003; Williams, Manias, & Walker, 2008). Although this proposed program will not be implemented at this time but if pursued in the future, all institutional regulations including ethical behaviors will be followed to protect the patients' rights, confidentiality, and privacy as they participate in the proposed program. A quasi-experimental, quantitative study using a single group pretest/posttest design was proposed (Burns & Grove, 2009; Kettner et al., 2008). Eligibility criteria for the proposed program will be as follow: (a) Black ethnicity, (b) At least 18 years of age, (c) Diagnosis of hypertension for at least six months, (d) Elevated blood pressure reading during the last primary healthcare provider visit according to the American Heart Association (2012) definition of hypertension, (e) Prescribed at least one daily, oral, anti-hypertensive medication.

Nurse-educators employed at the facility will complete two online tutorials on MI (Bierer, 2014). When the educators have successfully completed each tutorial and passed the post-test, they will receive a certificate to validate their participation in each tutorial.

When all nurse-educators have received their certificate of participation, primary healthcare providers would recommend their hypertensive patients, utilizing the American Heart Association (2012) definition of hypertension, to participate in this program based on their patients' blood pressure reading at their last primary healthcare provider visit.

Patients will self-report their rate of medication adherence by completing an assessment questionnaire developed by Morisky. The Morisky 8-Item Medication Adherence Scale (MMAS-8) is used to self-report the rate of medication adherence among patients (Appendix C). The MMAS-8 questionnaire is an extended version of Morisky's 4-Item Medication Adherence Scale (MMAS-4) which was developed in 1983 (Morisky et al., 1983; Morisky, Ang, Krousel-Wood, & Ward, 2008). The MMAS-8 questionnaire is significantly reliable ($\alpha = 0.83$) and has been used in numerous research articles to measure self-reporting of medication adherence (Morisky et al., 2008; Williams et al., 2008).

Patients will continue to receive their usual medication education that is provided by their primary healthcare provider. Once a week for four weeks, patients will participate in a 15-minute MI session that is led by one of the nurse-educators in the facility (Mason, 2008; Van Nes & Sawatzky, 2010). Because educational counseling is part of patients' primary healthcare; each week, two nurse-educators will volunteer to conduct the MI sessions utilizing a standard structured adherence counseling script (Appendix D) to assess the patients' motivation and confidence level; elicit barriers, concerns and positive self-motivational statements; summarize the pros and cons of

behavioral change; provide a menu of options; and assess the patients' values and goals (Ogedegbe et al., 2007).

Prior to the MI program, a specified automated sphygmomanometer will be calibrated by the biomedical company utilized by the facility. It is proposed the automated sphygmomanometer be calibrated weekly for assurance of accuracy of systolic and diastolic blood pressure readings. Pre-MI systolic and diastolic blood pressure readings would be obtained from the patient's last primary care visit as a baseline using the calibrated automated sphygmomanometer and compared to the patient's blood pressure levels at the completion of the MI program utilizing the same sphygmomanometer as previous. These measurements will be used to determine the patient's rate of medication adherence. BP measurements would be taken in both upper arms while the participant is sitting down. Each measurement would be taken 5 minutes apart. These measurements would be used to determine the patient's rate of medication adherence (Mason, 2008; Morisky et al., 1983; Ogedegbe et al., 2008; Thompson et al., 2011). Patients' post-self-reporting of medication adherence would be compared to their pre-self-reporting of medication adherence to show if the nurse-educator-led MI program made a significant impact on the rate of medication adherence in this population (Morisky et al., 1983; Williams et al., 2008).

Data collected would be analyzed using the Statistical Package for Social Science (SPSS) to determine the mean of the pre-MI blood pressure levels (systolic and diastolic) and the mean of the self-report of medication adherence to compare the results to the mean of the post-motivational blood pressure levels (systolic and diastolic) and the mean

of the self-report of medication adherence. Data collected at baseline and at the completion of the proposed program would be expressed as mean ± standard deviations and as percentages. A paired *t* test would be performed to determine if the means are significantly different (Polit, 2010). The goal is to determine whether MI increased the rate of anti-hypertensive medication adherence in Black adults based on the patients' post-blood pressure reading and their self-report of medication adherence when compared to their pre-MI program blood pressure readings and self-report of adherence.

Summary

The purpose of this project was to propose and obtain feedback on an evidence-based program for healthcare personnel to improve the rate of medication adherence in Black adults diagnosed with hypertension and are prescribed at least one, daily, oral anti-hypertensive medication. The proposed quality improvement program was first presented to nine healthcare personnel to obtain feedback before future implementation. A single-group, posttest design was used for this project. Analyzed data were reported in frequency and percentages and disseminated to facility administrators.

Obtaining feedback from healthcare personnel was very significant. This allowed for professional peer input to be obtained to show the relevance and meaningfulness of the proposed program before future implementation.

In Section 4, the feedback and comments from the presentation of the developed evidence-based program will be shared.

Section 4: Introduction, Findings, Discussion, and Implications

Introduction

The purpose of this project was two-fold: (a) to propose an evidence-based program for healthcare personnel to increase the rate of medication adherence in hypertensive Black adults who require daily anti-hypertensive medication, and (b) to obtain feedback from healthcare personnel on this proposed program.

The objectives for this project were four-fold. The first was to demonstrate that the proposed nurse-educator-led MI program was relevant to clinical practice and that the program's content was meaningful. The second was to demonstrate that the content of the proposed program addressed the skills and knowledge needed by healthcare personnel. The third objective was to demonstrate that, after the slide presentation about the program, the healthcare personnel were eager to take action and that their confidence level about implementing the program had increased. The fourth objective was to demonstrate that the program's supporting materials were useful.

Summary of Findings

Obtaining feedback on a proposed program is a requirement for validating the relevance of a program and its meaningfulness to practice (Kettner et al., 2008). When attempting to implement a proposed program, it is imperative to obtain prompt feedback from those who will be implementing it so that any problems can be resolved, with care, and with minimal disturbance to the implementation phase (Philip et al., 2010).

The question for this project is can a nurse-educator-led MI program for oral, anti-hypertensive medication adherence help guide healthcare personnel in increasing the rate

of medication adherence in Black adults at a primary care clinic in the rural south. After the development of the proposed evidence-based program, the first step was to present it to healthcare personnel and to obtain feedback on its overall relevance. According to the feedback, the proposed MI program was considered both meaningful and relevant to clinical practice.

Nine participants (one physician, two nurse practitioners, three nurse-educators, and three staff nurses) evaluated the program's (a) relevance to clinical practice, (b) content, and (c) supporting material. They also gave their opinion on the likelihood of hypertensive patients in participating in the proposed program. Participants evaluated the program using the program development evaluation form (Appendix A). Data collected from the evaluation form were evaluated using a 5-point Likert-type, scale. Percentage was the unit of measure in analyzing the data from all answered questions (see Table 1).

Table 1

Results of Program Development Evaluation

Applicable	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Not	
	#	%	#	%	#	%	#	%	#	%	#	%
A. The project is relevant to clinical practice.	9	100	0	0	0	0	0	0	0	0	0	0
B. The project content was meaningful.	9	100	0	0	0	0	0	0	0	0	0	0
C. The project content is related to the knowledge I need.	9	100	0	0	0	0	0	0	0	0	0	0
D. The project motivated me to take action.	7	78	2	22	0	0	0	0	0	0	0	0
E. I want to tell others about what was presented.	9	100	0	0	0	0	0	0	0	0	0	0
F. I have the confidence to use the knowledge gained from the presentation.	9	100	0	0	0	0	0	0	0	0	0	0
G. The supporting material (Powerpoint presentation, scripted motivational interviewing worksheet, medication adherence questionnaire) were useful.	9	100	0	0	0	0	0	0	0	0	0	0

	Highly Likely		Likely		Neither Likely nor Likely		Unlikely		Highly Unlikely	
	#	%	#	%	#	%	#	%	#	%
H. How likely are you to participate in this project?	8	89	1	11	0	0	0	0	0	0
I. How likely do you feel that the hypertensive patients who qualify for this project are willing to participate?	8	89	1	11	0	0	0	0	0	0

The results revealed that all healthcare personnel supported the use of the proposed program. There were variations in the responses to each statement. All responses (100%) to each statement or question were rated as either 'strongly agree, agree, highly likely, or likely'.

The responses revealed that 100% of the participants strongly agreed that the proposed program was relevant to clinical practice, and the program's content was meaningful. One hundred percent of the participants strongly agreed that the program's content was related to the skills and knowledge they needed. Seventy-eight percent of the participants (n = 7) strongly agreed that the program motivated them to take action while 22% (n = 2) agreed that the program motivated them to take action. All participants (100%) responded that that they wanted to tell others about the program that was presented, and they had the confidence to use the knowledge gained from the presentation, and the supporting materials were useful. Eight participants (89%) responded that they were highly likely to participate in the program, and one participant (11%) responded that he/she was likely to participate in the program. Eighty-nine percent (n = 8) of the participants responded that hypertensive patients who qualify for the program would be highly likely to participate while 11% (n = 1) of the participants responded that hypertensive patients who qualify for the program would be likely to participate.

Written comments from healthcare personnel regarding what they liked most about the proposed project are as follows: (a) patient focused, (b) the relevance of the project to the community, (c) excellent resources, (d) motivation for the patients, (e)

organization, (f) intervention for patients with medication non-adherence. Participants wrote there was nothing they least liked about the proposed program. Additional comments included that the program was very informative, and the program was to develop medication adherence (Appendix B). These written comments showed the relevance and meaningfulness of this type of program.

Discussion

Medication adherence has been a major healthcare problem that has been reported by many healthcare providers. This problem has also had an enormous impact on the US economy (Case Management Society of American, 2006; Sabate, 2003; Williams, Manias, & Walker, 2008). The feedback from this project revealed that the healthcare personnel were positive about the proposed program and were willing to implement the proposed program at their facility.

The TTM was the model utilized to explain the process of change that patients progress through in attempt to change their non-adherent behaviors into behaviors that promote and produce positive outcomes. This model identifies five stages of change that individuals progresses through to change their negative behaviors (Chang et al., 2003; DiClemente, 2007; Finnell, 2005; Lange, & Tigges, 2005; Prochaska & DiClemente, 1982; Van Nes & Sawatzky, 2010). The TTM was used to show the importance of assessing a patient's stage of change before, during, and after the implementation of an intervention. Because no two patients will be exactly alike, this model allows healthcare personnel to assess their patients' current stage and know when their patients have progressed to the next stage of change until the patients have reached the final stage of

change and began to make the positive change a part of their lifestyle (Chang et al., 2003; DiClemente, 2007; Finnell, 2005; Lange, & Tigges, 2005; Prochaska & DiClemente, 1982; Van Nes & Sawatzky, 2010).

Through the use of the VARK learning style model, the proposed evidence-based program was presented to healthcare personnel. This model allowed for the presentation of the proposed program to be delivered through various styles to meet individual learning needs (Fleming & Mills, 1992; Marcy, 2001). The use of this learning model allowed attendees of the presentation to visualize, hear, read/write, or receive the presented information in a combination of the three techniques (Fleming & Mills, 1992; Marcy, 2001). One hundred percent (n = 9) of attendees reported that the supporting materials (Powerpoint, scripted MI worksheet, and medication adherence questionnaire) were useful. Orally presenting the proposed program, having handouts available for each attendee, and showing the two online MI tutorials allowed the author to meet the learning needs of attendees who were visual, auditory, or read/write learners. Once the proposed program is approved for implementation, a kinesthetic modality would need to be incorporated to provide hands-on training for the nurse-educators.

From the results obtained after the presentation of the proposed program, participants reported that the proposed program was relevant to clinical practice and was also relevant for the diagnosis and population selected. From the evaluation of the proposed program, healthcare personnel provided written feedback that the program was motivating, patient focused, and a usable intervention to improve the rate of medication adherence. The feedback obtained from the healthcare personnel showed the relevance of

the proposed program and their desire to implement this program at their facility for their patients in the near future. With the implementation of this program, healthcare personnel can evaluate whether the proposed program led to an increase in the self-reporting of medication adherence and/or a decrease in the blood pressure values in hypertensive patients.

Implications

Impact on Practice

This proposed program could have a significant impact on healthcare practice. Descriptive analysis obtained from the presentation of the proposed program provided information that the healthcare personnel employed at the facility had a positive attitude about the implementation of the MI program. Future implementation of the proposed program should be evaluated in terms of effectiveness to change the rate of anti-hypertensive medication non-adherence. This type of program could be incorporated into healthcare to help healthcare professionals guide patients toward an improvement in their health status and to also see a possible decrease in the amount of money spent on the cost of healthcare.

Impact for Future Research

Evidence-based practices require a combination of research and the knowledge of the practitioner to enhance the quality of care provided to patients (Burns & Grove, 2009). Patients' medication nonadherence is a major problem that is faced by many healthcare providers. In the US, this causes billions of dollars to be spent annually on healthcare. This proposed program has not been implemented. However, once

implemented, the results of the program (positive or negative) should be noted as evidence-based practice (Russell & Fawcett, 2005). This program could impact future studies as a guide that healthcare professionals could use in its entirety or in parts to decrease the rate of medication nonadherence in patients to improve their overall health.

Impact on Social Change

Implementation of the proposed evidence-based program could bring social change locally, nationally, and even globally. Once the evidence-based practice intervention has been successfully implemented, it could have a positive effect not only on the health of the population but also on the amount of money spent on healthcare. With the implementation of the proposed program, medication nonadherence could significantly decrease thus leading to an increase in the self-reporting of medication adherence and better management of hypertensive patients' blood pressure. This could also relieve some the financial burden that medication nonadherence has placed on the U.S. economy.

Strengths and Limitations

Project Presentation

The content of the presentation, its relevance to the community, and the focus of the proposed program were the major strengths of this project. Feedback obtained from healthcare personnel and their willingness to use the program in the future lend to the relevance of the proposed medication adherence program. Written feedback from participants showed that no changes to the proposed project were required. One limitation for this presentation was the time constraint so that it was only presented to healthcare

personnel at one facility which does not provide a true representation of all healthcare personnel who treat Black adults diagnosed with hypertension. The time constraint prevented obtaining feedback from healthcare personnel at other facilities. Another limitation is that this project did not include all the components of VARK. Since this presentation was presented to only show the relevance of the proposed program and due to the time constraint for completing this project, a kinesthetic component was not incorporated. For future implementation, a kinesthetic modality would be a major part for successful implementation of the proposed program. The proposed program is a program for the implementation in the future, and it will require the nurse-educators to be hands-on with the patients who will be participating in the program.

Proposed Program

The strengths and limitations of the proposed program will depend upon the actual implementation of the program. The strength of this program will be realized through the self-reporting of the rate of medication adherence and the patient's blood pressure measurements. Limitations that may prevent successful implementation of this program may be individuals who quality for the MI program not having the transportation to and from the facility as well as patients not wanting the negative stigmatism that may be associated with being non-adherent to their prescribed medication.

Analysis of Self

As a Scholar

According to the American Association of Colleges of Nursing (AACN), nursing scholarship include "activities that systematically advance the teaching, research, and practice of nursing through rigorous inquiry that is significant to the profession, creative, can be documented, can be replaced or elaborated, and can be peer reviewed through various methods" (1999). As a scholar, this project has been an eye-opening experience. This project has helped to enhance my passion for evidence-based practice. No longer am I satisfied with completing a healthcare task because "that's the way it has always been done"; I now want to see the evidence that supports the process of completing the task.

This project has helped me to grow personally and professionally. I have always had an appreciation for my profession, but now that appreciation is much deeper. I now would like to continue to research and utilize more evidence-based methods to advance the healthcare profession to produce better outcomes and to improve the overall health of all individuals in society.

As a Project Developer

The AACN envisions that individuals who obtain a DNP will be able to "identify gaps in knowledge, implement new evidence in practice, and evaluate the outcomes" (Laureate Education, 2011). Once a need has been identified, research has to be conducted to identify what is in the literature pertaining to the problem that needs to be addressed. It is important to identify any gaps in the literature, what has previous been successful in solving the problem, and what has not been unsuccessful. Once the

literature has been reviewed, then the planning stage must begin to develop an evidence-based project for implementation. Once the implementation is completed, then the outcomes must be evaluated to determine its significance for the implementation into practice.

I have always known that planning is the key to success. As a project developer, I have learned that when taking on a scholarly project, the planning stage is important because it is the first step when implementing a project, and it is must be done throughout the complete project (Gruber, Cummings, LeBlanc, & Smith, 2009). This project has also taught me the value of the involvement of stakeholders throughout the entire process of a project. Stakeholders must be involved from the planning stage until the dissemination of the findings. Stakeholders are a valuable asset of a project because, ultimately, they are the ones who will be the end-users.

Summary

Medication nonadherence is a global healthcare problem. It costs the United States billions of dollars and leads to many deaths each year (Case Management Society of America, 2006; Abate, 2003; Williams, Manias, & Walker, 2008). Hypertension has been identified as one of the main causes of many Americans deaths (Hoyer & Xu, 2012; Kerstin et al., 2007). Nearly 50 million Americans are affected by hypertension (Case Management Society of America, 2006; Kerstin et al., 2007). Black adults accounts for one-third of the US population, but they are twice as likely as Whites to be diagnosed with high blood pressure and are more than 30% more likely to die from a disease of the heart (Hoyer & Xu, 2012; U.S. Department of Health & Human Services, 2014; United

States Census Bureau, ned). Without change, death rates and the cost of healthcare will continue to rise and contribute to the economic impact that results from patients' being non-adherent to their prescribed medications.

Feedback from healthcare personnel showed the proposed program was revelent and meaningful to practice. Future implementation of the program into the healthcare profession would promote social change. Thus, increasing the health of individuals and having a positive impact on the global economy.

Section 5: Scholarly Project

Project Summary and Evaluation Report

A Proposed Evidence-based Program for Healthcare Personnel to Improve the Rate of Medication Adherence in Black Adults Diagnosed with Hypertension

by
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In the United States, medication nonadherence contributes over $100 billion each year to the cost of healthcare (Case Management Society of America, 2006). Without change, the cost of healthcare will continue to rise and contribute to the economic impact that results from patients' being non-adherent to their prescribed medications. Nearly 50 million Americans are affected by hypertension (Case Management Society of America, 2006; Kressin et al., 2007). In 2011, hypertension was identified as one of the main causes of many Americans deaths (Hoyert & Xu, 2012; Kressin et al., 2007). Blacks are twice as likely as Whites to be diagnosed with high blood pressure and are more than 30% more likely to die from a disease of the heart (Hoyert & Xu, 2012; U.S. Department of Health & Human Services, 2012).

Several authors have studied medication nonadherence and searched for interventions to improve the rate of adherence (American College of Preventive Medicine, 2011; Hacihasanoğlu & Gözüm, 2011; Kressin et al., 2007; Sabate, 2003; Touchette & Shapiro, 2008; Williams et al., 2008). The literature identifies many reasons for non-adherence. Patient education, self-monitoring, and behavioral counseling have been shown to result in an improvement in the rate of medication adherence (Houston et

al., 2011; Morisky et al., 1983; Odedosu et al., 2012; Ogedegbe et al., 2008; Williams et al., 2008).

MI is a directive counseling technique that is patient-centered instead of provider focused. This technique places responsibility on patients to make behavioral changes (Lange, & Tigges, 2005; Mason, 2008; McCarley, 2009; Miller, 1983; Ossman, 2004; Van Nes & Sawatzky, 2010). MI was first utilized to treat patients who suffered from alcoholism. It has also been used to change the behavior of many individuals who are diagnosed with different types of chronic diseases. Researchers have used systolic and diastolic blood pressure measurements and patients' self-reporting as quality indicators to measure medication adherence in patients diagnosed with hypertension (Ho et al., 2009; Houston et al., 2011; Morisky et al., 1983; Odedosu et al., 2012; Ogedegbe et al., 2008; Williams et al., 2008).

The proposed intervention was developed for future implementation. The purpose of the proposed evidence-based program is to guide healthcare personnel to increase the rate of medication adherence in Black adults diagnosed with hypertension who require at least one, daily anti-hypertensive medication. Nine healthcare personnel evaluated the proposed program to provide feedback before the program's implementation. The results revealed that all healthcare personnel supported the use of the proposed program in their practice, thus proving that this evidence-based program would be a valuable asset to the healthcare profession by leading to a decrease in medication non-adherence.

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Appendix A: Program Development Evaluation Form

A Proposed Evidence-Based Program for Healthcare Personnel to Improve the Rate of Medication Adherence in Black Adults Diagnosed with Hypertension

By
Verena Johnson, MSN, RN
(Doctoral Student at Walden University)

Please circle your primary role at this healthcare clinic:

Physician Nurse Practitioner Nurse Educator Staff Nurse

Please evaluate the extent to which you agree or disagree with the following statements
1 = Strongly Agree; 2 = Agree; 3 = Not Sure; 4 = Disagree; 5 = Strongly Disagree;
NA = Not Applicable
(pick one per statement).

	1	2	3	4	5	NA
A. The project is relevant to clinical practice.	O	O	O	O	O	O
B. The project content was meaningful.	O	O	O	O	O	O
C. The project content is related to the knowledge I need.	O	O	O	O	O	O
D. The project motivated me to take action.	O	O	O	O	O	O
E. I want to tell others about what was presented.	O	O	O	O	O	O
F. I have the confidence to use the knowledge gained from the presentation.	O	O	O	O	O	O
G. The supporting material (powerpoint, scripted motivational interviewing worksheet, medication adherence questionnaire) were useful.	O	O	O	O	O	O

Please evaluate the likely or unlikely extent of participation in this project
1 = Highly Likely; 2 = Likely; 3 = Neither Likely nor Unlikely; 4 = Unlikely; 5 = Highly Unlikely

(pick one per statement).

	1	2	3	4	5
H. How likely are you to participate in this project?	O	O	O	O	O
I. How likely do you feel that the hypertensive patients who qualify for this project are willing to participate?	O	O	O	O	O

List at least one thing that you least liked about this proposed project

_____

List at least one thing that you liked most about this proposed project

_____

Additional Comments:

_____

Appendix B: Program Development Evaluation – Written Comments

❖ List at least one thing that you liked least about this proposed project

1. None found
2. None
3. Nothing

❖ List at least one thing that you liked most about this proposed project

1. Relevance of project to the community
2. To be able to present this project for great implementation
3. Excellent resource for grant proposal in September 2014
4. Motivating patients
5. Well organized
6. Patient focus treatment
7. Intervention for patients with medication non-adherence
8. Patient focused and improves adherence (medication) in patients with hypertension
9. Overall focus of project

❖ Additional Comments:

1. Project was very informative
2. This is a program to develop medication adherence

Appendix C: 8-item Morisky Medication Adherence Scale

Question	
1. Do you sometimes forget to take your medicine?	Yes/No
2. People sometimes miss taking their medicines for reasons other than forgetting. Thinking over the past 2 weeks, were there any days when you did not take your medicine?	Yes/No
3. Have you ever cut back or stopped taking your medication without telling your doctor because you felt worse when you took it?	Yes/No
4. When you travel or leave home, do you sometimes forget to bring along your medications?	Yes/No
5. Did you take all your medicines yesterday?	Yes/No
6. When you feel like your symptoms are under control, do you sometimes stop taking your medicine?	Yes/No
7. Taking medicine every day is a real inconvenience for some people. Do you ever feel hassled about sticking to your treatment plan?	Yes/No

8. How often do you have difficulty remembering to take all your medicine? (A = 0; B – E = 1)
____ A. Never/rarely (4)
____ B. Once in a while (3)
____ C. Sometimes (2)
____ D. Usually (1)
____ E. All the time (0)

Total score ____

Reference:

Krousel-Wood, M., Islam, T., Webber, L., Re, R. Morisky, D. Muntner, P. (2009). New medication adherence scale versus pharmacy fill rates in seniors with hypertension. *American Journal of Managed Care, 15*(1), 59-66. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2728593/

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This acknowledgemet is required on all mauscripts submitted.

Appendix D: MMAS-4 or 8 License Contract and Copyright Agreement

MMAS-4 or 8 License Contract and Copyright Agreement

Required citations and copyright acknowledgement for the MMAS-8 item scale are available on the final license contract and copyright agreement.

In consideration for the right to use certain Morisky proprietary psychometric tools and intellectual property, the undersigned researcher (hereunder "Licensee" or "you") agrees to the following:

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If I am eligible for a waiver of license fee contractual agreement, I agree to provide Dr. Morisky a report of my findings upon completion of this study, cite the required references as noted on this waiver of license fee agreement and will comply with the copyright specification outlined above regarding the use of the Morisky Medication Adherence Scale, 8-Items, MMAS-8 and will abide with its requirements. Please scan and email to: *Donald E. Morisky, ScD, ScM, MSPH, Professor, Department of Community Health Sciences, UCLA Fielding School of Public Health, 650 Charles E. Young Drive South, Los Angeles, CA 90095-1772; email to dmorisky@ucla.edu.*

Please sign and return this contractual agreement in a Word.doc format, Pages 1 and 2 to Professor Morisky and he will provide you with the scale and coding criteria and signature authorizing use of this copyrighted scale. I agree to use only the English version of the MMAS-8 unless I purchase a validated translation of the MMAS-8 through Professor Morisky. I understand that it is a violation of international copyright laws to either use your own translation and call it the "MMAS-8" or use an existing MMAS-8 scale that has been translated and used for another study. The validated translation is non-transferrable and is linked to a specific license agreement and cannot be reproduced, copied, distributed, placed on the internet, published, or used by another individual.

Name and contact information of Licensee: Verena Johnson, vhum2@aol.com, and I am a Doctorate of Nursing Practice student at Walden University with a graduation date of January 2015

Title of Study: Evidence-Based Program to Improve the Rate of Medication Adherence in Blacks Diagnosed with Hypertension.

Number of Anticipated Administrations of the MMAS-8: 10-15

Signature of Licensee: Verena Johnson, MSN, RN

Date: 12/12/14

Signature of Developer/Owner: Donald E. Morisky

Date: December 12, 2014

Appendix E: Description of Motivational Interview Session

Each patient will attend one motivational interviewing session each week for four weeks. Each session will last approximately 10-20 minutes. All motivational interviewing sessions will be conducted by a trained nurse educator with the aid of a standardized structured adherence counseling script that was adapted from the work of Ogedegbe, et al. (2007; p. 179).

The following sequential steps will be utilized for this project:

1) Assess the patient's motivation and confidence:

The trained nurse educator assesses motivation and confidence with the following questions:

A. On a scale of 1 to 10 (with 10 being the highest), how motivated/interested are you in taking your blood pressure medication as prescribed?

B. On a scale of 1 to 10 (with 10 being the highest), assuming you want to, how confident are you that you can take your blood pressure medication as prescribed?

2) Elicit barriers, concerns and positive self-motivational statements:

Depending on the patient's response to the motivation/confidence questions above, the nurse educator will then ask the patient the following questions:

A. Why did you not choose a lower number, like a 1 or 2? (this elicits positive motivational statements)

B. Why did you not choose a higher number? (this elicits barriers) or what will it take to get you to a 9 or 10?

3) Summary of pros and cons:

The nurse educator will next summarize the patient's pros and cons, and asks if there was anything else that s/he wants to add.

4) Provide menu of options:

If barriers were presented, the nurse educator will then prompt the patient to offer solutions. After the patient has exhausted his/her own solutions (or in the event that none were offered), the nurse educator will seek permission to list other solutions “that have worked for other people”.

5) Assess patient's values and goals:

Patients will be asked to complete a values-clarification list to help link their medication adherence and health to other core values and life goals. This helps to create ambivalence between current behavior and goals and values. Patients will be asked to sort a list of 3 values in terms of priority to personal importance. Patients will be asked to briefly discuss why the values/goals selected are important to them. Patients will then explore what connection if any, they see between their current health behavior and their ability to achieve these goals or live out these values. Alternatively, the nurse educator may ask how changing their health behavior may be related to these goals or values.

Appendix F: Presentation Agenda

A Proposed Evidence-Based Program for Healthcare Personnel to Improve the Rate of Medication Adherence in Black Adults Diagnosed with Hypertension

by
Verena Johnson, MSN, RN
(Doctoral Student at Walden University)

Purpose: To propose an evidence-based program for healthcare personnel to improve the rate of medication adherence in Black adults diagnosed with hypertension

- Introduction
  - Why the proposed program

- Objectives

By the end of this presentation, attendees will be able to:

- Understand the rationale for the implementation an evidenced-based program to improve the rate of medication adherence in Black adults diagnosed with hypertension
- Determine the purpose of the proposed program
- Determine the meaningfulness of the proposed to practice
- Identify the question, assumptions, and limitations of the proposed program
- Understand the general and specific literature supporting the proposed program
- Identify the framework that will guide the proposed program
- Describe the methodology that will be utilized for the proposed program
- Identify the evaluation process of proposed program
- Outline the process of implementation that will be utilized for the proposed program

- Important term for this project
  - Medication Adherence
  - Hypertension
  - Motivational Interviewing

- What is the purpose of this project

- Proposed Population Sample
  - Why this population

- Why is the proposed program significant to practice

- Assumptions and Limitations of this project

- ❖ Review of the Literature
  - General Literature
  - Specific Literature
    1. Hypertension among Blacks
    2. Medication Adherence among Blacks
    3. Motivational Interviewing among Blacks

- ❖ Theoretical Framework (The Transtheoretical Model Of Change)
  - The 5 Stages of Change
  - Literature Review

- ❖ Proposed Project Method
  - Quasi-experimental, quantitative design
  - Single group pretest/posttest design
  - Motivational interviewing tutorials (online)
  - Motivational interviewing sessions (handout)

- ❖ Proposed Data Collection
  - Morisky 8-Item Medication Adherence Scale (handout)
  - Systolic and diastolic blood pressure readings

- ❖ Proposed Data Analysis
  - Descriptive statistics
  - Comparative statistics
  - Paired *t* test

- ❖ Proposed Program Evaluation
  - Comparison of patients' pre- and post-project blood pressure readings
  - Comparison of patients' pre- and post-self-reporting of medication adherence

- ❖ The Proposed Implementation of the Project

- ❖ Questions/Comments/Views of the Project

- ❖ Evaluation Form
  (Please fill out before you leave and turn in the box on the table by the exit door as you leave out the room.)

Curriculum Vitae

Verena D. Johnson, MSN, RN
Email: vhum2@aol.com

Education:

Doctorate of Nursing Practice, Walden University, 2015
Master of Science in Nursing, William Carey College, 2004
Bachelor of Science in Nursing, University of Southern Mississippi, 2003
Associate of Applied Science, Pearl River Community College, 1999
High School Diploma, North Forrest High School, 1996

Professional Experience:

Aug 2004 – Present	Registered Nurse/Pearl River Community College, Poplarville, Mississippi Planning, organizing, and presenting lectures; guiding students at various clinical sites; advising and counseling students in following the program's curriculum
July 2003 – Dec 2012	Registered Nurse/Wesley Medical Center, Hattiesburg, Mississippi Worked in the post anesthesia care unit; performed assessments, documentation, lab draws, medication administration and patient teaching
Oct 2001- Aug 2005	Registered Nurse/Pendleton Memorial Methodist Hospital New Orleans, Louisiana Worked on the medical/surgical unit; performed admissions, discharges, and transfers; performed assessments, documentation, lab draws, medication administration and patient teaching; supervised registered nurses, licensed practical nurses, and certified nurse's aides
Nov 2000- Aug 2001	Registered Nurse/Forrest General Hospital Hattiesburg, Mississippi Worked on the nephrology unit; performed admissions, discharges, and transfers; performed shift assessments, documentation, lab draws, medication administration and patient teaching

Feb 2000-April 2000	Registered Nurse/Conva-Rest Nursing Home Hattiesburg, Mississippi Performed medication administration, daily assessments, and documentation; supervised over licensed practical nurses and certified nurses' aides.

Professional Societies
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Professional Credentials
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Healthcare Provider - BCLS