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Understanding Veteran's Health Beliefs: An Essential Part of a Patient-Centered Approach to Treatment Adherence

Susan E. Phillips DNP, MPH, PMHCNS

Louis Stokes Cleveland VA Medical Center, susan.phillips@case.edu

Mary Dolansky RN, PhD

Frances Payne Bolton School of Nursing, mary.dolansky@case.edu

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Understanding Veteran's Health Beliefs: An Essential Part of a Patient-Centered Approach to Treatment Adherence

Abstract

Background: Patient centered care is a mechanism to encourage healthcare consumers to work together with health care professionals to achieve quality outcomes. In the VA, non-adherence to treatment recommendations is problematic. Non-adherence results in poor use of VA resources as veterans come in for care but do not follow through with recommended treatment plans. Besides asking veterans about their health goals and preferences, understanding the veteran's orientation regarding health beliefs and motivators for adherence to recommended treatment plans is essential for nurses who aim to help the veteran achieve healthy lifestyle behaviors.

Objective: The purpose of this study was to examine veteran's health beliefs and the relationships among veteran's health beliefs and adherence to the treatment plan in order to better understand how to deliver effective patient centered care to the Veteran population.

Method: This study was conducted at a small rural VHA facility, using a descriptive correlational design and a convenience sample (N= 84) of Vietnam veterans, ages 54-64, who were prescribed diet, exercise, and medications in the treatment of hyperlipidemia, hypertension, and/ or diabetes. Subjects were surveyed using a self-administered questionnaire that included standardized measures of health beliefs. Treatment adherence was measured by attendance to primary care appointments to address hypertension, hyperlipidemia, or diabetes.

Results: Data analysis was conducted using a two-tail Pearson correlation analysis and linear regression analysis. The major findings of this study were that, in veterans, adherence is negatively associated with perceived severity of illness but positively associated with the perception susceptibility for becoming ill. Veterans will adhere to the treatment plan if they perceive susceptibility to illness but their adherence may wane if they perceive the severity of the illness increasing.

Conclusion: The findings of this study have significant relevance to nursing. Understanding the health beliefs of veterans and the impact on adherence to the treatment plan is important knowledge if nurses are to help veterans overcome ambivalence to change. These findings suggest a potential for Motivational Interviewing techniques to support self-management regimens in a patient-centered approach.

Keywords

Veterans, Health Beliefs, Adherence, Patient-Centered Care

Cover Page Footnote

Please note that tables are included after the references

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An Essential Part of a Patient-Centered Approach to Treatment Adherence

Introduction

The Institute of Medicine (IOM) defines health care quality as care that is evidence based and results in desired health outcomes.¹ In order to achieve desired outcomes, healthcare must be free of avoidable injuries and medical errors, based on scientific knowledge, and patient centered in order to meet address individual preferences.

According to the Department of Veterans Affairs (VA), an estimated 8.76 million veterans receive healthcare at VA health care centers across the country.² In the VA, non-adherence to treatment recommendations is problematic. Non-adherence results in poor use of VA resources as veterans come in for care but do not follow through with recommended treatment plans. An example is found in the evidence-based treatment of a group of disease processes (hypertension, hyperlipidemia, and diabetes) commonly referred to as Metabolic Syndrome.³ Metabolic syndrome is widely problematic among veterans and has a complex and costly treatment plan that includes multiple medications, laboratory, and diagnostic testing. Veterans with mental health disorders such as PTSD have been found to have a higher risk of metabolic syndrome.^{4,5} The treatment plan requires the veteran to self-manage many aspects such as managing their medications and making lifestyle changes such as changing their diet and incorporating exercise. In order to achieve quality outcomes, the veteran must actively adhere to the evidence-based treatment plan.

Patient centered care is a mechanism to encourage healthcare consumers to work together with health care professionals to achieve quality outcomes. In 2012, the VA's Office of Patient-Centered Care and Cultural Transformation announced an initiative to transform Veterans Health Administration (VHA) healthcare to a patient centered model. A component of the VHA patient

centered model is to ask the Veteran, “How can we help you live your life fully?”⁶ In this shift away from a disease model, the veteran is placed in the center of their care, thereby improving the quality of patient care in alignment with the IOM’s definition of quality care. Besides asking veterans about their health goals and preferences, understanding the veteran’s orientation regarding health beliefs and motivators for adherence to recommended treatment plans is essential for nurses who aim to help the veteran achieve healthy lifestyle behaviors. The purpose of this study was to examine the relationships among veteran’s health beliefs and adherence to the treatment plan in order to better understand how to deliver effective patient centered care to Veterans.

Rosenstock’s Health Belief Model provides insight into reasons why individuals choose to engage in health behaviors.⁷ The core assumptions of the Health Belief Model are that a person will engage in health behaviors if he believes that a negative health condition is possible (perceived susceptibility), that he can improve his health if he takes specific health action (net benefits), and that he has the ability to take health action (cues to action). A person’s readiness to engage in health behaviors is dependent on weighing perceived threat against perceived benefits. Cues to action can be enhanced through strategies designed by healthcare workers to encourage health behaviors and build on successes. Adhering to a prescribed treatment plan is one of several health behaviors an individual can choose. The reasons why patients do not adhere to their treatment plan involve complex social, personal beliefs, and health beliefs.⁸ It has been suggested that the Veteran’s perception of the VHA and of the patient-provider relationship impacts adherence to the treatment plan.⁹ Veterans’ perceptions are influenced by provider attentiveness, experience level of interns and residents, consistency in providers, and level of respect for the sacrifices made by veterans.

The relative importance of the health condition also has an impact on adherence to the treatment plan. Older veterans are more influenced by stoic beliefs that health problems should not be dwelled upon or complained about.¹⁰ Stoic philosophy is, in part, a belief that those things which are beyond one's control should not be of concern. Stoicism and commitment to duty are characteristics of the military culture, based on the philosophy of the ancient stoics (e.g., Epictetus, Kant, Cicero), and are part of the training of a soldier.¹¹ These stoic values are likely to impact adherence to the treatment plan because of their influence on health beliefs. The impact of veteran's health beliefs on adherence to the treatment plan, and how VHA providers can improve adherence in their patients, has not been well studied. This study addresses this gap by answering the following research questions: What is the relationship among veteran's health beliefs and adherence to the treatment plan? Is there a relationship between health beliefs, adherence, and the number of metabolic problems for which the veteran is treated? And, what factors predict treatment adherence in veterans?

Methods

A descriptive correlational design was used to conduct this research at a VHA facility in rural southeastern Ohio that provides outpatient primary care, podiatry, optometry, laboratory, dietary, and psychiatric services to over 3,200 veterans annually. A convenience sample (N= 84) was used. Participants were Vietnam veterans, ages 54-64, who were prescribed diet, exercise, and medications in the treatment of hyperlipidemia, hypertension, and/ or diabetes.

Participants were required to read and write English at an eighth grade level. Female Vietnam veterans were excluded since they are not present in numbers that would be considered a subset. Vietnam veterans who had been diagnosed with dementia or who demonstrated active

psychosis at the time of survey completion were also excluded. Prior to recruitment, approval was obtained from the Institutional Review Board.

Measures

Health beliefs were measured using the “Questionnaire to Measure the Health Beliefs of General Practice Patients”, developed by Cockburn, Fahey, and Sanson-Fisher.¹² Dimensions of perceived susceptibility, perceived severity, perceived benefits, and perceived barriers were measured in a 22 item, 7-point Likert scale. A composite score was created by summing the responses to the subscales individually, as well as a composite score for health beliefs. Low composite scores indicated health beliefs that interfere with adherence to the treatment plan while high composite scores indicated health beliefs that promote adherence to the treatment plan. Scores on the perceived susceptibility subscale indicated the likelihood of becoming ill (6 items); scores on the perceived barriers to treatment subscale indicated a perception of barriers to adhering to the treatment plan (including taking medications) (5 items); scores on the perceived severity subscale indicated the level of perceived threat of the illness in terms of loss of control over one’s life (6 items); and scores on the benefit of treatment subscale indicated the perception of how effective treatment would be (5 items).

The number of disease processes (hypertension, diabetes, and hyperlipidemia) related to metabolic syndrome was counted to determine the relationship between health beliefs, the number of metabolic problems for which the veteran was treated, and adherence to the treatment plan since perceived susceptibility and net benefits are central to the Health Belief Model.

Adherence to the treatment plan was measured by timeliness of refills on medication prescribed for diabetes, hyperlipidemia, and hypertension; and the percentage of scheduled appointments that were attended by subjects during the previous year to address these health

concerns. Information regarding refills and appointment attendance was collected through review of the patient electronic medical record. Attending scheduled appointments and obtaining prescription refills on time are behaviors that the veteran does independently of the health care provider and reflects veteran engagement in self-management.

Findings

A total of 112 Vietnam era veterans were offered an opportunity to complete the survey with a 75% response rate (N=84). The mean age was 62.8 years with a mean education level of “some college”. Most (71.4%) were married with a mean household annual income of 30.5 thousand dollars. Over half (67.9%) had enlisted in the armed forces with an average of 5.1 years served. A biometric description of the sample is found in table 1.

What is the relationship among veteran's health beliefs and adherence to the treatment plan?

A bivariate analysis was performed for the relationship between the health beliefs subscales (perceived barriers, perceived benefit, perceived severity, and perceived susceptibility) and adherence to prescribed treatments (attendance to appointments and obtaining timely refills of medications). Veterans who scored low on the perceived severity subscale, indicating that their health problems were not severe and they did not feel threatened by their health, kept a higher number of scheduled appointments ($r = -.23, p < .05$). Veterans who scored high on susceptibility, indicating that they felt a likelihood of becoming ill, were likely to attend scheduled appointments ($r = .25, p < .05$) (Table 2). The perception of the benefits of treatment and perception of barriers to adhering to the treatment plan were not related to attendance to appointments. Timeliness of prescription refills was not related to health beliefs. (Table 2)

Is there as relationship between the number of metabolic problems, health beliefs, and adherence?

An analysis of the relationship between the number of metabolic problems for which the participants received treatment (hypertension, hyperlipidemia, and diabetes) and health belief subscales was performed. In this sample, 25% had one metabolic disorder, 37% had two metabolic disorders, and 38% had three metabolic disorders. The number of metabolic problems was positively related to perceived severity ($r=.24$, $p=.029$) and negatively related to the perception of benefit of treatment ($r= -.22$, $p=.043$). The more metabolic problems for which the veteran received treatment, the higher perceived severity of illness and the lower the perceived benefit of treatment. The number of metabolic problems was not related to perceived barriers or to perceived susceptibility. The number of metabolic problems was negatively correlated with attendance to appointments ($r= -.25$, $p= .02$). (Table 2)

What factors predict treatment adherence in veterans?

A linear regression analysis was performed to address the relationship between the health belief subscales (perceived barriers, perceived benefit, perceived severity, and perceived susceptibility), number of metabolic problems, and adherence. Since in the initial analysis, the variable prescription refills was not related to health beliefs, it was not considered in this regression analysis. Six percent of variance ($r^2= .064$) in appointment attendance was related to perceived susceptibility for illness. The degree to which the veteran perceives that he is likely to become ill predicts the likelihood of attending appointments to address that illness ($F= 5.62$, $p=.02$).

For the predictor perceived severity, five percent of the variance ($r^2= .051$) in appointment attendance is determined by perceived threat of illness ($F= 4.43$, $p=.038$). The degree to which the veteran perceives the threat of his illness predicts the likelihood of attending

appointments. Perceived benefit and perceived barriers were not predictors of attendance to appointments (Table 3).

Discussion

The major findings of this study were that, in veterans, adherence is negatively associated with perceived severity of illness but positively associated with the perception susceptibility for becoming ill. Veterans will adhere to the treatment plan if they perceive susceptibility to illness but their adherence may wane if they perceive the severity of the illness increasing. These findings are not consistent with Rosenstock's health belief model which posits a person's readiness to adhere to a treatment plan is dependent on weighing perceived severity against perceived benefits. In this study, participant's adherence to the treatment plan was not related to perceived benefit of treatment or the perception of barriers to treatment.

The findings from this study are consistent with Reactance Theory. Reactance Theory tells us that when an individual experiences threats to freedom of daily living, they are likely to choose behaviors that allow them to restore control.¹³ As perception of severity of illness increases, adherence to the treatment plan may wane in favor of behaviors that increase individual freedom such as freedom of choice. This discrepancy is consistent with the idea that veterans have stoic values about body and health that are different than non-veterans. These stoic values may impact a veteran's readiness to act on health behaviors such as adhering to the treatment plan. These stoic values have been described by Sherman as guiding all aspects of the military culture, including perception of the body, response to fear, self-command, and self-reliance.¹¹

Limitations

There were several limitations to this study. This study was performed at one VHA outpatient setting. Convenience sampling was used and the majority of subjects were Caucasians

living in small urban, semi-rural, and rural settings and, therefore, does not allow for the effects of diversity on health beliefs.

The ability to generalize the study findings to all veterans may be limited. Findings can be generalized to Vietnam era veterans from similar cultural back grounds. Findings cannot be reliably generalized to veterans of Desert Storm or veterans of Operation Iraqi Freedom/ Operation Enduring Freedom.

Recommendations

The following recommendations can be made based on the findings from this study. (1) A replication of this study to include several VHA outpatient clinics will improve the ability to generalize findings. (2) A similar study comparing Vietnam era veteran's health beliefs to the newest generation of veterans (Operation Iraqi Freedom/ Operation Enduring Freedom) would broaden the understanding of veterans' health beliefs while accounting for variance due to age and changes in military culture over time. (3) Since the findings of this study are not consistent with the traditional theories of health seeking behavior, further research into the stoic philosophies within the veteran culture are needed.

Application of Findings

The results of this study have several implications for healthcare providers treating veterans in either the VHA care system or in non-VHA facilities. Implications for practice, policy, and education are discussed here.

First and foremost, the data from this study provide insight into the health beliefs that affect veteran adherence to the treatment plan which can be problematic. Findings from this study support the idea that veterans' health beliefs are not consistent with Rosenstock's widely

recognized Health Belief Model and those providing health care to veterans should use this knowledge in their approach to healthcare delivery.

Findings from this study support the use of Motivational Interviewing and Personalized Health Plans in the primary care setting. Motivational Interviewing is an evidence based technique that allows patients of all types to overcome ambivalence associated with making changes in health behaviors.¹⁴ This technique has been widely used in the field of substance abuse in order to help patients challenge their beliefs about their health condition and to visualize their ability to live free of substances. Motivational Interviewing is being used with increasing frequency in a primary care setting to encourage patient's adherence to the treatment plan. When patients feel empowered to participate in their treatment planning, the perception of severity of illness decreases.¹⁵

The findings of this study encourage a change in practice from a directive approach to that of personalized treatment planning, requiring the patient to identify treatment goals. This patient centered approach is being implemented at the Department of Veterans Affairs. The use of personalized treatment planning fully places the patient in the center of care, empowering the veteran to identify those areas of health improvement that are important to him.

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Table 1

Biometric Description of Sample (N=84)

	N	Mean	Normal Range
Disorders			
BMI	84	31.6	18.5 – 24.9
Cholesterol (mg/dL)	83	159	< 200
HDL (mg/dL)	83	32	> 35
LDLD (mg/dL)	83	96	< 130
Triglycerides (mg/dL)	83	175	< 200
A1C (%)	69	6.6	< 6
Systolic b/p (mm/Hg)	84	127	< 120
Diastolic b/p (mm/Hg)	84	70	< 80

Table 2Correlation Between Health Beliefs and Adherence to Treatment Plan, # Metabolic Problems

	<u>Appointments</u>	<u>Refills</u>	<u># Metabolic Problems</u>
Barriers	-.12	-.12	.03
Severity	-.23 **	-.15	.24 **
Benefit	.06	.13	-.22 **
Susceptibility	.25 **	.07	-.06
#Metabolic Problems	-.25 **	-.11	

Note. ** $p < .05$

Table 3Regression Analysis for Health Beliefs and Appointment Attendance

	r	r ²	F (df.)	p	
Susceptibility	.25	.06	5.62 (1)	.020	
Severity		.23	.05	4.43 (1)	.04
Barriers		.12	.02	1.28 (1)	.26
Benefits		.06	.00	.30 (1)	.58

Note. dependent variable= appointment attendance