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Factors Influencing Compliance in the Treatment of Elderly Hypertensive Vietnamese Clients

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TITLE OF PROJECT _____ FACTORS INFLUENCING COMPLIANCE IN THE TREATMENT OF ELDERLY HYPERTENSIVE VIETNAMESE CLIENTS _____

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Abstract

Little is known about health care beliefs and practices among Vietnamese elderly persons living in the United States. In general, studies of patient compliance with medical advice consistently demonstrate a high level of noncompliance. Not following recommendations can have serious negative consequences in the management of disease. The purpose of this study was to investigate compliance among a group of elderly Vietnamese clients with the plan given to them by their physicians for control of hypertension. Because the literature reports a high correlation between income and level of education with compliance in other groups, these factors were also studied as they related to this Vietnamese group. Thirty participants were surveyed with a Self-Reporting Adherence Scale (SRAS) questionnaire, to determine their compliance. A descriptive correlational study was done to determine the relationship between income and education regarding compliance to a plan to control hypertension in Vietnamese clients 65 years and older. The participants were selected from a convenience sample of senior Vietnamese men and women. The mean for compliance on the SRAS questionnaire showed a high level of compliance reflected as "most of the time" or four out of five with five being high on the Likert scale. There was also a positive statistical relationship found between both income and educational level with compliance using the Pearson product moment correlation coefficient. Suggestions were recommended for future research.

Cuong Phu Pham, RN

FACTORS INFLUENCING COMPLIANCE IN THE TREATMENT OF ELDERLY HYPERTENSIVE VIETNAMESE CLIENTS

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Little is known about health care beliefs and practices among Vietnamese elderly persons living in the United States. In general, studies of patient compliance with medical advice consistently demonstrate a high level of noncompliance. Not following recommendations can have serious negative consequences in the management of disease. The purpose of this study was to investigate compliance among a group of elderly Vietnamese clients with the plan given to them by their physicians for control of hypertension. Because the literature reports a high correlation between income and level of education with compliance in other groups, these factors were also studied as they related to this Vietnamese group. Thirty participants were surveyed with a Self-Reporting Adherence Scale (SRAS) questionnaire, to determine their compliance. A descriptive correlational study was done to determine the relationship between income and education regarding compliance to a plan to control hypertension in Vietnamese clients 65 years and older. The participants were selected from a convenience sample of senior Vietnamese men and women. The mean for compliance on the SRAS questionnaire showed a high level of compliance reflected as "most of the time" or four out of five with five being high on the Likert scale. There was also a positive statistical relationship found between both income and educational level with compliance using the Pearson product moment correlation coefficient. Suggestions were recommended for future research.

Today's health care providers are facing an increasingly diverse client population brought about by the significant and ongoing demographic changes in this mobile society. The impact of such changes is especially acute in a state like California, where there is a secondary migration to California after a preliminary settlement in another state. To be effective in their profession, health care providers must be aware of the impact of diverse health and disease belief systems on the interaction of health care providers and clients of a different cultural heritage (Young, 1995). Since 1975, an estimated one million refugees from Vietnam and other Southeast Asian counties have immigrated to the United States. Persons of Vietnamese origin are the most rapidly increasing segment of the Asian/Pacific Islander ethnic group in the United States (U. S. Bureau of the Census, 1996). Although public health agencies have reported extensively on the occurrence of infectious diseases in these populations, the prevalence of risk factors for noninfectious health concerns (e.g., heart disease, cancer, and unintentional injuries) has not been well defined. Of the more than 800,000 Vietnamese living in the United States, nearly half (46%) reside in California (U.S. Bureau of the Census, 1996).

In 1995, as a combined minority group, the nearly 9.3 million Asian and Pacific Islanders in the United States (primarily Chinese, Filipino, Japanese, and Vietnamese) made up about 3.6% of the total United States population--over three times the percentage in 1980. Approximately 617,000 (6.6%) of the Asian and Pacific Islander population were age 65 and older; 36,000 (.03%) were age 85 and older (U.S. Bureau of the Census, 1996).

Very little is known about the general health conditions of Pacific/Asian Americans. As a group, fewer of the older Asian and Pacific Islander Americans are at

the poverty level than the general older population (Young, 1995). This may be due, in part, to of an emphasis on familial responsibility in caring for older relatives. Some groups of older Asian and Pacific Islanders, however, including Hmong, Cambodian, Laotian, and Vietnamese suffer from a much higher rate of poverty than the general population. Many of these older people speak little English, and can neither read nor write English or their native language, thus increasing their difficulties in an alien culture (Young, 1995).

The Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VI, 1997) estimated that approximately 50 million adults in the United States meet the criteria for hypertension (antihypertensive drug therapy; systolic blood pressure of 140 mm Hg or higher, or diastolic blood pressure of 90 mm Hg or higher, on two or more occasions). Blood pressure is classified into normal, high normal, or 3 stages of hypertension by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VI, 1997). Among persons with hypertension, 76% are aware of the diagnosis, but only 31% achieve adequate control (blood pressure less than 140/90 mm Hg).

Cardiovascular disease is the major cause of death in many Western countries. Risk factors for cardiovascular disease include smoking, high serum cholesterol levels, obesity, physical inactivity, and hypertension. Hypertension is a common chronic condition that contributes substantially to morbidity and mortality in the United States (National Center for Health Statistics, 1990). The 1993 report of the National High Blood Pressure Education Program Working Group (NHBPEP Working Group, 1994)

concluded that hypertension is more common in men than in women and the risk increases with age. Other factors associated with high blood pressure include high sodium intake, obesity, heavy drinking of alcohol, having a family history of high blood pressure, and lower social class.

A research study by Diez-Roux, Northridge, Morabia, Bassett, and Shea (1999) on prevalence and social correlates of cardiovascular disease risk factors in a predominantly African American, poor, urban community revealed that disadvantaged, urban communities were at high risk for cardiovascular disease. The study, conducted over an 8-week period, sampled 695 individuals, and examined the demographic and socioeconomic factors associated with the prevalence of four well-established cardiovascular risk factors (hypertension, obesity, smoking, and physical inactivity) in a population-based sample of men and women living in Central Harlem, New York City. The study concluded that income and education were inversely related to hypertension, smoking, and physical inactivity.

In a study of another minority group in America, Sundquist and Wikleby (1999) examined the extent to which cardiovascular disease risk factors differ among subgroups of Mexican Americans living in the United States. Using data from a national sample (1988-1994) of 1,387 Mexican American women and 1,404 Mexican American men, aged 25 to 64 years, they examined an estimate of coronary heart disease mortality risk and 5 primary cardiovascular disease risk factors: systolic blood pressure, body mass index, cigarette smoking, non-high-density lipoprotein cholesterol, and type 2 diabetes mellitus. Differences in risk were evaluated by country of birth and primary language spoken. The study concluded that US-born English-speaking women and men had

healthier cardiovascular profiles than US-born Spanish-speaking women and men because of higher levels of acculturation. These higher levels of acculturation may result in positive benefits from the dominant culture, including opportunities for higher education and income; access to preventive health services; effective screening, diagnosis, and treatment of cardiovascular disease-related conditions.

There is substantial evidence that risks related to hypertension increase concomitantly with advancing age. The 1993 report of the National High Blood Pressure Education Program Working Group (NHBPEP Working Group, 1994) concluded that high blood pressure is one of the most important and most common of the risk factors for cardiovascular disease. The elderly client, diagnosed with hypertension is advised by a health care professional to make major lifestyle changes and to continue medication permanently unless otherwise instructed. If the elderly individual perceives that the drugs are more for symptomatic relief than for chronic maintenance, there is poor compliance to long-term treatment (Ascione, 1994). Studies have shown that early and effective treatment of hypertension required strong compliance to the regime by elderly hypertensive clients (Ascione, 1994; Patton, Meyer, & Lewis, 1997). Compliance has been related to knowledge and self-care abilities (Ascione, 1994). Lack of compliance to treatment of hypertension often leads to chronic problems associated with cardiovascular disease, kidney problems, and strokes. Hypertension is recognized as a major health risk for the elderly in the 1990s. It is important to help facilitate the management of this chronic illness to identify more appropriate ways to employ self-care strategies and health care services.

An important determinant influencing compliance behavior is quality of communication between the practitioners and the clients (Patton, Meyers, & Lewis, 1997). Communication involves the transmission of information including the content and manner. The clients' health beliefs and level of satisfaction with the consultation have been argued to be related to compliance. Poor compliance may result from inadequate knowledge or understanding of the prescribed treatment (Powers & Wooldridge, 1992). If patients do not know or can not remember what they are supposed to do and when, they will not be able to adhere to instructions. Strategies are available that health care providers can use to increase their patients' understanding and recall of information. These include presenting the treatment instructions in a clear and simple way using concrete and specific advice rather than vague generalities. Another strategy is to use health care providers that are fluent in the mother language of the patient so they can communicate with them most effectively.

In 1996 a descriptive study by Hansell was used to measure levels of compliance to a treatment regime among elderly hypertensive clients. A blood pressure monitoring program was set up to promote client education and self-care. The 16 subjects were selected from a convenience sample of citizens aged 60 years and older who met with the nurse researcher for 12 weeks. The participants were given a pre- and posttest Self-Reporting Adherence Scale (SRAS) questionnaire (Michnowicz, 1989) and blood pressure was recorded at the beginning and at the completion of the program. Educational instruction was given in English and Spanish. At the completion of the program, the scores from the SRAS questionnaire comparing the posttest responses with the pretest

responses indicated an increase in adherence to maintaining a blood pressure therapy program.

<p style="text-align:center">Purpose and Research Questions</p>

The purpose of this study was to investigate compliance among elderly hypertensive Vietnamese clients and to determine the relationship between income and educational levels regarding compliance in the treatment of hypertension. In the past 20 years, there has been a considerable amount of research on compliance and hypertension, but no studies that specifically address the compliance in the treatment of hypertensive Vietnamese clients. The research questions were:

1. What is the level of compliance among elderly hypertensive Vietnamese clients?

2. Is there a relationship between income and educational levels regarding compliance in the treatment of hypertension in elderly Vietnamese clients 65 years and older?

The following definitions were used in this research study:

1. Compliance is the extent to which a person's behavior (in terms of taking medications, following diets, or executing life-style changes) coincides with medical or health advice (Haynes, Sackett, &Taylor, 1979).

2. Hypertensives are those individuals who self-report that they have been diagnosed with high blood pressure and that they require antihypertensive medication.

3. Income levels are the levels of money individuals received monthly (see Table 2).

4. <u>Educational levels</u> are the academic levels individuals achieved during their lifetime.

5. <u>Elderly</u> are persons 65 years and older.

<div align="center">Methods</div>

<u>Design</u>

A descriptive survey with a non-experimental design was used to gather data on a group of self-reporting hypertensive Vietnamese men and women clients age 65 and older. The survey included questions on demographic characteristics, socioeconomic status, and a SRAS questionnaire (see Appendix A).

<u>Subjects and Setting</u>

The participants were selected from a convenience sample of senior Vietnamese men and women. The nurse researcher asked for clients from the senior center who had hypertension to volunteer for this research project. Participants met the following criteria: (a) gave informed consent, (b) were Vietnamese 65 years of age or older who spoke Vietnamese, and (c) completed the demographic and the SRAS questionnaire. The questionnaire was translated from English to Vietnamese by a certified translator.

<u>Procedure</u>

The nurse researcher who was fluent in the Vietnamese language met with the participants individually at a private corner in the general purpose room of the senior facility and instructed each one about informed consent. The researcher assured each participant that their name would only be known to the researcher in order to maintain their privacy. Coding of data was done by assigning a code number to each client. The charts were filled out and seen only by the researcher. The information was kept locked in the researcher's office. At the conclusion of the study, the list of names and code

numbers was destroyed. A signed consent form was obtained from every participant. The researcher assured the participants that they could stop or drop participation at any time without repercussions from the health care provider or the senior center agency.

Findings

Descriptive statistics of frequencies, means, and percentages described the sample and the variables, which were income, education, and level of compliance among elderly hypertensive Vietnamese clients. Table 1 shows that the ages of the participants ranged from 65 to 85 years. The mean age of the participants was 71 years with a standard deviation of 5.2 years. There were 20 male (67%) and 10 female (33%) participants. Of these 30 participants: (a) 15 were married, (b) 14 were widowed, and (c) 1 was divorced.

Compliance.

What is the level of compliance among elderly hypertensive Vietnamese clients? The level of compliance among elderly hypertensive Vietnamese clients was determined by administering a SRAS questionnaire to the participants. The participants could choose either the English or Vietnamese form. Table 2 shows the total score of SRAS. The mean score of the 30 participants was 40 points of the SRAS with a standard deviation (SD) of 7.1 points. This response of 40 points reflects item 4, "most of the time" on the Likert scale used in this study. The range used in the scoring was one to five with five being the most compliant.

Income and Education.

Is there a relationship between income and education regarding compliance in the treatment of hypertensive in elderly Vietnamese clients 65 years and older? The total monthly income of 30 participants was as follows: (a) 6 (20%) income range at

$201-400, (b) 0 income range at $401-600, (c) 21 (70%) income range at $601-800, and (d) 3 (10%) income range at $801-1,000 (see Table 3).

Table 3 shows the highest education among the 30 participants. Three of the 30 participants had no formal education, and 2 participants had a bachelor's degree. The highest frequency of the participants' education was grade 7-9 with 9 participants.

In this study the Pearson product moment correlation coefficient (r) was used to test the relationship of income($r = .44$), education ($r = .46$), and compliance. There was a statistically significant positive relationship between income, education, and compliance with a two-tailed correlation statistic ($p = .05$) (see Table 4).

Discussion

The study examined the level of compliance in the treatment of elderly hypertensive Vietnamese clients by using a SRAS questionnaire and by testing the relationship of income and education to compliance. The study provided descriptive data including means and standard deviations for the level of compliance. In addition, a positive relationship was found between income and compliance and between education and compliance in the treatment of elderly hypertensive Vietnamese clients at a senior center. This finding is consistent with the results of earlier studies done on other ethnic groups (Diez-Roux, et al., 1999; Sundquist & Winkleby, 1999). This study provided a beginning step to ascertain the level of compliance among elderly Vietnamese clients, thereby providing a platform for future studies of compliance among the Vietnamese and other ethnic groups. Some limitations can be identified in the study. In was done on a convenience sample of only 30 hypertensive Vietnamese clients age 65 and older at a senior center, thus limiting generalizability. The SRAS predominantly measures

compliance to medications. A more comprehensive tool that measures other aspects of compliance, for example, the issue of communication between the client and the health care provider would be valuable to know.

Implications for Practice

Chronic health problems related to hypertension in the elderly are a major concern in America today. Despite advances in diagnosis and treatment, large numbers of patients continue to have poorly controlled blood pressure. In general, studies of patient compliance with medical advice consistently demonstrate a high level of noncompliance. In addition almost nothing has been reported on compliance among the Vietnamese population. Not following recommendations can have serious negative consequences in the management of disease. Replication studies using pre- and post-test scores of the SRAS and control groups would improve the validity of the findings. In addition more studies done to ascertain the value of communication between client and health care providers who are fluent in the language of the client could be very useful. The implementation of a blood pressure monitoring and education program among minority populations would reinforce compliance and promote client education and self-care. Nurses, who provide both care for chronic illness and programs for preventing the onset of chronic disability, are in key positions to influence compliance among elderly Vietnamese persons.

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Appendix A

Self-Reporting Adherence Scale (SRAS)

Please circle one number for each question that best describes your answer. Please be

sure to circle ONLY ONE for each question. Thank you.

1.   Do you take your blood pressure medicine as it is ordered by your doctor or nurse

practitioner?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

2. Even though you feel well, do you continue to take your blood pressure medicine?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

3. If you feel worse after you take a NEW blood pressure medicine, do you continue to

take the medicine?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

4. Do you get another prescription filled or call your doctor or nurse practitioner

BEFORE you run out of the blood pressure pills that you are taking?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

5. Do you attend scheduled appointments with your doctor or nurse about your high

blood pressure?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

6. It is hard to remember to take medicine. Do you remember to take your blood

pressure medicine that is ordered for you?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

7. Has the doctor told you to avoid certain foods or additives such as seasonings to

decrease your blood pressure? How much have you changed your eating habits?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

8. Has your doctor suggested you go on a diet? How often do you follow the doctor's

advice?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

9. If you have been told to take walks or to do some type of exercise because it helps to

decrease your blood pressure, how often do you walk or exercise?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

10. If a family member or friend tells you that blood pressure can get better, how much

do you believe them?

Never	Seldom	Half the time	Most of the time	Always
1	2	3	4	5

PLEASE CONTINUE TO THE NEXT PAGE

Please answer the following questions by checking appropriate answer or filling in blank space. Thank you.

11. What is your age? _____

12. What is your sex? Male_____Female_____

13. What is your marital status at this time?

Single_____ Married_____ Widowed_____ Divorced_____

14. What is your total monthly income? Do not include your spouse or family members' income, this is your income ONLY.

$0-$200.00_____ $201.00-$400.00_____

$401.00-$600.00_____ $601.00-$800.00_____

$801.00-$1,000.00_____   Over $1,000.00_____

15. What is your highest education level?

No formal education_____

Grade 1-6_____7-9_____10-12_____

Some College_____Bachelor Degree_____Advanced College Degree_____

Please indicate in what country you attended college:

USA_____

Vietnam_____

Other:_____

THANK YOU FOR TAKING TIME TO ANSWER THESE QUESTIONS.

Table 1

Demographic Profile of the Participants (N = 30)

Demographic Characteristic	Frequency	Percent
Gender		
Male	20	67
Female	10	33
Age Range		
65-70	16	53
71-75	7	24
76-80	6	20
81-85	1	3
Marital Status		
Married	15	50
Widowed	14	47
Divorced	1	3

Table 2

Results of the SRAS Questionnaires (N = 30)

SRAS Questions	M	SD
1. Do you take medicine as ordered?	4.43	.94
2. Do you take medicine even though you feel well?	4.17	1.09
3. Do you continue to take new medicine even if you feel worse?	3.43	1.61
4. Do you get your prescriptions refilled before you run out of pills?	4.13	1.43
5. Do you attend scheduled appointments about high blood pressure?	4.60	.86
6. Do you remember to take ordered medicine?	4.13	1.43
7. How much have you changed eating habits?	3.93	1.05
8. How often do you follow doctors diet advice?	4.27	.98
9. How often do you walk or exercise?	4.40	.77
10. How much do you believe blood pressure can get better?	2.41	1.43
Total score of SRAS	39.96	7.10

Note. Responses on the Likert scale; never = 1, seldom = 2, half the time = 3, most of the time = 4, always = 5. Range = 10-50.

Table 3

Income and Education Levels of Participants (N = 30)

	Frequency	Percent
Income Monthly		
$201-400	6	20
$401-600	0	0
$601-800	21	70
$801-1,000	3	10
Education Levels		
No Formal Education	3	10
Grade		
1-6	5	17
7-9	9	30
10-12	6	20
Some College	5	17
Bachelor's Degree	2	6

Table 4

Results of Correlation Among Income, Education, and Compliance (N = 30)

Descriptive Statistics	M	SD
Total score of SRAS	39.96*	7.10
Total Monthly Income	3.70**	.92
Highest Education	3.37***	1.40

	Pearson (r)
Income and Compliance	.444****
Education and Compliance	.462****

Note. *Total score for SRAS ranges from 10-50.

**Income Monthly ranges from $601-800.

***Grade level ranges from 7-9.

****Correlation is significant at the 0.05 level (two-tailed). The correlation

coefficient (r) ranges from −1.00 to +1.00. The positive r number indicates positive

relationship.