

<Original Article>

A Cross Cultural Comparison of Knowledge of Hypertension, Health Promoting Lifestyle, and Spirituality in Residents with Hypertension from Iwate Japan and Southeastern North Carolina USA

Jeanne Kemppainen¹⁾ Perri Bomar¹⁾ Kazuko Kikuchi²⁾ Hiroaki Ambo³⁾
Yuriko Kanematsu⁴⁾ Michiko Tsuboyama⁴⁾ Akiko Ando⁵⁾
Kyoko Noguchi⁶⁾ Sumiko Chiba⁶⁾

¹⁾University of North Carolina Wilmington ²⁾Iwate Prefectural University
³⁾Iwate Seiwa Hospital ⁴⁾Former Iwate Prefectural University
⁵⁾Kobe Continuing Education Center, Japanese Nursing Association
⁶⁾Takizawa Village Office, Iwate

Abstract

Objectives: The aim of this study was to identify and compare knowledge about hypertension, health promoting lifestyle, and level of spirituality/religiosity in persons with hypertension from Iwate, Japan and Southeastern North Carolina, USA.

Methods: A cross-sectional design was used to explore differences and similarities between rural residents receiving care through a health clinic and a prefectural hospital in Iwate and through primary care clinics in southeastern North Carolina.

Results: The convenience sample included 212 Japanese (67%) and 105 North Carolina residents (33%). Compared with North Carolina, rural residents in Iwate had an increased systolic blood pressure (147.0 vs. 130.4) and increased total cholesterol (204 in Iwate vs. 191 in North Carolina). North Carolina participants had increased BMI rates (31.5 in North Carolina vs. 25.5 in Iwate) with an average waist circumference of 102 cm. While Iwate participants had a higher correct answer rate on the Knowledge of Hypertension Survey (77.9% vs. 61.2%), North Carolina participants scored higher on the Belief in a Higher Being in Healing Scale (16.3 vs. 4.3). In Iwate, behaviors involving health responsibility ($p<.000$), nutrition ($p<.000$), interpersonal relationships ($p<.000$), and stress management ($p<.000$) were higher than those of residents in North Carolina. No differences were found on the HPLP II between participants of both countries on physical activity and spiritual growth.

Conclusions: The major challenge in caring for persons with hypertension is improving health literacy for this chronic disease and the benefits of lifestyle modification. Study findings also emphasize the critical need for developing and testing interventions aimed at hypertension, weight control, and cholesterol. Relevant spiritual practices are important internationally and also need to be assessed.

Keywords: Hypertension, Health Promotion, Cross-cultural, Spirituality, Pender

Introduction

Hypertension is a continuing chronic health problem for residents in both rural northern Japan and the Southeastern United States.¹⁾⁻³⁾ Despite recent advances in the prevention and treatment of hypertension, rural residents in both Iwate Prefecture and Southeastern North Carolina have a continuing high incidence of hypertension, with limited explanations of the contributing factors to hypertension.⁴⁾⁻⁵⁾

With the continued rising rates of hypertension, increasing attention is being focused on health-promoting lifestyles as a contributor in reversing this trend. While beginning studies report associations between demographic variables and health-promoting lifestyle, the relationship between cognitive, behavioral, and other contributing factors which impact hypertension has not been widely researched.

A collaborative international research study was developed in response to this continuing health care challenge experienced jointly by health professionals in northern Japan and Southeastern North Carolina. The conceptual framework, design, and study protocols were developed by the study team members at joint meetings in North Carolina and Iwate and also via the Internet. This research project examined commonalities and differences in cognitive, behavioral, and cultural variables related to health promoting lifestyles and physiologic variables among residents with hypertension from each country.

The specific aims of this study were to identify and compare¹⁾ knowledge about hypertension, ²⁾ levels of spirituality/religiosity, and ³⁾ health promoting lifestyles in persons with hypertension living in Iwate and Southeastern North Carolina.

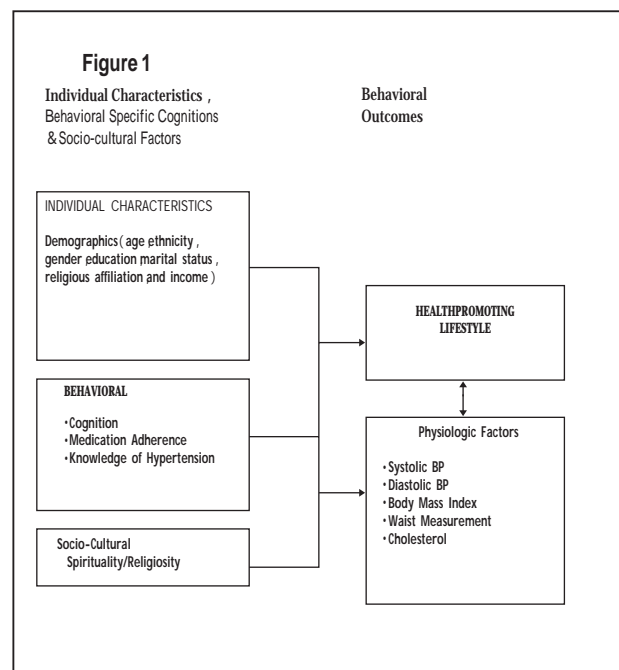
Theoretical Framework

The theoretical framework for this study was a modification of Pender's revised Health Promotion Model.⁶⁾ The concepts used for this model include individual characteristics (age, ethnicity, gender, education, marital status, religious affiliation, and income), cognition (knowledge of hypertension), behavioral (medication adherence), and socio-cultural (spirituality or religiosity) factors. The model consists of two interrelating categories containing variables that influence, either directly or indirectly; the health-promoting lifestyles that affect the physiologic factors of hypertension (see Figure 1)

Methodology

A cross-sectional design was used to explore differences and similarities between participants in northern Japan and southeastern North Carolina. In Iwate, data was collected from a convenience sample of rural residents receiving care through a health clinic of a community health center and an outpatient clinic of a prefectural hospital. In North Carolina, subjects were recruited through primary care clinics located in rural southeastern North Carolina. Both subjects were the visitors to the clinics on data collection days and were given questionnaire surveys and blood pressure, height and weight measurements by researchers.

The study was approved by Institutional Review Boards at the University of North Carolina Wilmington, Iwate Prefectural University and the Takizawa Health Center in Takizawa, Iwate. All subjects were informed orally with a written document which included anonymity, respect for individual intent, and the use of the data to be limited to research purpose, and gave consent. In preparation for the study, faculty from the Iwate Prefectural University research team translated study measures to Japanese and back-translated the surveys.



Instruments

The Health Promoting Lifestyle II Survey (HPLP II) was designed to investigate patterns and determinants of health-promoting lifestyles, as well as the effects of interventions to alter lifestyles. The HPLP II is a 52 item likert-type scale consisting of 6 subscales: spiritual growth, health responsibility, physical activity, nutrition, interpersonal relations, and stress-management.⁷⁾ The Japanese language version of the HPLP was provided by Wei and colleagues with sufficient reliability and validity.⁸⁾ Cronbach's alpha coefficients in this study were .90 in total score in Iwate and .97 in NC, and in subscales, .60-.80 in Iwate, .72-.91 in NC. Commonly used interchangeably religion and spirituality are different concepts and the meanings vary by culture. For this study, spirituality was defined as an individual process of searching for purpose and meaning of life and often associated with meditation, connecting with others, choosing values, and reflection.⁹⁾ Spirituality was measured using the HPLP II subscale for spiritual growth. Religiosity is defined as personal relationship with a supernatural or divine force that includes worship and obedience. Belief in a supreme being was measured by using a 7 item subscale from the Belief in a Higher Being in Healing scale with reported validity and reliability.¹⁰⁾ The seven items were translated/back-translated and used in this study. Cronbach's alpha in this study were .84 in Iwate and .89 in NC.

The Morisky Medication Adherence Scale, a scale with widely reported reliability and validity, was used to measure adherence with antihypertensive medications.¹¹⁾ This four item self-report measure was based on the knowledge that medication omission can occur in several ways such as forgetting, carelessness, stopping the medication when feeling better, or stopping the medication when feeling worse.

The Knowledge of Hypertension Survey, developed by Knopp & Razlaff¹²⁾ consists of 12 true/false items with widely reported reliability and validity. These two surveys were translated/back-translated and used in this study. The results were analyzed on each item. The Demographic Data Survey included information about age, gender, marital status, level of education, occupation, and antihypertensive medications. Physiologic measures included systolic and diastolic blood pressures, cholesterol levels, waist measurement, and Body Mass Index (BMI). Researchers in both countries followed standardized protocols for measuring blood pressure, based

on the American Heart Association Human Blood Pressure Determination by Sphygmomanometry, with the use of a consistent aneroid manometer. Cholesterol levels, including total cholesterol, LDL, and HDL were obtained from study participants' charts. Body Mass Index (BMI) calculations were based on a standardized formula using weight in kilograms and height in meters. Waist Measurement was calculated in centimeters in North Carolina participants.

Data Analysis

Descriptive statistics were calculated to assess the demographic and physiologic characteristics of respondents in both groups. Independent t tests and Chi-Squared tests were used to compare group means and percent distribution on study measures and Pearson's correlation coefficients were used to examine relationships between physiologic characteristics, the HPLP II, the Morisky Medication Adherence Scale, The Knowledge of Hypertension Survey, and the Belief in a Higher Being in Healing. SPSS 16.0j for Windows was used for analysis.

Results

Demographics

A total of 317 persons with hypertension participated in the study, including 212 Iwate (67%) and 105 North Carolinians (33%). One hundred percent of the participants from Iwate Prefecture were Japanese, while 62% of North Carolina participants were African American, 30% were Caucasian, and 8% Native American. Ninety-one percent (n = 193) of the participants from Iwate were over the age of 50 years, compared with 70% (n = 74) for North Carolina participants. A higher percentage of Iwate participants were married (77% in Iwate vs. 50% in North Carolina), and a higher percentage were living with family and friends (90% in Iwate vs. 80% in North Carolina). Both groups had a similar distribution of female participants, with 62% (n = 131) in Iwate and 57% (n = 60) in North Carolina. (Table 1) Compared with Iwate, North Carolina participants had increased BMI rates (31.5 in North Carolina vs. 25.2 in Iwate) and an average waist circumference was 102 cm in North Carolina.

Compared with participants from North Carolina, persons in Iwate had an increased systolic blood pressure (147.0 in Iwate vs. 130.4 in North Carolina) and increased total cholesterol (204 in Iwate vs. 191 in North Carolina). While 91% of the North Carolina participants were currently taking medications to control blood pressure, only 76% of the Iwate

residents indicated that they were receiving antihypertensive medicines. Fifty seven percent of the Iwate rural residents reported taking antihypertensive medications more than 5 years compared to 45% of the North Carolina participants. Japanese participants reported greater adherence to antihypertensive medication regimens ($p<.019$)

Table 1. Sample Characteristics

	Iwate Japan (n=212)	North Carolina USA(n=105)	P
Demographics			
Age 50 or over	193 (91%)	74 (70%)	.000 ***
Gender male	81 (38 %)	45 (43%)	.500
female	131 (62%)	60 (57%)	
Marital status: married	164 (77%)	52 (50%)	.000 ***
Living with family or friends	191 (90%)	82 (80%)	.004 **
Religious affiliation	Buddhist 79 (37%) No Religion 112 (53%) Other 16 (8%) No answer 5 (2%)	Protestant 87 (83%) No Religion 8 (8%) Other 8(8%) No answer 2 (1%)	—
Ethnicity	Japanese 212 (100%)	African American 65 (62%)	—
Education ~high school Vocational & Collegeate No answer	160 (75%) 50 (24%) 2 (1%)	69 (66%) 36 (34%)	.022 *
Occupation Working Not working No answer	68 (32%) 123 (58%) 21 (10%)	33 (31%) 62 (59%) 10 (10%)	.785
Physiologic factors			
Systolic Blood Pressure	147.01 (19.4)	130.38 (19.5)	.001 **
Diastolic Blood Pressure	84.33 (10.8)	85.19 (11.9)	.541
BMI	25.5 (18.7)	31.5 (6.6)	.016 *
Total cholesterol	204 (33.2)	191 (43.2)	.033
Antihypertensive medications			
Average number of Anti- hypertensive medications	1.72(0.93)	1.66 (0.82)	.564
Length of taking Anti- hypertensive medications	3.33yrs. (0.95)	3.11yrs. (1.0)	.090
% taking antihypertensive medications	158(76%)	95(91%)	.000 ***

t-test Chi-squared-test * $P<.05$ ** $P<.01$ *** $P<.001$

Table 2

Knowledge of Hypertension and Medication Adherence

	Iwate Japan n=212	North Carolina USA n=105
Knowledge of Hypertension Survey: number of participants of correct answer(%)		
Losing weight may help to lower BP ***	99 (46.7)	97 (93.3)
A blood pressure of 130/80 is normal ***	178 (84.0)	54 (51.9)
People with high blood pressure should avoid regular exercise ***	113 (53.3)	11 (10.6)
Person with high blood pressure more likely to have heart attack ***	133 (62.7)	96 (92.3)
Most people with high blood pressure feel fine ***	144 (67.9)	47 (45.2)
A blood pressure of 160/100 is high	187 (88.2)	91 (87.5)
High blood pressure can cause a stroke *	195 (92.0)	103 (99.0)
It's OK to go without blood pressure medicine for several days ***	131 (61.8)	11 (10.6)
Headaches and blurred vision may be due to uncontrolled high blood pressure ***	109 (51.4)	94 (90.4)
Canned vegetables are low in salt ***	73 (34.4)	17 (16.3)
You should only take your medication when you feel bad ***	172 (81.1)	6 (5.8)
Uncontrolled high blood pressure can cause the kidneys to be damaged ***	112 (52.8)	86 (82.7)
Average % of correct answer/person ***	77.9	61.2
Morisky Medication Adherence Scale: number of participants of non-adherent(%)		
	Iwate n=173	NC n=102
Do you ever forget to take your medicine?	69 (39.9)	51 (50.0)
Are you careless at times about taking your medicine?	46 (26.6)	32 (31.4)
When you feel better, do you sometimes stop taking your medicine?	29 (16.8)	19 (18.6)
If you feel worse when you take the medication, do you sometimes stop taking it?	47 (27.2)	28 (27.5)
Average % of non-adherence/person *	27.9	31.9

Chi-squared-test, t-test * $p<.05$ *** $p<.001$

Differences in Knowledge of Hypertension

Number of participants of correct answers and % in the total participants are shown in Table 2. The only item regarding stroke was answered correctly by more than 90% of the participants in both countries. Three items regarding body weight, heart attack, headaches and blurred vision were responded correctly by over 90% in North Carolina, but those in Iwate remained low. There were three items responded correctly by about 10% and less in NC. The correct answer rate varied 34.4-92% in Iwate.

North Carolina participants had a lower average correct answer rate than Iwate participants (61.2% in North Carolina vs. 77.9% in Japan). In Iwate, increased knowledge of hypertension was significantly associated with higher scores on the HPLP II physical activity subscale (Table 3-1). In North Carolina, increased knowledge was significantly associated with physical activity and nutrition in HPLP II (Table 3-2).

Differences in Spirituality and Religiosity

Participants living in North Carolina had higher scores on the Belief in a Higher Being in Healing Scale, with a mean score of 16.3 (SD 4.3) compared with Iwate participants at 4.34 (SD 4.3). No significant differences were found, however, between the countries on the Spiritual Growth subscale of the HPLP II. In Iwate, the score of the Belief in Higher Being Scale significantly correlated with health responsibility ($p < .01$), physical activity ($p < .01$), spiritual growth ($p < .01$), interpersonal relationship ($p < .01$) and stress management ($p < .05$) of the HPLP II. In North Carolina, the score of this scale was significantly correlated with spiritual growth ($p < .01$) and stress management ($p < .01$) of the HPLP II (Table 3-1, 3-2).

Table 3-1. Correlations between six subscales of HPLP II and physiologic variables, Belief in higher-being, Knowledge of hypertension, Medication adherence in Iwate

	Systolic Blood Pressure	Diastolic Blood pressure	Total Cholesterol	Belief in Higher-Being	Knowledge of Hypertension	Medication Adherence
Health Responsibility	0.167	0.068	0.754	0.001**	0.086	0.132
Physical Activity	0.816	0.908	0.140	0.009**	0.028*	0.623
Nutrition	0.695	0.244	0.020*	0.304	0.401	0.605
Spiritual Growth	0.939	0.606	0.881	0.000**	0.977	0.281
Interpersonal Relationship	0.552	0.334	0.513	0.001**	0.934	0.987
Stress Management	0.289	0.364	0.665	0.049*	0.673	0.23

P-Value of Pearson's correlation * $P < .05$ ** $P < .01$

Table 3-2. Correlations between six subscales of HPLP II and physiologic variables, Belief in higher-being, Knowledge of hypertension, Medication adherence in NC

	Systolic Blood Pressure	Diastolic Blood Pressure	Total Cholesterol	Belief in Higher-being	Knowledge of Hypertension	Medication Adherence
Health Responsibility	0.463	0.665	0.588	0.119	0.114	0.015*
Physical Activity	0.048*	0.013*	0.462	0.070	0.010*	0.040*
Nutrition	0.011*	0.003**	0.663	0.150	0.006**	0.002**
Spiritual Growth	0.034*	0.001**	0.528	0.002**	0.263	0.046*
Interpersonal Relationship	0.028*	0.001**	0.891	0.055	0.414	0.015*
Stress Management	0.317	0.140	0.443	0.004**	0.188	0.045*

P-Value of Pearson's correlation * $P < .05$ ** $P < .01$

Differences in Health Promoting Behavior between Iwate and North Carolina

Table 4 lists the differences in health promoting behaviors between rural residents in both countries. In Iwate, behaviors involving health responsibility($p<.000$), nutrition($p<.000$), interpersonal relationships($p<.000$) and stress management ($p<.000$), were higher than those of North Carolina participants. No differences were found between participants of both countries on spiritual growth and physical activity.

The six subscales of health promoting behavior on the HPLP II were correlated with physiologic variables for participants in both countries. In Iwate, total cholesterol correlated with the HPLP II nutrition subscale($p<.05$). In North Carolina, systolic blood pressure correlated with physical activity($p<.05$), nutrition($p<.05$), spiritual growth ($p<.05$), and interpersonal relationship($p<.05$).Diastolic blood pressure correlated with physical activity ($p<.05$), nutrition($p<.01$), spiritual growth($p<.01$), interpersonal relationship($p<.01$) (Table 3-1, 3-2)

Discussion

This study provides important information about the associations between health promoting behaviors, knowledge of hypertension, and spirituality/religiosity in persons living with hypertension in rural northern Japan and southeastern rural North Carolina. Significant differences were found

between study participants in both countries.

Iwate participants had an increased systolic blood pressure and increased total cholesterol. Higher blood pressure rates in Iwate participants may be due to the increased age of the study participants and also to lower rates of prescribed antihypertensive medications. North Carolina participants had higher BMI rates and larger waist circumferences. This finding reflects the high prevalence of obesity among rural North Carolina residents.⁵⁾ North Carolina participants also had lower levels of knowledge about hypertension. Study findings suggest a higher need for culturally tailored patient education on hypertension regimens.

Although hypertension knowledge level was higher in Japanese participants, the range of correct answers varied widely and they did not correlate with blood pressure readings. Murata and others¹³⁾ found that knowledge about hypertension and salt intake in hypertensive patients was low, but persons monitoring blood pressures at home had increased interest and better adherence to hypertensive medications. Saito and colleagues¹⁴⁾ found that untreated hypertensive patients had lower knowledge of hypertension complications and daily self-management activities compared to those with treatments. Physician's standards for starting antihypertensive medicines was 148/92 mmHg, while patient's expectations for initiating medication was 162/95 mmHg.

Table 4. A Comparison of Mean Scores for Study Variables for Iwate and North Carolina

(n=317)					
Scale	No. of Scale Items	Range of Scores	Iwate, Japan (n=212)	North Carolina (n=105)	P value
Total Score of HPLP II	52	1.9-3.8	2.82 (.36)	2.43 (.68)	.000 ***
HealthResponsibility Subscale	9	.67-4.0	2.72 (.48)	2.38 (.79)	.000 ***
Physical Activity Subscale	8	.00-4.0	1.99 (.89)	2.11 (.62)	ns
Nutrition Subscale	9	.56-4.0	3.11 (.37)	2.26 (.82)	.000 ***
Spiritual Growth Subscale	9	1.1-4.0	2.78 (.54)	2.77 (.73)	ns
Interpersonal Relations Subscale	9	.88-4.0	3.15 (.44)	2.71 (.68)	.000 ***
Stress Management Subscale	8	.75-4.0	2.92 (.47)	2.46 (.84)	.000 ***
Belief in a Higher Being in Healing	7	0-21	4.34 (.43)	16.3 (.43)	.000 ***
t-test *P<.05 ***P<.001					

The HPLP II mean scores for both countries indicate that participants were less than often engaged routinely in health promoting behaviors related to hypertension. Study findings are consistent with other research that demonstrates that adherence to lifestyles changes and modification is typically low. In Iwate, HPLP total score and 4 subscale scores were higher than those in NC, but they did not correlate with blood pressures. More effective health behaviors which influence blood pressure of people with hypertension in Northern Japan should be identified, and their educational program must be developed. More useful hypertension knowledge in daily life should be identified and taught effectively in both countries.

The mean spirituality and religiosity scores were compared for each country and to each other. Iwate participant's scores on the Belief in Higher Being Scale were much lower than those of North Carolina participants. The mean religiosity scores were positively correlated with the HPLP II subscale scores of health responsibility, physical activity, spiritual growth, interpersonal relationship and stress management (Tables 3-1, 3-2, 4). These findings suggest the importance of spirituality in maintaining and improving health promoting behavior and emotional wellbeing for both Japanese and the North Carolina group.^{15) 6)} Religion has little impact on Japanese people today however there is more interest in spirituality. Japanese people seek healing through books, music, pictures and other methods. Theologians, psychologists, folklorists, and health professionals in Japan also show higher interests in spirituality and spiritual care.¹⁶⁾ The high scores on the HPLP II spiritual growth subscale in North Carolina reflect the important emphasis placed on spiritual practices and beliefs related to health and medical care among persons living in the rural south of the U.S.¹⁰⁾

Because of varying demographic characteristics between the two countries, a cross-cultural comparison can be challenging. Japan is one of the few countries providing national health insurance, whereas health care in the U.S. is provided by many separate entities. In the United States, health care facilities are largely owned and operated by private sectors and health insurance is also provided by private companies. Many of the North Carolina participants in this study were uninsured. Despite the differences, the study fills an important gap in the literature and offers important indications for health care providers in both

countries.

Conclusion

Significant differences in knowledge of hypertension, spirituality, religiosity, and health promoting lifestyle were found between rural residents with hypertension in Iwate and North Carolina.

Although rural residents in NC tended to practice more health related behavior to influence blood pressure compared to Iwate residents, both groups lagged substantially behind in the practice of 'heart health' lifestyles.

More health related behaviors to influence blood pressure and more useful health knowledge related to hypertension should be identified and taught effectively in both countries.

The major challenge in caring for persons with hypertension is improving health literacy for this chronic disease and the benefits of lifestyle modification. Study findings emphasize the critical need for developing and testing culturally tailored interventions aimed at hypertension, weight control, and cholesterol. Relevant spiritual beliefs and practices that influence health outcomes are important internationally and also need to be assessed.

References

- 1) Ong K, Cheung B, Man Y, Lau C, Lam K. Prevalence, awareness, treatment, and control of hypertension among United States adults 1999-2004. *Hypertension*. 2007;49:69-75.
- 2) Journal of Health and Welfare Statistics. 2009;56(9):82.
- 3) Ministry of Health and Welfare, 2001, Accessed November 14, 2009 at <http://www.mhlw.go.jp/toukei/saikin/hw/kenkou/jyunkan/jyukan00/gaiyou2.html>)
- 4) Ohsawa M, Itai K, Tanno K, Onoda T, Ogawa A, Nakamura M, et al. Cardiovascular risk factors in the Japanese northeast rural population. *Intl J Cardiology*. 2008 Aug 14 [Epub ahead of print]
- 5) Huston S. The burden of cardiovascular disease in North Carolina: August 2008 update. North Carolina Department of Health and Human Services. Accessed October 10, 2009 at www.startwithyourheart.com
- 6) Pender, N.J., Health promotion in nursing practice.

- 3rd ed. Stamford CT: Appleton & Lange; 1996.
- 7) Mitchell J, Matthews HF, Yesavage JA. A multidimensional examination of depression among the elderly. *Research on Aging*. 1993; 15(2):198-219.
- 8) Wei C, Yonemitsu H, Harada K, Miyakita T, Omori S, Miyabayashi T, Ueda A. A Japanese language version of the health-promoting lifestyle profile. *Nippon Eiseigaku Zasshi*. 2000; 54(4):597-606.
- 9) Carson V, Koenig H. (Editors) *Spiritual dimensions of nursing practice*. Revised Edition. West Conshohocken, PA: Templeton Press; 2008.
- 10) Mansfield C, Mitchell J, King D. The doctor as God's mechanic? Beliefs in the southeastern United States. *Social Science and Medicine* 2002; 54(3):399-409.
- 11) Morisky DE, Green LW, Devine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. *Medical Care*. 1986; 24(1):67-74.
- 12) Knopp R, Ratzlaff K. Hypertension: improving patient education (HIPE). University of Kansas School of Medicine. 2000.
- 13) Murata K, Nagaoka C, Kunimitsu K, Nagaoka K. 血圧に関するアンケート調査. *Community Medicine*. 2007; 21(4):280-288
- 14) Saito I. Gap between untreated, treated patients and physicians' attitudes and awareness toward hypertension and its complications, cardiovascular diseases. *Progress in Medicine*. 2008; 21(4):280-288.
- 15) Noguchi W, Ohno T, Morita S, Aihara O, Tsujii H and et al. Reliability and validity of the Functional Assessment of Chronic Illness Therapy-Spiritual (FACIT-Sp) for Japanese patients with cancer. *Support Care Cancer*. 2004; 12:240-245.
- 16) Kubodera T. 魂の痛みへのケア スピリチュアリティとは. *Environment and Health*. 2008; 21(2):148-154.
(2010年2月16日受付, 2010年11月18日受理)

岩手県とノースカロライナ州南東部に居住する高血圧者の高血圧についての知識、健康増進ライフスタイル、スピリチュアリティの比較

ジーン ケンペイネンペリ ボマー¹⁾ 菊池和子²⁾ 安保寛明³⁾ 兼松百合子⁴⁾
坪山美智子⁴⁾ 安藤明子⁵⁾ 野口恭子²⁾ 千葉澄子⁶⁾

¹⁾ ノースカロライナ大学ウィルミントン校看護学部

²⁾ 岩手県立大学看護学部

³⁾ 岩手晴和病院

⁴⁾ 元岩手県立大学看護学部

⁵⁾ 日本看護協会神戸研修センター

⁶⁾ 滝沢村役場

要旨

岩手県とノースカロライナ州に居住する高血圧者の高血圧についての知識、健康増進ライフスタイル、スピリチュアリティのレベルを明らかにし、比較することを目的とした。岩手県の1保健センターと1県立病院の外来と、ノースカロライナ州南東部のプライマリーケアクリニックにおいて、研究参加を承諾した岩手住民212人と、ノースカロライナ住民105人を対象として質問紙調査と血圧測定、身長・体重測定を行なった。

岩手住民(I)はノースカロライナ住民(NC)と比べて、収縮期血圧値と総コレステロール値が有意に高かった。NCのBMIはIに比べて有意に高かった。高血圧の知識の正答率はIがNCより有意に高かった。宗教性スケールでは、NCの方が有意に高かった。健康増進ライフスタイル(HPLP)では、Iは健康意識($p<.000$)、栄養($p<.000$)、人間関係($p<.000$)、ストレス管理($p<.000$)、総点($p<.000$)において、NCより有意に高かったが、血圧値との相関は見られなかった。NCでは、運動、栄養、スピリチュアリティ、人間関係において、収縮期血圧並びに拡張期血圧との有意な相関がみられた。

本研究の結果は、文化の特徴に基づく、高血圧、体重、コレステロールのコントロールを目指した健康増進介入方法の開発と検証の必要性、スピリチュアルな実践の国際的重要性を示唆するものであった。

キーワード 高血圧 健康増進 異文化間 スピリチュアリティ ペンダー