พฤติกรรมสุขภาพ สุขภาวะเชิงอัตวิสัยและตัวชี้วัดทางคลินิกที่คัดสรรในผู้ป่วยที่มีภาวะสมองขาดเลือดชั่วคราว

Health Behaviors, Subjective Well-Being and Selected Clinical Indicators Among Patients with Transient Ischemic Attack

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วารสารพยาบาลศาสตร์และสุขภาพ
Journal of Nursing Science & Health
ปีที่ 37 ฉบับที่ 1 (มกราคม-มีนาคม) 2557
Volume 37 No.1 (January-March) 2014

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บทคัดย่อ

การศึกษาเชิงสำรวจภาคตัดขวางครั้งนี้มีวัตถุประสงค์เพื่อ ประเมินพฤติกรรมสุขภาพ สุขภาวะเชิงอัตวิสัย ตัวชี้วัดทางคลินิกที่คัดสรรและ ประมวลความสัมพันธ์ระหว่างกลุ่มตัวแปรเหล่านั้นในผู้ป่วยที่มีภาวะสมองขาดเลือดชั่วคราว การเก็บข้อมูลกระทำในกลุ่มตัวอย่างที่มีคุณลักษณะตามที่กำหนดไว้จำนวน 106 คน ระหว่างเดือนพฤษภาคมถึงเดือนมิถุนายน พ.ศ.2556 ในโรงพยาบาลหรุ่ยคัง จังหวัดหนานหนิง มณฑลกวางซี สาธารณรัฐประชาชนจีน เครื่องมือที่ใช้ในการเก็บข้อมูลคือ แบบสัมภาษณ์ ประกอบด้วยข้อมูลทั่วไป ข้อมูลด้านสุขภาวะ ทั่วไป(General Well Being Index : GWB-I) และพฤติกรรมสุขภาพซึ่งครอบคลุมพฤติกรรมเสี่ยงต่อโรคความดันโลหิตสูง การวิเคราะห์ข้อมูล ใช้สถิติเชิงพรรณา และสถิติสหสัมพันธ์ของเพียร์สัน

ผลการศึกษาพบว่า (1) พฤติกรรมสุขภาพและภาวะเครียดของกลุ่มตัวอย่างอยู่ในระดับปานกลาง (2) พฤติกรรมสุขภาพมีความสัมพันธ์เชิงบวกกับ SWB (r = 29 ถึง .47 p< 0.01) แต่มีความสัมพันธ์เชิงลบกับ LDL-C (r อยู่ระหว่าง -.199 และ-.422, p<0.05) และ BMI (r อยู่ระหว่าง -.199 และ-.422, p<0.05) การสูบบุหรี่, อาหาร การควบคุมน้ำหนัก และการดื่มแอลกอฮอล์ มีความสัมพันธ์เชิงลบกับความดันโลหิตซิสโตลิค (r อยู่ระหว่าง -.199 และ-.422, p<0.05) การสูบบุหรี่มีความสัมพันธ์เชิงลบกับความดันโลหิตไดแอสโตลิค (r อยู่ระหว่าง -.199 และ-.422, p<0.05) ข้อเสนอแนะสำหรับการวิจัยครั้งต่อไปคือ การแก้ไขข้อจำกัดของการศึกษาครั้งนี้ที่ความเหมาะสมของตัวแปรที่ใช้ คือ ค่าความดันโลหิต ซึ่งใช้การวัดเพียงครั้งเดียวเมื่อกลุ่มตัวอย่างเข้ารับการรักษาเท่านั้น

คำสำคัญ: พฤติกรรมสุขภาพ สุขภาวะเชิงอัตวิสัย ตัวชี้วัดทางคลินิก ประมวลความสัมพันธ์ระหว่างกลุ่มตัวแปร

Abstract

This cross-sectional descriptive survey study aimed to describe health behaviors, subjective well-being (SWB), selected clinical indicators and investigate relationships among variables in patients with Transient Ischemic Attack (TIA). Data were collected from 106 adult from May to June, 2013 in Ruikang hospital of Nanning, Guangxi, China. Descriptive statistics and Pearson's correlation were used for data analysis.

Results revealed that: (1) The moderate level of health behaviors and moderate distress was found in patients with TIA. (2) Health behaviors were positively correlated with SWB (r=.29 to .47, p<0.01), negatively correlated with both LDL-C (r=-. 199 to -.422, p<0.05) and BMI (r=-.221 to -.401, p<0.05). Cessation smoking, dietary and weight control and alcohol consumption were negatively associated with SBP (r=-.20 to -.42, p<0.05). Merely limited consumption and cessation smoking had negative correlation with DBP (r=-.357 and -.339, p<0.01). Recommendations were made for further study. This is not shown in the text. The author might delete this out Try to put it back on recommendation part.

keywords: health behaviors, subjective well-being, clinical indicators, transient ischemic attack

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Background

Transient ischemic attack (TIA) is a warning sign of cerebral vascular accident (CVA) which may happen in the future and is the most vital index for an upcoming brain infarction. Patients who experienced TIA not only have the risk of CVA, but also have risk of Myocardial infarction (MI) and eventually death. There were approximately 37.4 million patients with TIA in China[1]. Moreover, there were approximate 2.5 million new stroke and 0.5 million new MI cases each year[2]. Furthermore, CVA was the third most common cause for death[3], and a furthering increasing of CVA can be predicted as the rapid social and economic development in China. The risk of stroke after TIA was 17% at 90-days[4]. The risk of recurrent TIA, MI and death was as high as 25% at 90 days[5]. Therefore, post-TIA is the best time for secondary prevention to prevent CVA, MI and death.

Health behaviors are vital for patients with post-TIA. Controlling risk factors was recommended in several guidelines. However, there were not paid enough attention by patients with post-TIA and health providers. The admitted rate was 6%[5] and limited evidence was rooted for behavior changing in secondary prevention[2]. Health behaviors may not only affect their subjective well-being[14,19-22], but also may affect patients' clinical indicators[23-27]. i.e., psychological distress was lower in the aerobics and hip- hop dance group[19], global quality of life and relationship satisfactory were improved in participants who quit smoking[20]. Moderate of alcohol consumption was associated with better cognition[21]. BMI, Total cholesterol, LDL-C and BP was decreased by lifestyle intervention[23]. The levels of subjective well-being in patients with TIA in several researches were inconsistent[6,7]. BP and LDL-C were proved to have close relationship to the risk of CVA [8,9]. Therefore, it was necessary to study health behaviors, subjective well-being and selected clinical indicators in post-TIA patients to obtain the useful information, so that the health providers can take further steps in intervention to improve health behaviors and subjective well-being, and in turn, to improve patients' clinical indicators in patients with post-TIA.

Objectives

The purpose of this research was to describe health behaviors, subjective well-being, selected clinical indicators, and investigate relationships among study variables.

Research methodology

1. The sample:

The setting in this study was in Ruikang hospital in Nanning, Guangxi province, China. Where epidemic investigation of CVA showed that the prevalence of CVA in Nanning increased by 77.34% from 1991 to 2003[10]. The study population was adult with post- TIA. The sample included 106 patients who met inclusion criteria, and were (1) 30 to 60 years old, (2) diagnosed with TIA for more than 3 months, or had a history of sudden clinical symptoms, i.e., sudden weakness on side of body or numbness, temporarily loss of vision, sudden difficulty speaking, sudden unusual headache and dizziness, sudden loss of balance, without evidence of infarction over 3 months[11]. (3) able to read and communicate and willing to participate in the study. Patients who had mental problem or severe complications or disease, e.g. multiple sclerosis or epilepsy, or lost memory, as well as those who withdrew from the study were excluded.

Convenient sampling was conducted during sample selection procedure in the study.

2. Procedures:

Eligible participants from two neurological wards were informed about the study by letter of invitation. Every potential participant was notified that the service they received would not be affected by their decision to join in. They were asked to sign a consent form if they agreed to participate after the initial assessment and treatment were provided by physicians. The participants were asked to filled out the questionnaires by themselves under supervision of the researcher. The study ran throughout eight weeks of May-June 2013.

3. Instruments:

The instruments consisted of:

Part 1: Demographic characteristics of patients, including age, gender, ethnicity, marital status, educational level, occupation, healthcare payment, etc.

Part 2: Behavioral Risk Factors Questionnaire, it consisted of 6 domains, dietary control weight control appropriately physical exercise medication compliance cessation smoking limited alcohol consumption. The scale was divided into a 4-point scale from 1(never) to 4 (usually). The reliability of this questionnaire was 0.75. The interpretation score of health behaviors based on Mean score. Score from "1 to 1.99" reflected "poor level of health behavior in adult with TIA"; score from "2 to 2.99" reflected "moderate level of health behaviors in adult with TIA"; score from "3 to 3.49" reflected "good level of health behavior in adults with TIA"; score from "3.5 to 4" reflected "very good level of health behavior in adult with TIA".

Part 3: Modified General Well-Being Index consists of 6 domains including, anxiety depression , positive well-being , self-control , general health and vitality . The score was divided into 5-point scale. Each item was 1 (severe distress), 2 (very distress), 3 (moderate distress), 4 (a little distress) and 5 (well-being). The estimated score ranged from 24-120. The reliability of the questionnaire in the Chinese version was tested 0.88.

Both BRF-Q and GWB-I was reviewed by four experts for content validity, and content validity index (S-CVI/AVE) was 0.85 and 0.97 respectively using Polit, Beck, Owen's formula[12].

Part 4: Selected clinical indicators form. The data was obtained from patient's medical record when they admitted at the first day by the researcher. BP was measured by nurse. LDL-C was obtained from laboratory text and BMI was calculated according to weight and height.

Data analysis

The Statistical Package of Social Science 19.0 was used for analyzing all descriptive statistics. Frequencies, percentage, mean and standard deviation were used to describe demographic data, health behaviors, subjective well-being and selected clinical indicators. Pearson's correlation was used to analyze the relationships among health behaviors, subjective well-being, and selected clinical indicators.

Results

Demographic data

The subject ranged from 33 to 60 years old, with a mean score of 51.8 (SD=6.69). Mostly subjects they were from 50 to 60 years (66%). The subjects were composed of males (59.4%) and females (40.6%). Most subjects were Han ethnic group, contributing to 57.5%, and were married occupied (84.9%). About 43.6% of subjects had high school education, received low level annual individual income at 45.3%. They were labor and retired, contributing to 29.2% and 26.4%, respectively.

The majority (86.8%) of subjects were under government health care scheme. The main medical history was hypertension (83%) and dyslipidemia (68.9%). Sudden dizziness (57.5%), sudden loss of vision (41.5%) and numbness of limb (35.8%) were mainly symptoms in the past three months reported by TIA patients.

2. Health behaviors among post-TIA patients From Table 1; Cessation smoking had poorest mean ± SD (2.10±.83), which indicated that subjects had moderate level of cessation smoking. The highest mean ± SD (2.69±1.08) was in limited alcohol consumption. It implied subjects had moderate level of limited alcohol consumption. The rest of health behaviors, including appropriate physical exercise, weight control, dietary control and medication compliance, were at moderate level in patients with TIA.

Table 1 Mean, standard deviation and rank of each domain of health behaviors among post-TIA patients

Health behaviors	Mean	SD	Rank
Cessation smoking	2.10	.83	1
Appropriate physical exercise	2.11	.10	2
Weight control	2.12	.03	3
Dietary control	2.21	.41	4
Medication compliance	2.28	.42	5
Limited alcohol consumption	2.65	.05	6

3. Subjective well-being among post-TIA patients

The mean score of six domains was shown in Table 2. Positive well-being, general health and anxiety were three lowest mean score. Table 3: Three levels were divided by using internal score, including severe distress, moderate distress and positive well-being. Mostly (86.8%) patients with TIA were at moderate distress (Table 3). The rest were positive well-being (7.5%) and severe distress (5.7%)

Table 2 Mean and standard deviation in domains and overall score of subjective well-being score among post-TIA patients

General well-being domains	Mean	SD	Rank
1. Positive well-being	2.88	.18	1
2. General health	2.89	.51	2
3. Anxiety	2.98	.14	3
4. Vitality	2.91	.05	4
5. Self-control	3.51	.33	5
6. Depressed	3.53	.12	6
Total score	70.81	9.59	---

Table 3 Frequency and percentage of subjective well-being level among post-TIA patients

General well-being levels	Frequency (n=106)	Percentage (%)
Severe distress (23-54)	6	5.7
Moderate distress (55-84)	92	86.8
Positive well-being (85-115)	8	7.5

4. Selected clinical indicators among post-TIA patients SBP in more than half of subjects was higher than the standard (140mmHg). Majority (79.2%) of subjects had LDL-C level more than 2.56mmol/l. The proportion of overweight patient was at 44.3%, whereas 1.9% patients were obese.

5. Correlations among health behaviors, subjective well-being and selected clinical indicators among post-TIA patients There were positive relationships between health behaviors and SWB (r=.29 to .47, p<0.01). In addition, negative correlation between health behaviors and both LDL-C (r=-.199 to -.422) and BMI (r=-.221 to -.401). Health behaviors were negatively associated with SBP (r=-.200 to -.420), except physical exercise and medication compliance. Merely limited alcohol consumption and cessation smoking had significantly negative correlation with DBP (r=-.357 and -.339, respectively). Finally, the SWB had negative association with BP, LDL-C (r=-.232 and -.297, respectively). However, no relationship between SWB and BMI was found.(Table 4).

Table 4 Correlations matrix among health behaviors, subjective well-being, and selected clinical indicators

Items	1	2	3	4	5	6	7
1. Appropriate physical exercise	1						
2. Limited alcohol consumption	--	1					
3. Cessation smoking	--	--	1				
4. Dietary control	--	--	--	1			
5. Weight control	--	--	--	--	1		
6. Medication compliance	--	--	--	--	--	1	
7. Subjective well-being	.471**	.343**	.348**	.297**	.428**	.404**	1
8. Systolic blood pressure	-.168	-.418**	-.423**	-.263**	-.199*	-.187	-.232*
9. Diastolic blood pressure	-.048	-.357**	-.339**	-.178	-.086	-.123	-.297**
10. LDL-C	-.268**	-.418**	-.422**	-.199	-.253**	-.331**	-.214*
11. Body mass index	-.221*	-.369**	-.401**	-.327**	-.306**	-.293**	-.191

Remark: ** means correlation is significant at the 0.01 level (2-tailed), * means correlation is significant at the level of 0.05 (2-tailed).

Conclusion and discussions

This study investigated the health behaviors, subjective well-being and selected clinical indicators and their relationships among post-TIA patients in China. Study findings can be concluded as follow:

1. Health behaviors in post-TIA patients

Cessation smoking was the lowest mean score and deviation in six behavioral domains. It indicated that patients with TIA had poorest level of health behaviors in cessation smoking dimension. This could be interpreted that most of subjects were exposed to passive smoking, which corresponded in Chinese Report of Smoking Control[13], showing that smoking were common in male and both male and female aged from 20 to 59 were exposed to environmental tobacco, which was consistence with the findings of this study collected by questionnaire. In this study most of subjects had a job, and they had more chance to go to public place because of work or keeping close friendly relationships, e.g. restaurant, entertainment place. Meanwhile, smoking was not strict to control in the public and smoker were lack of awareness to control their behavior.

Physical exercise was ranked second lowest among six domains. Seventy percent of subjects did not have or seldom had moderate physical exercise regularly, which consistent with the study of Hao & Zhou (2004)[14], who reported that more than half of stroke or TIA patients were lack of physical exercise. This would be interpreted that more than half of subjects were working status as main power in the family. Hence, they explained that they lack of time to do exercise which accordance with research by Muntner, et al. 2005[15], showing that low proportion of urban Chinese adult to participate in moderate leisure-time physical exercise. In spite of some subjects did exercise, but they did not understand the aerobic physical exercise. Some subjects reported that they did physical exercise in inappropriate way, e.g. walking slowly. In addition, some subjects with hypertension considered that they were not healthy enough to practice physical exercise.

2. Subjective well-being in post-TIA patients

With regard to the level of subjective well-being, majority of subjects had moderate distress in this study. Positive well-being, general health and anxiety were three lowest mean score among six dimensions. Depression, anxiety and body disorder were significant associated with positive well-being[16]. All of the subjects had experienced transient ischemic neurological symptom in the past three months. And more than half of subjects felt anxious which accordance with Xie & Yang[17]. The cause of anxiety might be interpreted that feared the outcome and unpredicted future and psychological burden[18]. Hence, the level of subjective well-being might be elevated via increasing knowledge and reducing patients' fear and anxiety.

3. Correlations among health behaviors, subjective well-being and selected clinical indicators in post-TIA patients

Health behaviors had positive correlation with subjective well-being. It means that more healthy behaviors the subjects had, the higher level of subjective well-being they had. This finding was accordance with several researches. Aerobics physical exercise and hip-hop dancing groups would have higher positive well-being than the body condition groups in research of Kim & Kim, (2007)[19]. The person who quit smoking had improved quality of life compared to continuing smokers[20]. Moderate alcohol consumption was associated with better cognition, subjective well-being and fewer depressive symptoms was reported in Lang et al. (2007)[21]. Higher depression was found in person

who intake processed food, including heavily loaded by sweetened desserts, fired food, and processed meat and high-fat products than who intake whole food, including full of vegetable, fruit and fish [22]. Therefore, nurses could utilize the interaction between patients' subjective well being and their health behaviors to improve one another.

Appropriate physical exercise had negative correlation both LDL-C and BMI. Kim et al. (2012)[23] reported that lifestyle intervention could decrease BP, LDL-C and BMI after 12 week. But no relationship between physical exercise and BP was found in this study. It could be interpreted that the data of BP was obtained from medical record when subjects were admitted in hospital. It might not be reflected subjects' real situation account for BP's fluctuant feature. Or, it was probable that self-reported questionnaire was less precise to reflect the real value of subjects' behaviors. Cessation smoking had adverse association with BP which accordance with Ge et al (2012)[24], showing that smoking were essential to increase the risk of CVD by raising blood pressure. The negative relationship between smoking and LDL-C was consistent with Sun, et al (2010)[25]. Heavy alcohol consumption was associated with poor BP[26] and increased the risk of cardiovascular disease through elevating the lipid profile[27] which agreement with the finding of this study. Hypertensive medication and cholesterol-lowering medication had been proved to reduce blood pressure and low density cholesterol in previous study. But no relationship between medication compliance and BP was found. This could be due to the limitation of taking BP only one time on admission.

The negative correlation was found between subjective well-being and both BP and LDL-C. Gong et al (2009) reported that higher SBP was associated with poor subjective well-being in patients with coronary artery disease[28]. Fan et al (2011) reported that cognitive impairment was associated with elevated LDL-C. No relationship was found between subjective well-being and BMI, which was in line with the study from Wang et al (2012).

Recommendations

Behavior Risk Factors questionnaire could be used in assessing patients' behaviors, but it need to be improved in accordance with Chinese cultural context and more specific and completed to assess patients' behaviors. Quai-experimental design is recommended to improve patients' health behaviors by nursing intervention. For instance, patients' health behaviors are improved through elevating patients' subjective well being. Other factors related to health behaviors need to be detected, for example, knowledge and awareness of TIA, personal and interpersonal factors should be taken into account. Long-term and large sample size researches are necessary to be conducted to exam the relationships among the variables. The completed stroke patients with history of TIA were excluded in this study, so the finding of this study may not be applied in general to all patients with TIA.

Acknowledgement

The researcher wishes to thank the staff of Ruikang hospital and all the participants to share their experience with the researcher. It is also extended to all the people involved in this study.

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