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Self-Care Program for Hypertensive Persons in A Primary Health Care Unit

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Abstract: Now a days, hypertension is one of the most important health problems. The researcher hypothesized that hypertensive persons who received interventions would have significantly more positive mind set, transform attitude from dependence to self-care for cardiovascular risk factors prevention. The purpose of this study was to develop a self-care program for hypertensive persons based on transformative learning. The research design was a true-experimental study. The experimental and controlled samples were 31 clients in each group. Totally, 62 clients in a primary health care unit volunteered to participate in the experiment. The activities consisted of 108 h of 12 weekly classes. The paired baselines for age, socioeconomic status, blood pressure and fasting plasma glucose level were conducted. The pre-post tested data were analysed by t-test. The results showed that there were different between both groups in self-care knowledge, attitude transformation, self-care practicing, body mass index and drug using significantly. In conclusion, hypertensive persons gain self-care knowledge, transform attitudes, improve self-care practicing, lessen drugs using and decrease cardiovascular risk factors.

Key words: Hypertension, self-care, transformative learning, factors, cardiovascular, decrease

INTRODUCTION

Hypertension is the third leading cause of death in the world. Because serious complication of this disease causes disability, reduction of quality of life and global mortality, the disease identified as the most challenging health problems of 21st century (Chobanian *et al*., 2003). It is a major contributor to the global disease burden and was responsible for 7% of all disability-adjusted life years in 2010 (Lim *et al*., 2013). The World Health Organization reported that in 2011, 600 million people worldwide had hypertension and that by the year 2025 they expect the prevalence of that disease to increase to 1.5 billion people. Moreover, the number of people with uncontrolled hypertension has increased to around 1 billion worldwide in the past three decades. As a result, the effective control of hypertension has become a priority for global health policy and, with growing interest in the prevention and control of cardiovascular risk factors prevention. It is vital that health-care systems deliver appropriate interventions for tackling high blood pressure. In Thailand, a country with middle to low income, the Ministry of Public Health reported that hypertension prevalence was 35.82% in people over 15 year old (17.64 million people). The main problems for disease management were people's lack of concerning and understanding about this disease and lack of compliance with treatment. Thailand's national statistic organization reported that among a sample of 100,000 Thai people, 71% were not concerned about their health and did not know whether they had hypertension. From the survey project of exchanging useless drugs with eggs, the excessive useless drugs due to drug dependence cost more than 100,000 million baths per year or about 45% of health expenditures and the most of excessive useless drugs were chronic illness rugs such as antihypertensive drugs. It is essential to prevent cardiovascular risk factors which will be reduced by self-caring. The National Health Security Office proposed an improvement plan for health promotion and primary care services in Thailand. Since the year 2008, they promoted the screening and self-caring project through primary care services for early detection of people at risk for hypertension (Screening, 2008). Subsequently, the. Thai government assigned health services throughout the country to the campaign of self-care for disease prevention and health promotion in the general population. Primary care persons have been responsible for monitoring and educating those patients identified being at risk. To address quality of life and cost concern raised by this figure, health promotion interventions for hypertensive persons have become a high priority. One of the ways to reduce these burdens is promoting self-care in hypertensive persons.

Self-care consisted of universal self-care (e.g., diet controlling, physical activity, stress management, etc.) and self-care in health deviation (e.g., drug usage as necessary, dismiss treatment date) (Orem, 2001). Traditional didactic education showed little correlation with clinical outcomes such as glycemic control, blood pressure and cholesterol. There has been limited attention

to the individual's frame of mind in efforts to promote health. Experts have suggested the importance of the individual's interest in need for and belief in intervention offered ;unwillingness or inability to take advantage of support people; experience of power, personal values, motivation improve, determination, self-confidence, resourcefulness and hope for a better future (Joffres *et al*., 1997). Such findings suggest the appropriateness of an intervention aimed at enhancing sense of self, health, self-care agency and personal control. The studies have documented the significant role which hypertensive person's mind set (or attitude toward health, lifestyle) played in determining successful self-care management. The patient's negative mind sets interacted dynamically with support systems to create unsuccessful dependence, with frequent readmissions to hospitals. The potential for enhancing patient's mind set and, in turn, participation in one own health and health promotion intervention through application of perspective transformation was thereby identified. The less negative mind sets and opposition of health promotion program especially self-care, the more sustainability of health promotion interventions (Orem, 2001). The suitable learning process that may solve this problem is transformative learning and health literacy. It referred to transform a problematic frame of reference to make it more dependable in our adult life by generating opinions and interpretations that are more justified. It occurs through a process of critical self-reflection, reflective dialogue and reflective action. Critical self-reflection is the cornerstone of this process and is initiated when the individual is confronted with disorienting dilemma that causes a questioning of the deep-seated assumptions that make up the individual's meaning perspective. A meaning perspective is a habitual set of expectations that constitutes an orienting frame of reference that we use in projecting our symbolic models and that serves as a (usually tacit) belief system for interpreting and evaluating the meaning of experience (Mezirow, 1991). It is a structure of assumptions of new experiences defining our attitudes, establishing our view of world and guiding our actions. There are six types of meaning perspective or habit of mind: Sociolinguistic, Moral-ethical, Epistemic, Philosophical, Psychological and Aesthetic. Reflective dialogue is the process by which the individual tests the validity of or justification for these assumptions and becomes a negotiation with others to develop a consensual validation of the assumptions that make up the frame of reference. Reflective action is action based on the critical self-reflection of the previously held assumptions and is intended to integrate the resulting new set of assumptions. The transformation takes place as a result of structural changes in the psyches of the individual and in the social structures of society. The personal and social transformations co-emerge and in their dyadic relationship transform simultaneously. The transformation involves a change in the interrelationship among the higher mental functions, particularly in form of perceptions that include a conceptual mind, as well as sensations that create a world through ideas, concepts, images and more bodily ancient archetypes constellated as emotions. The social and the personal transformation (change in structures) co-emerge at the same time. The transformation takes place on at least two levels, for the individual participants and for the social unit it takes place in, whether that relationship is with whom or things. One cannot transform without the other (Scott, 1997). Thus, the purpose of this study was to develop and test an intervention for hypertensive person's self-care management by using transformative learning.

MATERIALS AND METHODS

Design: We designed this study by dividing it into two steps. Step1 was literature reviewing and field visiting to collect qualitative data. Step 2 was experiment study consenting subjects from philanthropic primary health care unit in rural area of north-eastern part of Thailand. For step 1, the investigator developed sustainable self-care program and synthesized the activities or intervention for step 2. Step 2, the principal investigator paired subjects controlled and experimental group by age, gender, socioeconomic status following completion of baseline data collection. Information on drug usage, demographics, knowledge, attitude, practice of self-caring were gathered on all scalar measure in the subject's place of residence at baseline and at 12 weeks later. Data were collected by a research assistant, who was kept blind to the subject's groups. The experimental group received the intervention plus the usual care while the attention controlled group received the usual care with regular health education.

The intervention: The intervention was developed in step1. The important intervention premised upon the transformative learning and health literacy. The transformation vary with the topic and in this study reflected a self-caring and therapeutic application (Orem, 2001) intended to transpire over the course of self-care. The aims of intervention were to: enable patients to participate as partners in their own self-care; foster a self-care philosophy; enhance active decision-making; and improve the individual's overall mindset or attitude toward life, self, health and health care. The

implementation is in phase 2 by measuring quantitative data(e.g., knowledge, attitude, practicing, cardiovascular risk factors, drug usage) by personal assessment questionnaires which already tested validity and reliability by specialist validation (IOC value), internal consistency (Chronbach's alpha) and KR-20 for reliability at baseline and 12 weeks later are analysed using t-tested comparing between experimental and controlled groups and controlling for age, gender, living arrangements, accommodation.

Sample: Inclusion criteria limited the study sample to individuals who were: between 20-60 years of age; hypertension, cognitive intact. Exclusion criteria eliminated those who were cognitive impaired or pregnancy. The sample size was calculate to compare the differences in mean change scores on the selected outcome measures of mind-set for a medium effect size of 0.80 with alpha set at 0.05(two-tailed) and beta set at 0.20 was 31 subjects in each group.

RESULTS AND DISCUSSION

From transformative learning perspective, in hypertensive management meanings and the ways to manage them were established through historical development and social interactions throughout the process of negotiation between human actors through meaning constructions in the course of interactions with others and society. The symbolic meaning constructed within a particular socio-historical context and the actions would reflect this understanding framed by internally and externally derived meanings, if reinforced by a similar vision from society and interactions with a chronic condition were incapable, need control and monitoring. The employing the transformative learning and health literacy concept which implies that human beings have complex ways of communicating through language and symbols could be conceptualized as not intrinsic, that is having different meanings for different people, the most effective strategies would be those targeting the symbolic representation in society. Thus the chosen of a primary health care unit in rural area of north-eastern part of Thailand. The transformative learning resources as symbol in community of hypertensive management for field visiting.

From field visiting observation, the transformation occurred by interpretation of symbolic interaction which were cadaveric meditation, cow's-life saving donation and market. From the key person (head of the monks called "Luang Por Muang, the spiritual teacher) interviewing, who got award from many institute such as Khonkaen University. Mahasarakham University and Ministry of Education Thailand in sustainable community development said "The cadaveric meditation center came from the idea that when we are born, nothing comes with you, when you are dead, nothing goes with you. You are as your thought. Everything depend on what you do during your life, spiritual health and social capital is very important to develop human and community. The purpose is to develop self-mindset, to meditate and reflect oneself with cadaver, everyone fear of it but everyone must confront it, it just a body. The frighten come from our thinking. If you calm down and think in peaceful, you will find the truth. The truth of four are outside inward of not well-being and cause of it, inside outward of well-being condition and cause of it. It depend on your thought as "I" or "me". So, when you do in the way of the truth, you will find the way to solve problem."

From the one of hypertensive patients, who was the primary health care unit's client said "I was a diabetes mellitus, hypertension and hyperlipidemia for more than ten years. Every time, the doctor prescribed medicine, diet controlling and exercise, when I went to see him. But I never aware of that. One day, I came to the cadaveric meditation center and reflective talk with the monk. It change my life perspective to beware of the disease that I confront. If I were dead, my family would in trouble. My health is depended on me, not the doctor"

From another one of hypertensive patients, who was the primary health care unit's client said "I was a very fat woman with diabetes mellitus and hypertension. Everyone told me to decrease my weight but I never aware. One day when I saw a film of cows were killed for human's food. Every time I passed the cow's life-saving donation, I change my view that I was the one who make the cows came to this place due to I like to eat beef, not my donation. When I went to market and saw the butcher sold the beef, the picture of cows were killed came to my thought to stimulate of that, not the repetitive saying of taking more vegetable and less beef of doctor."

Transformative learning could be occurred by experience of individual interpretation through symbol led to change attitude. The learning process consisted of disoriented dilemma for awareness, reflective dialog for exploration, premise determining for new symbol interpretation and attitude diversification by symbolic interpretation stimuli repetitively. We designed the activities or intervention, the description was the critical reflection and dialogue are synthesized by our group which consist of dilemma simulation or trigger events; life's mentoring dialogue; content, process and premise exploration. For example: role playing of paralysis and obesity, vegetable buffet in the dark, self assessment of

Table 1: Demographic and clinical characteristics of participants (n = 62)

Demographic and clinical characteristics	Experimental group mean±SD or proportion (n)	Controlled group mean±SD or proportion (n)	t-test or Chi-square test	p-value
Age	49.58±7.44	49.45±6.29	0.074	0.941
Gender (female)	96.8% (30)	96.8%(30)	<0.001	1
Religion (bhudist)]	100% (31)	100% (31)	<0.001	1
Education				
Primary	32.3% (10)	38.7%(12)		
Secondary	41.9% (13)	41.9%(13)	1.259	0.739
High school	22.63.2% (7)	19.4%(6)		
Graduate	3.2% (1)	0% (0)		
Salary	1703.23±1817.96	1409.68±952.31	0.796	0.430
Income				
Enough	93.5% (29)	83.9% (26)	0.425	0.212
Not enough	6.5% (2)	16.1% (5)		
Marital status				
Bachel or	3.2% (1)	6.5% (2)	0.634	0.334
Marry	80.6% (25)	80.6% (25)		
Widow	16.2% (5)	12.9% (4)		
Occupation				
Agriculture	41.9% (13)	51.6% (16)		
Government	3.2% (1)	0% (0)	1.560	0.668
Private	25.8% (8)	25.8% (8)		
Housewife	29.0% (9)	22.6% (7)		
Systolic BP	144.45±5.62	144.03±5.79	0.289	0.773
DiastolicBP	90.90±2.73	90.81±3.19	0.128	0.889
BMI (kg m^{-2})	24.77±1.83	25.60±1.73	-1.844	0.070
Fasting plasma glucose (mg dL^{-1})	115.10±18.33	113.29±21.39	0.355	0.724
HbA1C (%)	6.78±0.95	6.72±0.93	0.271	0.787
Total cholesterol (mg dL^{-1})	217.90±34.07	213.19±34.34	0.542	0.549
HDLcholesterol (mg dL^{-1})	40.29±5.03	39.48±4.16	0.698	0.514
Drug Usage (baht/day)	4.23±0.89	4.58±1.01	-1.427	0.159

Table 2: Clinical characteristics of participants after intervening (n = 62)

Clinical characteristics	Experimental group mean±SD or proportion (n)	Controlled group mean±SD or proportion (n)	t-test or Chi-square test	p-value
Systolic BP	142.97±3.86	145.81±7.86	-1.804	0.076
Diastolic BP	90.32±2.21	90.71±1.72	-0.770	0.444
BMI (kg m^{-2})	24.66±1.66	25.51±1.58	-2.059	0.044
Fasting plasma glucose (mg dL^{-1})	107.94±7.56	110.29±30.78	-0.414	0.682
HbA_1C (%)	6.44±0.59	6.74±0.97	-1.469	0.148
Total Cholesterol (mg dL^{-1})	203.90±22.27	213.39±39.98	-1.154	0.254
HD Lcholesterol (mg dL^{-1})	43.29±3.98	41.32±3.08	2.154	0.054
Drug Usage (baht day^{-1})	3.87±0.89	4.69±1.09	-3.354	0.001

Table 3: Self-care knowledge, attitude and health behaviors of participants after intervening(n=62)

Clinical characteristics	Experimental group mean±SD or proportion (n)	Controlled group mean±SD or proportion (n)	t-test or Chi-square test	p-value
Self-care knowledge	18.13±3.22	16.13±1.28	3.210	0.003
Positive attitude	2.34±0.50	2.02±0.53	2.202	0.032
Negative attitude	2.63±0.54	3.05±0.65	-2.995	0.004
Positive health behaviors	1.68±0.47	1.41±0.29	2.797	0.007
Negative health behaviors	2.23±0.61	2.64±0.53	-2.391	0.020

self-care by group drawing; story-telling; diary and journal writing; etc. The exploration and dialogue of content, process, premise reflection by the question "what, how, why". The examples of intervention were) "the blind eat the fruits" "the cadaveric meditation" "the symbol of cow's life saving" "shopping in the market" Some examples of intervention was showed in Fig. 1. The clinical data after intervening showed that there were significant difference in body mass index and drug usage between experimental and controlled group (Table 1 and 2). From 38 items of self-care knowledge, 1-5 Likert's scale of self-care attitude and 0-4 Likert's scale, the baseline of knowledge, attitude and health behaviors were not different between experimental group and controlled group. The comparison of experimental and controlled group was significantly changing in knowledge, attitude and health behavior (Table 3).

Fig. 1: Showed some of activities, context, cadaveric meditation, cow's-life saving donation and market in rural community in Northeastern part of Thailand

CONCLUSION

Currently, hypertension is one of the most important health problems. To date, research in this area has focused largely on identifying and preventing risk factors of chronic diseases. As yet, research has contributed little understanding of the sustainability of behavioral, psychological and social processes which might temper and indeed improve functioning chronically illness persons (Mezirow, 1991). To address the sustainability of health promotion interventions for chronically ill persons have become a high priority. We choose transformative learning process. It will be sustainable due to transform frame of reference leading to sustain health behaviours from dependence care to self-care. The results of our study shows that the self-care interventions improve self-care practicing by self-care knowledge and attitude transformation lead to lessen drug expense. The critical reflection is necessary for transformative learning. The process of critical reflection is synthesized by our study which is dilemma simulation, dialogue, premise exploration. The application of Thai folk games in critical reflection is good practice due to suitable for Thai lifestyle, good atmosphere, learning stimulus, authentic relation , holistic orientation and awareness of context. The term of critical reflection implies 2 meanings one is important or crisis or dilemma. The other meaning is critique, that means >1 frame of reference. Thus, from our study, we conclude that sustainable health promotion intervention for chronic illness persons can be used by non-formal education activities combine with transformative learning activities to change attitude and self-care practicing.

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