AN EMPOWERMENT PROGRAM FOR STANDARDS OF HEALTH EDUCATION SERVICES AMONG HEALTH PERSONNEL: A STUDY OF HYPERTENSION/HEART CLINIC, RAJAVITHI HOSPITAL

NUCHRAPEE SUTHIKUL

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ABSTRACT

The purpose of this action research was to study the process and effects of the standards of health education services through participatory learning, which was composed of experiential learning and group process learning, including adult learning, of health personnel in promoting hypertension control behaviors among hypertensive (HT) patients. The research process was based on a technical collaborative approach between the researcher and health personnel. Data were collected by in-depth interview, self-evaluation, focus group discussion, participatory observation, and questionnaire.

The findings of the study revealed that the developmental process according to the standards of hospital health education services (HES) was composed of 7 stages: situation analysis; organizing empowerment training program; planning a program according to the standards of HES; implementing the program planned according to the standards of HES of the Health Education Unit and the Hypertension/Heart (HT/H) Clinic; reflection of implementation the program; and sustainable developmental guidelines. The study was evaluated by measuring outcomes, the behavioral changes of health personnel, and the impacts on HT patients' changed behaviors.

The outcome of the cooperative activities between the Health Education Unit and the HT/H Clinic, was the Providing Group Health Learning Experience = PGHLE= program for HT patients, where the Health Education Unit was responsible for providing/ developing materials, and organizing a health behavior surveillance program. The HT/H Clinic was responsible for PGHLE with HT patients, with the collaboration of the health team, and organizing a supportive environment conducive to learning. Other activities included supervision, following-up and program evaluation. It was found that the health personnel's behaviors had changed significantly with regard to self-esteem, self-efficacy and health education services regarding process and structure standards, job satisfaction regarding professional work environment, autonomy, professional relationships, and role enactment ($p<0.05$). However, it was no significant changed in satisfaction regarding work worth.

Regarding the impacts on HT patients, significant behavioral change of HT patients was found with regard to knowledge regarding hypertension, perceived susceptibility and severity of hypertension, self-efficacy, hypertension control behaviors regarding food consumption, physical exercise, and medicine taking, when compared between after and before the program, except stress management. It was also found that the proportion of adding fish sauce in food and non-appointment keeping were decreased significantly ($p<0.05$). Regarding the satisfaction with 6 components of services, it was found that the satisfaction was significantly increased ($p<0.05$). The BMI between the experimental group and the comparison group was significantly different ($p<0.05$) but no significant difference was found between the blood pressure level of the two groups. Within the experimental group, the significant difference was found in the BMI and the blood pressure level (Systolic & Diastolic blood pressure), when compared between those before and after the program, but not within the comparison group.

Thus, recommendations were made as follows: participatory learning process and adult learning should be applied for developing health education services in accordance with hospital health education standard, under the multidisciplinary team work of health providers in order to achieve the involvement of health care users and their desirable health behaviors.

KEY WORDS : EMPOWERMENT, STANDARDS OF HEALTH EDUCATION SERVICES HYPERTENSION

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การสร้างพลังบุคลากรสุขภาพในการบริการสุขศึกษาตามมาตรฐานงานสุขศึกษา: กรณีศึกษาในคลินิกโรคหัวใจ / ความดันโลหิตสูง โรงพยาบาลราชวิถี (AN EMPOWERMENT PROGRAM FOR STANDARDS OF HEALTH EDUCATION SERVICES AMONG HEALTH PERSONNEL: A STUDY OF HYPERTENSION/HEART CLINIC, RAJAVITHI HOSPITAL)

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บทคัดย่อ

การศึกษาเชิงปฏิบัติการครั้งนี้มีวัตถุประสงค์เพื่อศึกษากระบวนการและผลการบริการสุขศึกษาตามมาตรฐานงานสุขศึกษาโดยการสร้างพลังผ่านกระบวนการเรียนรู้แบบมีส่วนร่วมที่ประกอบด้วยการเรียนรู้เชิงประสบการณ์ การเรียนรู้ด้วยกระบวนการกลุ่ม และการเรียนรู้แบบผู้ใหญ่ของบุคลากรสุขภาพ ในการส่งเสริมพฤติกรรมการควบคุมภาวะความดันโลหิตของผู้ป่วยความดันโลหิตสูง กระบวนการวิจัยอาศัยความร่วมมือระหว่างผู้วิจัยกับบุคลากรสุขภาพ เก็บรวบรวมข้อมูลโดยการสัมภาษณ์ระดับลึก การประเมินตนเอง การสนทนากลุ่ม การสังเกตแบบมีส่วนร่วม และแบบสอบถาม

ผลการศึกษาพบว่ากระบวนการพัฒนาตามมาตรฐานงานสุขศึกษาประกอบด้วย 7 ระยะคือการวิเคราะห์สถานการณ์ การฝึกอบรมตามโปรแกรมการสร้างพลัง การวางแผนการดำเนินงานตามมาตรฐานงานสุขศึกษา การดำเนินงานตามแผนงาน/โครงการของฝ่ายสุขศึกษาและของคลินิกโรคหัวใจ/ความดันโลหิตสูง การสะท้อนการดำเนินงาน และแนวทางการพัฒนาอย่างต่อเนื่อง มีการประเมินผลลัพธ์ของการดำเนินงาน การเปลี่ยนแปลงพฤติกรรมของบุคลากรสุขภาพ และผลกระทบต่อการเปลี่ยนแปลงพฤติกรรมของผู้ป่วยความดันโลหิตสูง

ผลการดำเนินงานร่วมกันระหว่างฝ่ายสุขศึกษา และคลินิกโรคหัวใจ/ความดันโลหิตสูงคือการจัดทำโครงการจัดประสบการณ์การเรียนรู้ด้านสุขภาพแบบกลุ่มแก่ผู้ป่วยความดันโลหิตสูง โดยฝ่ายสุขศึกษารับผิดชอบจัดหา/พัฒนาสื่อ และทำการเฝ้าระวังพฤติกรรมสุขภาพ ส่วนคลินิกโรคหัวใจ/ความดันโลหิตสูงดำเนินการจัดประสบการณ์การเรียนรู้ด้านสุขภาพแบบกลุ่มกับผู้ป่วยฯร่วมกับทีมสุขภาพ และจัดสภาพแวดล้อมให้เอื้อต่อการเรียนรู้ พร้อมทั้งมีการนิเทศ ติดตาม และประเมินผลการดำเนินงานร่วมกัน และพบว่าบุคลากรสุขภาพมีการเปลี่ยนแปลงพฤติกรรมในด้านการรับรู้ความมีคุณค่าในตนเอง การรับรู้ในความสามารถตนเองและทักษะในการบริการสุขศึกษาตามมาตรฐานเชิงกระบวนการและเชิงโครงสร้าง ความพึงพอใจในการปฏิบัติงานด้านสิ่งแวดล้อมเชิงวิชาชีพ ความเป็นอิสระในการปฏิบัติงาน ความสัมพันธ์ในวิชาชีพ/ระหว่างวิชาชีพ และการแสดงออกถึงบทบาทวิชาชีพ มีความแตกต่างอย่างมีนัยสำคัญทางสถิติ ($p<.05$) ยกเว้นความพึงพอใจด้านคุณค่าของงาน

ส่วนผลกระทบต่อผู้ป่วยความดันโลหิตสูงพบว่า ผู้ป่วยมีการเปลี่ยนแปลงพฤติกรรมในด้านความรู้เกี่ยวกับโรค HT การรับรู้โอกาสเสี่ยงและความรุนแรงของโรค HT การรับรู้ความสามารถตนเอง พฤติกรรมการควบคุมภาวะความดันโลหิตด้านการบริโภคอาหาร การออกกำลังกาย และการรับประทานยา สูงกว่าก่อนการทดลองและสูงกว่ากลุ่มเปรียบเทียบอย่างมีนัยสำคัญทางสถิติ ($p<.05$) ยกเว้นการจัดการความเครียด นอกจากนี้พบว่าสัดส่วนปริมาณการเติมน้ำปลาในอาหาร และการไม่มาตรวจตามนัดลดลงอย่างมีนัยสำคัญทางสถิติ ($p<.05$) สำหรับความพึงพอใจในการรับบริการทั้ง 6 ด้าน พบว่าเพิ่มสูงขึ้นอย่างมีนัยสำคัญทางสถิติ ($p<.05$) ส่วนดัชนีมวลกายระหว่างกลุ่มทดลองและกลุ่มเปรียบเทียบแตกต่างอย่างมีนัยสำคัญทางสถิติ ($p<.05$) แต่ระดับความดันโลหิตแตกต่างอย่างไม่มีนัยสำคัญทางสถิติ เมื่อพิจารณาความแตกต่างของดัชนีมวลกายและระดับความดันโลหิตภายในกลุ่มทดลองพบความแตกต่าง แต่ไม่พบในกลุ่มเปรียบเทียบ

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CHAPTER I

INTRODUCTION

Background and Rationale

The Bureau of Health Policy and Planning and the Department of International Health (1999: 211-218) have compiled 5 significant problems of Thailand's health systems as follows: inequity of medical and public health services; efficiency of public health service system; standard quality of services; accessibility of emergency care, and universal health insurance coverage. One significant factor that stimulates society's awareness and competition among many organizations is the problem concerning standard quality. As Anuwatana Supachutikul indicated, the important organizational crisis was one of the important reasons for developing organization service's quality. The crisis was caused by the external factors i.e. competition between organizations, increased needs of people, the change of illness patterns, development of medical technology, the change of government policy, financial system, etc. The internal factors involved were the cooperation within an organization, stress, job morale, job motivation, financial status, and organization's image. These internal factors were due to many causes; 1) the people's needs that could not serve i.e. inconvenience, a long time wait, inhospitality, high cost service, etc.; 2) providers' negative feelings towards job i.e. being unhappy with their job, being unable to solve the conflicts, etc.; 3) administrators' dislike to be sued by the clients; and 4) the feeling of the sources who pay for the hospital expense i.e. the social insurance office, Health Insurance Companies, etc., who preferred to spend money efficiently (Anuwatana Supachutikul, 1999: 6-11; Anuwatana Supachutikul, 2000)

The above problems caused high social expectation toward health service system, as reflected in Thailand Constitution 1997, Number 52, stated that "People has an equal right to get standard quality of public health service", and Number 82 was stated that "The government must provide and promote coverage high standard quality and

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efficiency of public health services to all people". Also in the Eight National Socio-economic Plan (1997-2001), the development concept was emphasized on "people as the center for development". Thus, the ultimate aim of health systems was to develop people to reach the state of well-being, physical, mental, and social, and to be surrounded with appropriate environment, community and society. Regarding a health service system, the emphasis was on enhancement of potentiality, quality and accessibility of health services. Social expectation was a significant determinant of the future direction of the health service system, with the emphases on equity and accessibility. Those health services must be high quality, efficiently, resulted in people's better quality of life, through the transparent and accountable system, which are the ultimate expectation of the society (Aree Valayasawee et al.,2000: 9; Prawase Wasi, 2000: 22; Suracharti Na Nongkai, 2000: 6).

The Health System Research Institute, Academic Institute for Health Consumer, and National Health Foundation, the leading organizations in developing hospital standards, whereby the standards were based on the modern quality development concepts of client-centered approach and building team work in order to improve the system to be able to serve problems and needs of patients effectively with the full and continuous support from the managers. This hospital standard set was consisted of 31 activities with 5 areas. Regarding health education area, which is one of the clinical services that behavioral sciences have been applied with the aim to change patients and people's health behaviors. Health education service does not mean merely the existing of H Ed Unit in the hospital but it means that every provider needs to be improved his/her knowledge and skills on health education and integrated these skills into his/her services provided (Health System Research Institute, Academic Institute for Health Consumer Protection, and National Health Foundation, 1999: VI, EDU-I).

From the analysis of health education programs organized in public health service organizations in the past, it was found that Health Education Standards has not been developed. Therefore, the Health Education Division, Office of the Permanent Secretary of the Ministry of Public Health, has studied the development of hospital Health Education Standards for regional, general, and community hospitals. Applying the theoretical, action and evaluative framework, the hospital standards had been developed by the Health System Research Institute. The involvement of health

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providers, who were responsible for hospital health education, professionals from concerned organizations, and other related officers from health-related organizations, was created throughout the development process. The hospital Health Education Standards were developed from this study project, which composed of 6 components of structure standard as follows: policy/plan; responsible unit/group; adequate number and high quality of personnel; budget; necessary media and materials; and supportive environment. Also, 7 components of the process standard were developed as follows: information system development; program planning; project activity planning; continuous and coverage supervision and monitoring; health behavioral surveillance; and research. Regarding the outcome standard, the desirable health behavior of the target group was established (Pensri Kerdnaag et al., 2000: 61-64). In order to reach the objectives and goal for standards of Health Education Services (HES), health education program should be organized by the involvement of health team members of multidiscipline e.g. health educators, nurses, audio-visual aids experts, general physicians, specialized physicians, pharmacists, nutritionists, rehabilitation specialist, psychologists, etc. This group of the health team should participate in thinking, making decision, being responsible, implementing, and evaluating the program, which will result in providing quality services and satisfaction among the clients and providers, particularly with the group of chronic illness.

Hypertension is a chronic disease and one of the public health problems of both developed and developing countries. In the United States of America there were approximately 50 million hypertensive patients (Joint National Committee, 1997: 8). In Thailand, various prevalence studies have been carried out, the hypertension prevalence rates ranged between 5-16.5 percent, depends on the different groups of studied populations and criteria for determining hypertension (Adhoc Research Committee on Coronary Heart Diseases, 1998: 51; Thai Public Health Research Institute, National Public Health Foundation, and the Public Health Policy and Plan Bureau, Ministry of Public Health, 1998: Abstract, 89).

The data from the First National Health Survey (1991-1992) and the Second National Health Survey (1996-1997) showed the double increased prevalence rate of hypertension in the Second Survey compared with the First Survey. From the Second

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Survey, the prevalence rates of the central region, Bangkok Metropolis, the northern, southern and northeastern regions were 14.7, 13.4, 10.9, 10.3 and 8.9 percent respectively. It was estimated that the number of the country's hypertensive patients in 1991 was approximately 2,309,419 and in 1996 was 6.3 millions. Among these cases, one third of them aged between 13-59 years old and the rest were in the elderly group, aged over 60 years old, (Chanpen Chooprapawan, 2000: 233). The data of health statistics regarding death rate per 100,000 populations by causes of deaths during 1993-1997 showed that hypertension and coronary diseases were the fourth rank of causes of death whereby heart diseases, accidents and poisons, and cancers were at the upper ranks respectively (Alpha Research, 2000: 197). In regards with mortality, the highest mortality rate of hypertensive patients was among people aged 60-64 years old and the higher trend started with the aged of 40 and up. These data showed the early loss of labor-force group. It was also found that in 1992, the public health centers under the Ministry of Public Health admitted 53,829 cases of hypertensive patients (92.7 per 100,000 population) and the highest morbidity rate was found in Bangkok Metropolis (Non-communicable Diseases Control Committee, 1995: 31).

Rajavithi Hospital, Department of Health Services, Ministry of Public Health, is the 1,228 bed-regional hospital which provides services for a large number of clients. From the statistics of the Hospital's Annual Report during the fiscal years of 1997-2001, at the Outpatient Department (OPD) there were 687,235; 720,635; 729,055; 755,704; and 765,771 patients came to get the services respectively. It was found that the highest number of patients was those with essential or primary hypertension which was ranked first among 10 diseases of the patients who visit the OPD. The number of cases with this disease were gradually increased, 28,723; 35,531; 39,533; 41,097 and 43,239 respectively during 1997-2001 and the percentage of total OPD hypertensive patients were 4.18, 4.93, 5.42, 5.44, and 5.65 respectively. (Record and Statistics Unit, Rajavithi Hospital, 1997-2001).

In regards with the goals of hypertension treatment, besides the treatment by effective medication, modification of lifestyle or self-care behavior's through control of body weight, limitation of alcohol consumption, stop smoking, regular aerobic exercise, limitation of sodium intake, adequate intake of potassium, calcium and magnesium, limitation of saturated fat and cholesterol consumption, appropriate stress

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management and enough rest, and keeping physician appointment, is the effective measure for control hypertension (Joint National Committee VI, 1997: 20; Somjit Hanuchareonkul, 1984: 123-124; Thailand Medical Council, 2000: 111). The results of various studies in behavioral sciences showed that hypertensive patients could be able to modify their hypertension control behaviors (Haynes et al.1980; Jariyawat Kompayak, 1989; Pensri Hongspanich, 1993; Praneet Singthong, 1998; Yupin Hongswachin, 1999; Doungjai Srion, 2000).

The data from the in-depth interview carried out with health educators regarding health services provided for hypertensive patients indicated the lack of the following things: cooperation and collaboration between the Hypertension and Heart Clinic (HT/H Clinic); precised policy and plan of health education services that can be able to put into practice effectively; 1 responsible nurse for health education activities in each nursing unit; budget for health education activities; and mutual acceptance among health education professional.

The data from the in-depth interview carried out with nurses of the HT/H Clinic showed that the respondents were interested in providing health education activities but they did not have enough time since the number of the patients was very large. They mentioned the lack of skills in developing a systematic health education program as related to program planning, health education strategies (individual and one-way communication approach were mostly used), and evaluation. The respondents also indicated the lack of cooperation in health education planning and audio-visual aids/material support from the Health Education Unit (HEd Unit).

Self-evaluation of the health personnel

Self-evaluation based on health education standards for non-communicable diseases (a case study of hypertension) was employed. This self-evaluation form was modified from the self-evaluation of hospital health education standards developed by the Health Education Division (Health Education Division, 2543: 6-21) and the self-evaluation of health organization's health education service based on hospital accreditation standard (Institute for Development and Hospital Accreditation, 2000, 1-17). The self-evaluation form was divided into 2 levels, firstly the evaluation of structure and process standards for hypertensive patients of the HEd Unit who were the technical supporting units, and secondly, the evaluation of health education

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standards for hypertensive patients of the HT/H Clinic who were the implementing units. This assessment level was included structure, process, and outcome standards. The results were as follows:

1. Health Education Standards for non-communicable diseases (Hypertension) of the HEd Unit.

1.1 Structure standard for developing health behaviors relating to hypertension: 1) No unit/committee has been assigned to be responsible for; 2) there were 4 officers, accordingly with the regulations of the Civil Service Commission, who could work efficiently in some extent, the allocation of personnel was not congruent with the principle proportion of 1:3, the qualification of personnel met the regulations of the Civil Service Commission, they got adequate skills on health education services, be responsible accordingly with job description, they have been trained during their work but some of them have developed themselves and their work continuously; 3) No plan for developing health behaviors regarding hypertension; 4) Not enough budget; 5) Some media and material regarding hypertension were developed; 6) No appropriate place for organizing health education activities was available but some facilities were available.

1.2 Process standard for developing health behaviors regarding hypertension, it was found that 1) information system has not been developed; 2) project activities have not been planned; 3) some health education activities have been organized e.g. leaflet on hypertension was developed but lack review of content validity and feasibility from the implementation unit, lack of involvement of health team in the developmental process of the materials, the content pretesting has been done but not the technical aspect, the materials were revised sometimes; 4) no super visioning and monitoring activities have been done; 5) no evaluation activities; 6) no health behavioral surveillance progress; and 7) no research activities.

2. Health Education Standards for hypertension of the HT/H Clinic

2.1 Structure standard for developing health behaviors relating to hypertension. It was found that: 1) there were some nurses responsible for health education services but development for higher quality has not been done continuously; 2) no health education plan; 3) there were some necessary media and materials in the HT/H Clinic i.e. leaflets, but they were not enough, the maintenance, preparation, and

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storage of audio-visual aids have not been done systematically, some media and supports were provided by the H Ed Unit of the hospital; 4) no appropriate place for organizing health education activities was available but there were some facilities and media available e.g. radio, television, video, except information corner.

2.2 Process standard for developing health behaviors relating to hypertension. It was found that: 1) health education services have not been planned; 2) health education activities have not been organized; 3) there was no supervision; and 4) there was no evaluation.

2.3 Outcome standard in developing health behaviors relating to hypertension. It was found that no outcome has not been found, as related to: patients' self – care behaviors/ or relatives' support in order to control and prevent hypertension effectively and patients' and their relatives' satisfaction on health education activities organized.

Focus group study

Focus group discussions were organized with 2 groups of 7 and 8 hypertensive patients respectively. It was found that the patients perceived incorrectly about hypertension as regards to severity and susceptibility of complications. They lacked goal, motivation and skills for performing healthy behaviors, e.g. they liked to eat salty food, possessed the habit of adding fish sauce in the food before testing, consumed high fat food, lacked of regular physical activity, faced with stress caused by family problem, etc., which led to headache and insomnia, some of them managed stress ineffectively by starting smoking or drinking alcohol. Some patients could not keep up with hospital appointment, which made an uncontinuous medication treatment. Some patients forgot to take medicines. Some patients were worry about the illness and were afraid of heart disease and stroke because they have known others who were sick with hypertension, and their relatives' supports were not adequate. The group members have mentioned clearly that the patients and their relatives expressed their needs for organizing a group of patients / relatives again in order to get more accurate information and the information on how to perform appropriate hypertension control behaviors appropriately. The researcher including interviewing the patients and health personnel regarding steps of diagnosis and treatment procedure of the HT/H Clinic has done participatory observation. It was found that standardized and

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systematic health education program has not been organized for the patients and their relatives.

The above assessment pointed to the need for empowering health personnel with the aims to develop their self-esteem, self-efficacy, their skills for providing standardized health education services and following structure, process and outcome standards, by having them participated in planning, action and observation, implementing and improving the project by applying the action research concept and the researcher would act as a facilitator and coordinator, will result in changing health behaviors of patients with high blood pressure effectively. For this study, participatory training program was used for empowerment, which composed of experimental learning and group process including adult learning. Through this type of training, the health personnel would express their power, get direct involvement, interact with other members, dialogue which created the opportunity for critical thinking, diversified thinking, various alternatives, various consequences of each alternative, and make decision effectively (Cornwell &Jewkes, 1995; Koning&Martin, 1996; Naidoo&Wills, 1998 cited in Nit Tassniyom, 2000: 85). If the health personnel have exposed to empowerment process, they should be able to apply their learned experience with other situations and other target groups in order to help the target groups got more will/power, realized their self-ability and be responsible for changing their own behaviors. It has been believed that through this procedure the individual can be developed and will lead to sustainable development (Chavasse, 1992: Fahlberg et al. cited in Wiliams, 1995: 39; Yawalugse Anurugse et al., 1999: 78).

Research Questions

1. Would the empowerment training program among the health personnel affect an increase in self-esteem, self-efficacy, skill and satisfaction in performing standards of health education services?

2. Would the standards of health education services development, through the empowerment training program of health personnel, affect an increase in knowledge, perception of susceptibility and severity of hypertension, self-efficacy of performing hypertension control behavior, hypertension control behavior and satisfaction of health education and health care services of hypertensive patients?

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Research Objectives

General Objective

The project was aimed to study the processes and the effects of developmental standards of health education services, through the empowerment training program of health personnel, on patients' hypertension control behaviors.

Specific Objectives

1. To study the developmental process according to standards of health education services, on the HEd Unit and the HT/H Clinic.

2. To study the effects according to standards of health education services, on the HEd Unit and the HT/H Clinic.

3. To study the change of standards of health education services behaviors among health personnel, after attending the empowerment training program: self-esteem; self-efficacy, skills, and satisfaction on performing standards of health education services.

4. To study the change of hypertensive patients' behaviors with regards to: the knowledge on hypertension; perception of susceptibility and severity of hypertension; self-efficacy of performing hypertension control behaviors; hypertension control behaviors; and satisfaction of health education and health care services.

Research Hypotheses

1. After attending the empowerment training program for attaining standard of health education services the health personnel were improved in the following behaviors: self-esteem; self-efficacy, skills and satisfaction on performing standards of health education services.

2. The hypertensive patients were better on the following health behaviors: the knowledge on hypertension; perception of susceptibility and severity of hypertension; self-efficacy of performing hypertension control behaviors; hypertension control behaviors; and satisfaction of health education and health care services.

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Scope of the Study

The program was organized only standards of HES in the HEd Unit and the HT/H Clinic, for hypertensive patients who visit the HT/H Clinic (Department of Internal Medicine), Rajavithi Hospital, during October 2000 – October 2002.

Definitions of Terms

1. **Health Education Standards of non-communicable disease** (A case study of hypertension) of the HEd Unit composed of structure standard and process standard, as follows:

1.1 Structure standard for developing health behaviors relating to hypertension composed of 1) establishment of a health behavior development plan; 2) production and development of media and materials; and 3) modification of work structure.

1.2 Process standard for developing health behaviors relating to hypertension composed of 1) implementing the plan; 2) developing a self-care manual; 3) health behavior surveillance; 4) supervising and monitoring; 5) evaluation; 6) information system development; and 7) research.

2. **Health Education Standards of hypertension of the HT/H Clinic** composed of 3 components as follows:

2.1 Structure standard for developing health behaviors relating to hypertension composed of 1) establishment of a health behavior development plan; 2) appointing a professional nurse to be responsible for; 3) providing adequate media and materials; and 4) providing a supportive environment conducive to performing health education services.

2.2 Process standard for developing health behaviors relating to hypertension composed of 1) implementing the plan; 2) supervising and monitoring; and 3) evaluation.

2.3 Outcome standard composed of 1) hypertensive patients performed hypertension control behaviors effectively; 2) hypertensive patients satisfied with the health care services; and 3) health personnel satisfied with their job performance.

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3. Empowerment Training Program referred to the 2-day program with an emphasis on participatory learning which was composed of experiential learning, group process, and adult learning was to help health personnel gain concept of empowerment, teamwork skill, planning, evaluation, etc. The activities were organized by showing videotape, lecture, experience telling, group discussion, brainstorming, practice session, etc. in accordance with the empowerment training program developed by research team (Appendix B), with an aim to change behaviors of health personnel regarding self-esteem, self-efficacy, skills accordingly with Health Education Standards of hypertension, skills of performing health education plan accordingly with process standard, and skills in developing structure standard, all of which will result in health personnel's satisfaction on job performance. They were expected to be able to put what they have learned into their work with hypertensive patients and the provided health education services would be effective in changing desirable hypertension control behaviors among hypertensive patients including their satisfaction on the provided health care services.

4. Self-esteem referred to the judgment of health personnel's opinions or feelings as related to ability, significance, prestige, responsibility, self-actualization, expected evaluation, and acceptance from others. Health personnel's self-esteem has been applied from the concepts of Rosenberg (1965 cited in Carpenter, 1996: 183).

5. Self-efficacy referred to the perception of health personnel regarding her/his ability to perform health education services accordingly with the Health Education Services Standard as related to process standard and structure standard of hypertension of the H Ed Unit and the HT/H Clinic.

6. Practices of health education services referred to the ability of health personnel in doing including skills in job performance accordingly with the Health Education Services Standard as related to process standard and structure standard of hypertension of the H Ed Unit and the HT/H Clinic.

7. Knowledge on hypertension referred to the knowing and understanding about causes, signs and symptoms, complications, level of blood pressure, and self-care behaviors to control hypertension of hypertensive patients.

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8. Perception of hypertension referred to the interpretation of information, signs and symptoms, and experiences which resulted in opinion of patients towards hypertension, as related to the following aspects:

8.1 Perceived susceptibility: The perception held by the individual that complications were caused by ineffective practices for controlling hypertension.

8.2 Perceived severity: The perception held by the individual that there is a chance for getting complications if the individual got hypertension.

8.3 Self-efficacy: The efforts and intention of the hypertensive patients to perform hypertension control behaviors accordingly with his/her ability.

9. Hypertension control behaviors referred to the external behavior, which was concerned with practices that the patients decided to do in order to lead the better health status. The external behaviors were:- dietary behavior, physical exercise, stress management, medicine taking, and appointment keeping.

10. Job satisfaction of health personnel referred to the opinions of health personnel towards the outcome of their job performance accordingly with the Health Education Services Standard. The concepts developed by Whitley and Putzier (1994) have been applied to measure health personnel's satisfaction as related to:

10.1 Professional work environment referred to involving in program planning of health education services, accepting by the administrator and other units, opportunity for developing health education skills, and opportunity for career development.

10.2 Autonomy referred to make reasonable decisions freely regarding with health education services, modify health education services suitable for patients' needs, including utilize knowledge and ability to work freely,

10.3 Work-worth referred to the health education services is useful for the hospital, profession, and yourself.

10.4 Professional relationships referred to the good relationships, supporting, accepting, team working, and coordinating of health education services together within/between colleagues, supervisor, and administrators.

10.5 Role enactment referred to enough time for providing health education services, to pay attention and participate in carrying out a research project.

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11. Satisfaction of hypertensive patients referred to the hypertensive patients' emotional status or feelings towards the quality service provides of Rajavithi Hospital and the HT/H Clinic. The concepts developed by Aday & Andersen (1975) were applied to develop the instrument to measure patients' satisfaction, as related to:-

11.1 Convenience referred to travel to get the services, the speed of the providing services, and physical facilities.

11.2 Information referred to providing information regarding causes of illness, treatment, self-care, medication etc. from the physician, health personnel, and information corner including participation in group health learning experience for hypertensive patients.

11.3 Coordination referred to medical follow-up, coordination between units, the speed of providing services, group health learning experience from health team.

11.4 Courtesy or provider's manner referred to kind manners, enthusiasm, warm relationship, friendliness, and attentive service from doctors, professional nurses and other health staff .

11.5 Quality of care referred to quality of all service received such as doctors' competence, nurses' competence, medical equipment's/materials/instruments, quality of medicines.

11.6 Out of pocket cost referred to cost of drugs and care.

Protection the Patients' Right

The patients' right has been watched over by the researcher by using verbal communication through self-introduction, clarification of research's objectives, steps of data collection, and duration time for carrying out the research. The patients were informed that they have a right to participate or not participate in the program and these will not have any effects on the services' quality received. During the research process, the patients could be able to give up without any negative effects on the services' quality received. The data will be kept confidentially and the name of the patients will not be presented individually but only the general data will be presented. This research project has been approved and certified by the Ethical Review Committee for Research Involving Human Subjects, Rajavithi Hospital, on the 18th of October, 2001 (Document No.41/2544), as shown in Appendix E.

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CHAPTER II
LITERATURE REVIEW

The aim of this project was to study "An Empowerment Program for Standards of Health Education Services among Health Personnel: A Study in Hypertension/Heart Clinic, Rajavithi Hospital". The review of concepts, theories, and related researches, were made in order to be used as the guide for planning and implementing the research projects. The presentation was organized into five parts as follow;

1. Essential Hypertension
2. Hospital Health Education in Rajavithi Hospital
3. Hospital Health Education Standards
4. Related Concepts and Theories
5. Action Research

Essential Hypertension

Hypertension is diagnoses by using the level of blood pressure that is higher than the normal level of blood pressure. Hypertension is defined as a systolic blood pressure (SBP) of 140 mmHg or greater and a diastolic blood pressure (DBP) of 90 mmHg and greater. (Joint National Committee =JNC,1997: 11). The detailed information was shown in Table 1.

1. Physiopathology of Essential Hypertension

About 90-95 percent of hypertensive patients are classified as having essential hypertension (Hypertension without any cause). But in the medical center whereby special diagnosis was employed, hypertension with evident cause/secondary hypertension can be detected about 35 percent (William and Braunwald, 1987: 1025). Essential hypertension was a multifactorial characteristic in which there were many abnormal factors affecting the high level of blood pressure. The physiological mechanism can be described as follows: 1) a high quantity of water and sodium were

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stored and causes high water quantity in the blood vessel; 2) the contraction of the blood vessel; and 3) the increasing of water in the circulation. Other factors that might relate to hypertension are genetics, environment, social, economic, and family factors (McEntec & Peddicord , 1987; WHO, 1983).

Table 1 A classification of blood pressure

Category	Systolic (mmHg)		Diastolic (mmHg)	Follow up recommended
Optimal	<120	AND	<80	Recheck in 2 years
Normal	<130	AND	<85	Recheck in 2 years
High normal	130-139	OR	85-89	Recheck in 1 years
Hypertension STAGE 1(Mild)	140-159	OR	90-99	Confirm within 2 months
STAGE 2 (Moderate)	160-179	OR	100-109	Evaluate or refer to source of care within 1 month
STAGE 3 (Severe)	≥180	OR	≥110	Evaluate or refer to source of care immediately or within 1 week depending on clinical situation

Source: The six report of the Joint National Committee on prevention, detection, evaluation and treatment of high blood pressure. NIH publication, 1997: 11-13.

2. Treatment of Essential Hypertension

The goal of treatment of Essential Hypertension is to reduce the level of high blood pressure to the normal level. Among adult group who has a mild hypertension stage, the level of the blood pressure should be 120/80 mmHg to 130/80 mmHg. For the elderly, who has high systolic and diastolic blood pressure, the level of blood pressure should be 140/90 mmHg and for the one who has high level of systolic blood pressure is should be lower than 140 mmHg (The Guideline subcommittee of WHO/ISH, 1993: 389). Pharmacologic treatment is one of the treatments suggested but since hypertension is a syndrome with the abnormality of heart and blood vessels, endocrine system, and metabolism system (Weber,1995: 2502-2503), thus, treatment

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of hypertension is not concerned only the reduction of blood pressure but also the reduction of risk factors of cardiovascular disease. Therefor, the treatment of hypertension is concentrated in both pharmacologic treatment and nonpharmacologic treatment whereby lifestyle modification is emphasized.

3. Pharmacologic Treatment

The results of the researches on using antihypertensive drugs showed that drugs are effective in reducing blood pressure and controlling the blood pressure in the artery including preventing cardiovascular disease. Step care approach has introduced in 1973. At the first step, after the failure of using diuretics was found, the second stage was use by using inhibitor drugs antihypertensive agent i.e. Adrenergic. If hypertension still could not be controlled, step 3 will be introduced by prescribing vasodilator drugs. If the step 3 was not effective, step 4 will be use by giving Gaunethidine, Minoxidil (Frohlich, 1992: 8-9).

The reasons for using diuretics the first stage are as follow: 1) it was found that among the patients who used diuretics, their blood pressure can be reduced; 2) among the mild and moderate hypertensive patients who used diuretics with limitation of sodium intake 60-70 percent could reduce diastolic blood pressure below 90 mmHg; 3) the research results should that the combination use of diuretics and antihypertensive drug was effective in lowering blood pressure level and side effects; and 4) the use of antihypertensine drug will cause body edema, the use of diuretics will help prevent edema in the blood vessels (Frohlick, 1992: 8). Presently there are variety of new kinds of antihypertensive drugs which can be grouped into 7 groups of follows: 1) diuretics; 2) Beta-adrenergic receptor blockers; 3) Alpha-adrenergic receptor blockers; 4) centrally acting adrenergic inhibiting compounds; 5) Angiotensin conversion enzyme inhibitor or ACE inhibitor; 6) Calcium antagonism; and 7) vasodilator drugs. Because the use of available antihypertensive drugs presently does not cause edema but the use of diuretics and Beta-adrenergic receptor blockers may cause the abnormal function of fat and glucose metabolism, therefor the use oface inhibitor, calcium antagonist and alpha-adrenergic receptor blockers was recommended at the first stage of treatment besides diuretics and Beta-adrenergic receptor blockers (Weber, 1995: 2503).

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The effective drugs and the regular use of drugs are very important for controlling hypertension and can reduce mortality and complications form hypertension (Eraker, Kirsch & Becker, 1984: 259; Bitttar, 1995: 12-16). Medicine taking is one important self-care of a hypertensive patient. But the researches showed that low regular medicine taking rate was found (60 percent) (Klein, 1988; Clark, 1991; Balazovjech & Hnilica, 1993). It was found that after 1 year of treatment, more than half of the hypertensive patients did not keep their medical appointment and only less than 25 percent kept their appointment after 5 years of treatment (Juncos, 1995). Only half to two third of the patients under phamacologic treatment plan could be able to control their blood pressure level (Winickoff & Murphy, 1987). Therefore, the hypertensive patients who could not control blood pressure level will be risky for getting complications of cardiovascular disease especially those who has major risk factors i.e. diabetes mellitus, smoking, age over 60 years, high cholesterol, male, menopausal woman, family history of cardiovascular disease (age less than 65 for female and less than 55 for male) (JNC VI, 1997: 16). Besides these mentioned risks, other disease i.e. heart disease, myocardial infarction, left ventricular hypertrophy coronary, heart failure, paralysis, arteriosclerosis, retinopathy, and kidney failure (Beevers & MacGregor, 1987: 23-30; JNC VI, 1997: 16). It was found that those who could not control blood pressure were risky to get coronary heart disease 3-4 times when compared with those who have normal blood pressure level, more risky for getting heart failure 6 times, and more risky of getting paralysis 7 times (Dawber, 1980 cited in Richardson, et. al., 1993: 490). For Thai people, the results of the study showed that hypertensive patients were risky to get cardiovascular disease 3.7 times of those who have normal blood pressure level, for example the 12 longitudinal study of the staff of Thailand Electricity Authority, it was found that the morbidity rate of cerebrovascular disease and myocardial infarction was high as 40-50 per 1000 while the morbidity of these disease among the normal blood pressure people was found 10 per 1,000 (Janpen Chooprawan, 2000: 237). The study by Wongduen Pandee (1986) regarding complications of essential hypertension among hypertensive patients of Hypertension Clinic at Ramathibodi and Siriraj Hospital showed that the morbidity rate of heart disease was 45.9 per 1000 hypertensive patients.

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4. Nonpharmacologic Treatment

Nonpharmacologic treatment is a method suggested by the World Health Organization and the Joint National Committee on prevention, detection, evaluation, and treatment of hypertension, especially for those who have a mild stage of hypertension and this type of treatment should be used along with phamacologic treatment for those who have moderate and severe stage of hypertension, whereby the non-phamacologic can help reduce the use of drugs, reduce the drug's side effects and reduce the course of treatment. It was found that nonpharmacologic treatment could reduce systolic pressure 10-15 mmHg and diastolic pressure 6-10 mmHg. It was also found that 20-25 percent of the patients with mild stage of hypertension could control their blood pressure level to the normal level with the nonpharmacologic treatment (Friedman, Stuart & Benson, 1992: 1). The nonpharmacologic treatment could reduce not only the blood pressure level but also could reduce the risk of getting coronary heart disease, whereby the treatment was composed of weight reduction (for obesity), reduction of sodium intake, reduction of saturated fat intake, physical exercise, smoking, and coping with stress. Those mentioned practice were supplemented to each other. In order to get effective result the detailed principles for each practice were presented as follow: (The Guideline Subcommittee of WHO/ISH, 1993: 398; Friedman, Stuart & Benson, 1992: 2-5; Marion & Ryan, 1995: 2589-2592; JNC VI, 1997: 20-23).

4.1 Weight Reduction

A person with excess body weight more than 10-20 percent of the standard weight is necessary to reduce his/her body weight in order to lower blood pressure level and lower the hard work of the heart. For a patient with a mild stage of hypertension, if he/she could reduce body weight for 4.5 kilogram or more the blood level will be reduce to the normal level. The short-term goal of weight reduction is 1-1.5 pounds per week and not more than 10 percent of the standard body weight for the long-term goal. In order to reduce body weight dietary habit must be modified, thus, a patient should be educated about food, food calorie, calorie needed, and learning about low calorie food and low saturated fat food. The changing of dietary behavior is the complex process which needs a lot of encouragement, and supports form the care givers and significant persons.

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4.2 Reduction of Salty Food

Reduction of salty food and limitation of sodium intake are beneficial for hypertensive patients especially for those who have high systolic blood pressure level. Reduction of sodium intake can reduce the blood pressure level. The amount of sodium intake per day should be about 2,000 mg. or less whereby it is very difficult to practice since most of the food contain a lot of sodium . The reduction of food intake and processed food will help to reduce both sodium, calorie, and fat. Sodium is in salt, therefore reduction of salt intake by having not more than 5 gm. per day (2-3 gm. of sodium per day) is recommended. Patients should learn to select foods lower in sodium and should consult dietitians.

4.3 Reduction of Saturated Fat Intake

Reduction of saturated fat intake aims to reduce cholesterol level in blood vessel. Hypertensive patient with high blood cholesterol will have high risk for coronary artery disease, therefor, in order to reduce risk of coronary artery disease, patient should learn about dietary form dietitians in order to reduce blood cholesterol to lower than 200 mg/dl, Low-density lipoprotein (LDL) to lower than 140ng/dl and increase High-density lipoprotein (HDL) higher than 40 mg/dl, and reduce the proportion of cholesterol level and HDL to less than 3.5 mg/dl in female and less than 4.5 mg/dl in male.

4.4 Reduction of Alcohol Intake

Excessive alcohol intake increases blood pressure level, both systolic and diastolic. Regular alcohol intake can cause resistance to antihypertension drugs and is a risk factor for stroke. Those who drink leverage containing alcohol should limit their daily intake to no more than I ounce of ethanol-for example, 24 ounces of beer, 10 ounces of wine, or 2 ounces of whiskey (INC VI, 1997: 20).

4.5 Quitting Smoking

Hypertensive patient are risky to paralysis. Cigarette smoking is a powerful risk factor for cardiovascular disease 20 times when compared with non-smoking people who do not have hypertension. Middle age woman who has hypertension can reduce the risk for getting paralysis by quitting smoking. The hypertensive patients who use beta-blocker and smoking, smoking can lower the effectiveness of Beta-blocker. Therefore avoidance smoking is very important for hypertensive patients. But

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quitting smoking is very difficult because of the addiction and psychosocial factors related to smoking. Smoking cessation program is one program for helping people to quit smoking.

4.6 Physical Exercise

Regular aerobic physical exercise can help reduce blood pressure level among patients with a mild to moderate stage of hypertension. It was found that physical exercise can lower level of catecholamine. Which in turn will lower the stimulation of sympathetic nervous system. When compared with their more active and fit peers, sedentary individuals have increased risk of developing cardiovascular disease and hypertension. Aerobic physical exercise can also help burning fat in our body. For obese hypertensive patients, it is very important to reduce their weight. Patients should get suggestions and get physical check-up before starting exercise in order to get more self-confidence and lower their worry since most of them are afraid of practicing physical exercise. The types of physical exercise recommended are:- riding bicycles jogging, swimming, brisk walking etc. for the anaerobic and isometric exercise, e.g. weight lifting is not recommended because it will increase the blood pressure level. The patients should exercise to reach about 60-70 percent of the highest heart rate and for 20 to 30 minutes by gradually increasing the time and should be done 3-5 times per week. Regular exercise helps lower stress and improves mental health.

4.7 Stress Management

Stress increases blood pressure level. Every individual faces with stress in everyday life. Hypertension and lifestyle modification may increase stress and patients may turn to undesirable dietary behavior, alcohol drinking and tobacco use in order to cope with stress, and resulted in higher risk. Learning about skills to cope with stress is very important for hypertensive patients. Relaxation lowers the respose to plasma norepinephrine which decrease the oxygen need, heart beat rate, blood pressure level , and respiratory rate. Patients will feel more peaceful and happier and less anxiety which in turn will help them learn more effectively in modifying their lifestyles. Because if patients are facing with stress and getting more anxiety their learning ability will be decreased. Thus, patients should practice relaxation skills, e.g. progressive muscle relaxation, meditation, yoga, biofeedback, etc. patients should

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select an appropriate technique which satisfied themselves and practice 20 minutes, 1-2 times per day.

A selection of related studies in behavioral sciences showed that hypertensive patients could be able to modify their hypertension control behaviors as follows:

Haynes, et al. (1976) studied the methods to promote hypertensive patients' compliance behaviors with 2 groups patients, experimental and comparison groups. Twenty patients in the experimental groups were trained about measuring blood pressure and provided information regarding medicine taking and self-care behaviors. Home-visits and psychological support were provided by the health team. For 18 patients of the comparison groups, the regular program was provided for. It was found that after completing the program compliance behavior of the comparison groups was decreased 1.5 percent and was increased 21.3 percent among the experimental groups. Regarding blood pressure level, blood pressure level of 17 patients in 20 patients was lowered and 2 of them had normal level of blood pressure. The results revealed the effect of motivation and psychological support on patients' treatment cooperation.

Nelson, et al. (1980) found that hypertensive patients who perceived the severity of hypertension had better treatment cooperation than those whose perception was low. No relationship was found regarding other beliefs.

Hershey, et al. (1980) studied the health beliefs to predict compliance behavior regarding medicine taking among 132 hypertensive patients. It was found that perception about hypertension control, barriers, and treatment duration were the good predictors of compliance behaviors which was contradicted to the finding of Andreoli (1981) that there was no relationship between health beliefs and compliance behaviors.

Connelly (1993) studied self-care behaviors of patients with 4 chronic diseases, and hypertension was one among them. The concepts of health beliefs as health behavior's predictors including self-concept, social support, and psychological support, were applied to measure 3 self-care behaviors: general self-care, medicine taking, and dietary. The results of the study show that psychological support and health motivation could predict general self-care behaviors and cost of medication treatment. Psychological support and perceived severity of disease could predict the behaviors regarding medicine taking. It was also found that cost of medication treatment and perceived severity could predict dietary behavior.

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Jariyawat Kompayak (1989) studied hypertension treatment cooperation and found that the factors affecting the treatment cooperation were: health beliefs regarding perceived susceptibility, perceived barriers; knowledge regarding pathophysiology of hypertension and self-care behavior; and other enabling factors e.g. transporation, cost, curation time.

Sawanee Sritirakul, et al. (1999) carried out the survey regarding factors the failure of hypertension control among essential hypertensive patients. It was found that inappropriate dietary behavior, lack of physical exercise (sedentary), lack of enough rest, anxiety, not taking medicine regularly, and non-regular appointment keeping, were important factors affecting the failure of hypertension control.

Pensri Hongpanich (1993) studied the effectiveness of group counseling on self-care behaviors of hypertensive patients. The results of the study showed that perception about hypertension and self-care behaviors of the experimental groups were significantly higher than before the program and than the comparison group. No significant difference was found between the proportion of the hypertensive patients whose blood pressure level decreased between the experimental and the comparison group. But the proportion of the patients whose body mass index and stress level have been decreased, among the experimental group was significant higher than that of the comparison group.

Promjit Congsuvivatwong (1996) studied the application of protection motivation theory in prevention behavior against complication of essential hypertensive patients. The results showed that after participated in health education program, the experimental group had more significant changed in noxiousness or severity, perceived probability, response efficacy, self- efficacy, intention to act, and prevention behavior against complication of essential hypertension than prior to experimentation and than the comparison group.

Laddawan Chanvititkul (1996) studied the effective of counseling intervention as health education program on self-care behavior among hypertensive patients.The results indicated that after the experiment, the experimental group was significantly better in knowledge, perception and self-care practice than those in the control group. The level of blood pressure, cholesterol and triglyceride in the experimental group significantly decreased more than those of the control group.

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Praneet Singthong (1998) studied the application of self-efficacy theory for prevention behaviors against complications of hypertensive patients. The results showed that the experimental group had more significant change in perceived self-efficacy, outcome expectation, and prevention behaviors against complications of hypertension than prior to experimentation and than the comparison group. The experimental group could decrease blood pressure and body weight.

Yupin Hongwachin (1999) studied the effectiveness of a health education program applying self- efficacy theory and goal setting theory to control hypertension among hypertensive patients. The results showed that perceived self- efficacy, perceived benefits of performing desirable behaviors, dietary behaviors, physical exercise, relaxation and stress management, of the experimental group was significantly better than before the program and of the comparison group.

Doungjai Srion (2000) studied the effectiveness of a health education program applying goal setting theory for the improvement of hypertensive patients. It was found that the experimental group had more significant change in the mean score on the knowledge and perception about hypertension than prior to experimentation and than the comparison group. Practices of experimental group regarding eating, exercise, stress management and taking medication were also found to be better after the experiment. This group could decrease diastolic blood pressure more than the comparison group.

Therefore, if hypertensive patients could modified their behavior effectively and appropriately with the illness situation, staff of HEd Unit and the HT/H Clinic must possess skills in organizing for standards of HES and integrating them into medical treatment. This procedure will help hypertensive patients practiced hypertension control behaviors effectively.

Hospital Health Education in Rajavithi Hospital

Rajavithi Hospital, Department of Medicine, Ministry of Public Health, has set the roles and responsibilities of the HEd Unit in 1998, as follows: 1) to study, analyze, and carry on researches regarding health education related issues and health behaviors in order to plan and effective health education program; 2) to train health personnel

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who are responsible for providing health services; and 3) to organize health education activities with the aim to change health behaviors of patients and their relatives as required in the medical treatment plan and decrease complications or other diseases caused by preventable behaviors. Based on the mentioned responsibilities, administration structure of the HEd Unit of Rajavithi Hospital are composed of 6 work structure as follows: 1) Information dissemination; 2) Health instruction development; 3) Health counseling; 4) Development of technology and materials; 5) Services and training; and 6) Research and study on health education and behavioral sciences. (Chaiyute Kultangwatana, 2001: 267-268). as shown in Figure 1

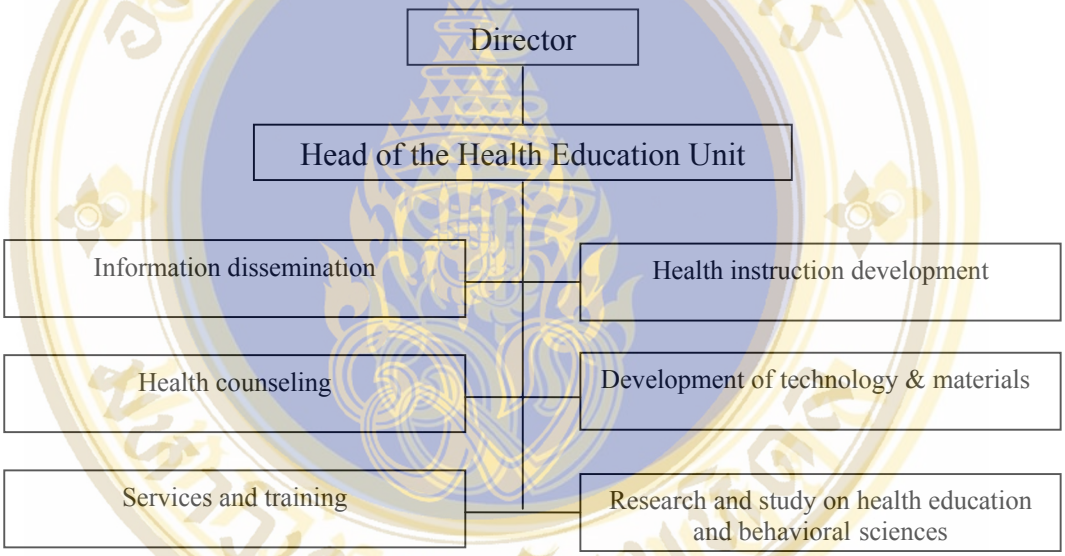

Figure 1 Administration structure of the Health Education Unit, Rajavithi Hospital

Service Procedures of the HT/H Clinic

The HT/H clinic is one of the 9 special clinics of the Department of the Internal Medicine. The clinic was open 2 days a week, Monday and Friday, at 1.00 – 3.00 p.m. and 9.00 – 12.00 a.m. respectively. The service procedures were as follows: in case of appointed patients: the patients were asked to drop the appointment card on the front desk of the clinic and then went to have the blood drawn if blood test was required; getting the weight and blood pressure measured including, having body temperature taking, waiting for a call, getting medical check-up with a physician, getting the next appointment card, prescription, and other requested tests; buying the

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medication; and then completion of the services. For those patients who got high blood pressure of other complications, they were treated and observed their symptoms. If their symptoms were not better, they will be referred to the emergency room. If their symptoms were better, they could go to buy drugs at the drugs unit and finished the procedures. In case that patient missed their appointments they needed to inform the registration unit, Room No. 1 before getting the normal procedures of the patients who kept their appointments, as shown in Figure 2 From the procedures described, it was found that no systematic of standards of health education services, especially group health education approach.

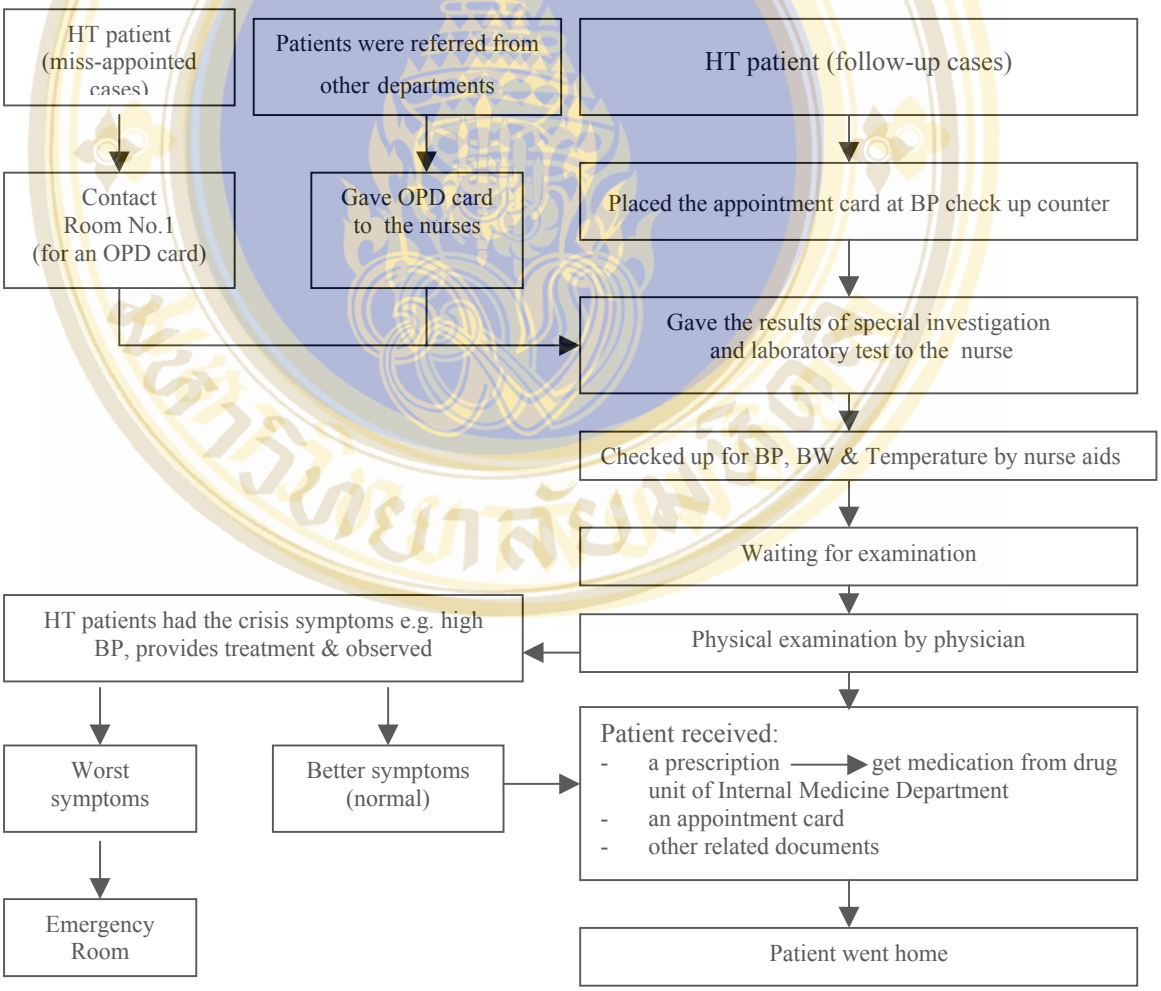

Figure 2 Service procedures of the Hypertension/Heart Clinic, Rajavithi Hospital

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Role and responsibility of health education at the hospitals

Hospital health education refers to the process of organizing activities and strategies with the aim to enhance learning regarding health related content, skills, and environment which will lead to desirables health behaviors, in another words, hospital health education is the organizing activities aimed to help an individual control his/her own behavior in regard to health promotion and disease prevention. Through this process, an individual will get more level of self-confidence, lower anxiety, comprehend illness status understand and perceive correctly about medication, self-care, and be able to accept the post-illness condition that might be occurred. Hospital Health Education also includes: 1) health value development for hospital personnel in order to help them perceive their roles and responsibilities and be the positive role model for service customers and people in the responsible community; 2) developing capacity/potential of providing learning experiences for customers in order to help them perform desirable health behaviors, both the fundamental health behaviors in accordance with the National Health Commandments and compliance behaviors of his/her own health problem; 3) promoting health education research, program evaluation and development of health behaviors, in order to support health education development and make the health behavior development effectively and sustainable.

The important aims of hospital health education are as follows: 1) preventing the recurrence of infection/illness; 2) supporting the aim of creating public acceptance of hospital services; 3) lowing the time for hospitalization; 4) introducing the hospital health services especially for the new customers; 5) preventing the spread of diseases; and 6) lower the cost by informing the patients that disease prevention and early stage of treatment are better than caring during the severe stage (Department of Health Education, 1998: 70-71).

The Civil Service Committee Office has set the roles and responsibilities of health education of the regional and general hospitals as follows; 1) analyze, research and evaluate the to study, situation, health education activities and health behavior development relevant public health problems; 2) To develop academic, system and model of health education program including health behavior development and disseminating the lessons learned; and 3) To develop health personnel and promote potentials of hospital personnel (Department of Provincial Hospitals, 1996: 76).

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Regarding the responsibilities of nurses, the Nursing Council (2000: 75-76), based on the Nursing Service System Reform for secondary and tertiary care, suggested that nurses should develop patients/relatives/care takers to be able to take appropriate self-care by using a variety of strategies as follows: 1) teaching and advocacy in order to develop necessary skills for self-care and make decision on appropriate self-care methods relevant to patients' lifestyle; 2) behavior and lifestyle modification to prevent recurrence of illness and fully use of their own potentials; 3) developing new health promoting behaviors for both patients with chronic diseases and high risk group; and 4) counseling patients and their families in order to promote appropriate adjustment during crisis and chronic illness, disability or sequelae. According to Prakin Sujchaya et al. (2000: 39-42), the nurses should be developed regarding potentiality development and new roles in health systems, as follows: nurses should be good health role models for the community people; provide more health information to the people especially health education program in a hospital for patients and their relatives; modify their methods of teaching health education by using a variety of methods and materials; work as a team work with multidisciplinary members both within and outside organization; and participate in setting procedures of a health team for the safety of patients. For the professional nurses work in the Out patient Department, nurses should be responsible for providing suggestion/ information for patients/relatives while they are waiting for treatment, both for the general check-up room and the special check-up room, accordingly with the Out patient Department Nursing Standard Number 4 (Department of Nursing,1996: 31-36, 1999: 57-58).

Hospital health education program needs not only the involvement of both health educators and professional nurses but also the cooperation and collaboration from other disciplinary groups since every disciplinary group is responsible for providing patient education, in accordance with the hospital quality improvement plan which patient/customer-centered concept is emphasized. For example, a pharmacist should be responsible for giving accurate information on: taking a medicine, complications, what to do if complications occurred, etc.; a nutritionist should be responsible for providing suggestions on dietary therapy disease control and treatment; a rehabilitation expert should be responsible for making suggestions for appropriate

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physical exercise for patients; psychologist should be responsible for giving suggestion on how to promote good mental health and stress management, etc.

Hospital Health Education Standards

Health Education Division, the Permanent Secretary Office of the Ministry of Public Health, is responsible for health education academic promotion, is aware the significance of and supports the high quality and high standard of health education services in public health organizations. Therefore the Health Education Division has developed standard of Health Education Services (HES) or Health Education Standards whereby a health education or a personnel who is responsible for a health education program can follow in order to develop a high quality health education program, meet the standards, and create customer's satisfaction. Participatory action research has been used during the process of developing hospital HES, with the involvement of related persons as follows: academic staff of the Health Education Division, staff responsible for health education program of regional hospitals, general hospitals, and community hospitals, academic and professional staff of the central organizations and expert from universities. There were 12 steps for developing HES and self-evaluation form. The HES developed was composed of 2 parts: **Part 1:** The Core HES, composed of 3 standards: 1) structure standard composed of 6 components; 2) process standard - composed of 6 components; and 3) outcome standard - composed of 7 components; and **Part 2:** HES for 5 Settings: hospital, school (education institution); workplaces, community, and mass. Hospital HES composed of 3 core standards: structure, process, and outcome standard.

1. Structure Standard or necessary fundamental factors, was composed of 4 components 1) organizational structure of a H Ed Unit, 2) development of responsible personnel, 3) necessary media and materials for developing health behaviors, and 4) development of supportive environment conducive to health behavior development

1.1 Organizational structure of the HEd Unit: The structure of the HEd Unit was composed of 4 sections: -

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1) Health Behavior Development, refers to the services whereby behavioral science concepts were applied with the aim to promote patients self-care behaviors, prevent complications, and prevent recurrence of illness effectively.

2) Modification of Health Behaviors and Lifestyle, refers to the services whereby behavioral science concepts were applied with the aim to patients and their relatives modify their health behaviors and lifestyle regarding physical and mental aspects and be able to live their life happily in the society.

3) Health Promotion and Disease Prevention, refers to the services whereby behavioral science concepts were applied with the aim to good health, not being sick with preventable diseases and come to get the hospital services appropriately.

4) Hospital Health Education Service System Development, refers to the application of behavioral science concepts to develop health education service system, evaluation, health behavior surveillance system, with the aim to develop the body of knowledge and data base for effective health behavior modification (Division of Provincial Hospital, 1997: 76-107).

1.2 Development of responsible personnel

According to the Health Service Research Institute, Academic Institute For Protecting Health Consumers, and Thailand Public Health Foundation, the competencies of the staff who are responsible for health education program as specified in the hospital standards (1996: EDU-3) were as follows:- diagnosing behaviors, developing data base system for planning activities, designing hospital health education program, utilizing the baseline data for production and evaluating materials, doing research relating to behavioral sciences, evaluating a program both qualitative and qualitative aspects; utilizing and communicating medical terms with patients and relatives effectively, and developing a system for behavioral surveillance. Vason Silapasuwan (1993: 17-19) also indicated competencies of a health educator, as follows:

1) Analytical skills*:* skill in identity public health problems and behavioral problems related to health problems; utilizing data and statistics methods to identity the problems; planning a program to solve the problems; implementing the plan, and evaluating the program relating to health behaviors.

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2) Communication skills: effective communication as related to writing, speaking, using different channels/materials, presentation, persuading and motivating an individual and concerned organizations participated in health education activities including supporting the resources .

3) Policy development and program planning skills: formulating a policy, feasibility and expected outcome of that policy, putting the policy into practice, setting the goals and objective in accordance with program procedures, developing mechanism for monitoring and evaluating the program in order to control and evaluate the effectiveness and efficiency of the program.

4) Behavioral science and cultural skills: identifying cultural, social and behavioral factors relating to the onset and prevention of disease, health promotion, and organizing various health education services, including the effective application of social theories, concepts and understanding with different cultures.

5) Basic public health science skills: the effective application of health sciences, behavioral sciences, social sciences, biostatistics, epidemiology, environmental health, communicable disease prevention, chronic disease, and injury, to the health problem situation, including the development of structural management of the central and provincial organizations.

6) Financial planning and management skills: setting and proposing a budget, project management under the limited amount of budget, developing the mechanism for priority setting before and after the use of budget, project monitoring, and preparing the project for getting budget assistance from outside sources.

1.3 Necessary media and materials for health behavior development

In the process of disseminating to various target groups, ‘media’ are the important factor in effective transmitting the message and knowledge to the target group. Therefore the selection and production of media must be relevant to health education strategies planned in the learning experience process or the health behavior development program.

Every type of media is important and effective if appropriately selected in accordance write the target group and learning objectives (Pongpant Untarikanont, 1998: 49-51).

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1.4 Development of supportive environment: The following process are suggested (Health Education Division, 1998), as follows:

1) Surveying the environmental factors conducive to the specific health behavior development, of the Outpatient and Inpatient Departments and other responsible areas.

2) Developing the plan to develop physical and social environmental factors in accordance with health behavior development.

3) Promoting the establishment of the clear policy or regulation(s) in developing environmental factors in accordance with health behavior development.

4) Mobilizing cooperation of all concurred people:- staff, patients, relatives, and government and non-government organization in order to develop supportive environment conducive to health behavior development.

5) Evaluating the program for developing supportive environment by the members of the Hospital Planning and Evaluation Committee whereby process, outcomes, and cooperation of personnel and related organizations have been evaluated.

2. Process Standard: This standard is composes of 1) the study and analysis of data base, 2) the establishment of operational plan, 3) organization of health education activities, 4) supervision, 5) evaluation, 6) health behavior surveillance, and 7) management of health information system.

2.1 Study and analysis of baseline data

The personnel responsible for health education and health behavior development must understand be able to interpret data, and to analyze data and other situations as follows:

1) Public health data: epidemiological data, data regarding program implementation, economics, social, culture, policies, and population, etc.

2) Health education and health behavior data: risk behaviors, caused factors of undesirable behaviors, hospital health education related researches, health behaviors, and caused of patients' behaviors.

3) Data regarding physical and social environment in the hospital: the cleanliness of the areas, convenience for coming to get hospital service of patients and

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their relatives, having a clear policy on keeping the hospital clean, and providing hospital service with smile, etc.

4) Data regarding organizations in the responsible areas, both government and non-government: village health volunteers, associations, society, etc. that involved in promoting health behavior development.

In order to analyze the data regarding health behaviors of the target group, the behaviors of the main 3 group should be analyzed: patients, relatives and health providers. The analysis must be made for both health behaviors and supportive environment conducive to health behavior development. The results of the data analysis will be used to plan the program for solving the problems through the use of health education and behavioral science process.

2.2 Development of operational plan

There are 2 types of operational plan: master plan and project plan, which will cover the development of health behavior and supportive environment plan.

Developing the hospital health behavior plan is similar to developing other public health plan, except only the population and the target group, and different scopes of the health behavior development which related to health promotion, disease prevention, nursing care and rehabilitation, modification of health behavior and lifestyle and development of health service system. Therefore, the hospital health education committee who was responsible for establishing the health behavior development plan, has planned the program by using the following steps (Health Education Division, 1998):

1) Selecting the problem in order to establish the health behavior development plan and to support the better health services.

2) Specifying the behavior(s) that needs to be developed by analyzing the health behavior and factors affecting behaviors, internal, external and environmental factors.

3) Setting detailed activities to modified health behaviors as follows: a) specific/behavioral objectives for changing target's behavior in regard to: knowledge, attitudes, participation, practice; b) target group:- patients, relatives, health providers and their relatives; c) effective health education strategies; and d) evaluation.

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4) Assigning the responsible person for implementing the program, time duration and budget.

2.3 Organization of health education activities

The organization of health education activities in a hospital and other responsible area composed of the following activities:-

1) Organizing health education activities for developing health behaviors for patients and their relatives at the Outpatient Department (OPD).

2) In organizing health education activities for developing health behaviors for patients and their relatives at the Inpatient Department (IPD) and activities in 1), the content should be selected appropriately from the analysis of health behaviors accordingly with specific disease or specific problems.

3) Health education activities for developing health behaviors for the target group in the responsible areas should be organized accordingly to the plan and project developed with the cooperation and collaboration of related organizations.

4) Dissemination of information: Appropriate channels should be used to disseminate information about health behavior and local health problems to health service consumers at the public health organizations/hospitals. A systematic dissemination plan should be developed by using the following activities: public health exhibition, hospital voice program, etc. which should be relevant with the campaign plan of the Provincial Public Health Office and the local health problems, knowledge, regarding health behaviors can also be integrated in the meetings, training, seminar organized for staff, both inside and outside the hospital, including other hospital's special program.

5) Support should be provided for developing and disseminating materials in order to promote the campaign and health behavior development program, both inside and outside the hospital/public health organizations.

2.4 Supervision

Supervisions refers to the process that emphasized on staff development in order to help them understand their responsible job through providing suggestions and assistance for academic and technological aspects with the aim to help them be able to work effectively. Generally, supervision is very important for personnel development,

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public health development, job cooperation development, and job morale of health personnel, as follows: (Nirat Imamee, 2002: 280-281)

1) Enhancing staff members academic knowledge, work skills, standards, goals, and national, Ministry, and organization's policy.

2) Promoting public health personnel's ability to work effectively, both quantitative and qualitative aspects, in accordance with goals and standards set.

3) Promoting public health personnel to be able to work rapidly and progressively in accordance with the program monitoring plan which will serve the organization's objectives.

4) Promoting the morale of public health personnel.

5) Creating the smooth of collaboration between departments, sections within the same and different levels and between organizations.

6) Helping the administrators be informed about supervision needs for personnel development including work problems and obstacles of personnel, which will be useful for planing supervision activities, staff training, and monitoring the plan/program.

7) Solving and releasing mistakes or failures that might be occurred form implementing the plan/program.

2.5 Evaluation

Program evaluation is one of the significant steps in program planing. Evaluation plan depends on the main objectives of expected use of the evaluation's results. The principal issues of evaluation are follows: (Nirat Imamee, 1997: 129-146)

1) Consideration of evaluation should be made prior to the program development including the expects impacts of pro gram implementation. The things that should be evaluated are: content evaluation, project assessment, input evaluation, process evaluation, Progress evaluation, and outcome or product evaluation. Generally, evaluation is composed of 4 levels as follows:

1.1) Direct outcome refers to the evaluation of the change regarding knowledge, attitudes, values, perceptions, and skills foe performing health behaviors.

1.2) The change of health behaviors refers to the evaluation of health behavior impact. For health education program evaluation, this evaluation level is the evaluation of program effectiveness. This evaluation level concerns with the

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evaluation of proportion between real results at the specific time against the objectives set in the plan.

1.3) Individual health impact:e.g.blood pressure level, body weight, etc.

1.4) Public health impact: e.g. recurrence of illness, illness, the change morbidity, etc.

2) Identifying Indicators: In identifying indicators, some characteristics of the necessary indicators should be considered, e.g. direct indicator, indirect indicator, qualitative and quantitative indicator, level of indicator, sensitivity and relevance of the indicator, with the target group.

3) Identifying evaluation criteria: Criteria should be identified form program objectives or standards set by the organizations on professional association. The indicators and criteria should be set by using rate, proportion, percentage, etc., including the expected quantity of change at the end of the program.

4) Identifying the methods of collecting data accordingly with the indicators set. The instruments should be developed with the consideration of their content validity, construct validity, relevancy and reliability.

2.6 Health behavior surveillance

This process concerns with collecting, analyzing and interpretation of health behavior data systematically and continuously. The benefits of health behavior surveillance are as follows: (Wirote Rochanapitayakorn, 1977: 125)

1) Knowing about the situation and the magnitude of the behaviors that are causes of a public health problem.

2) Knowing about the trend of risk behaviors of the target population of the surveillance system.

3) Getting the data for priority setting of health problems in the target population.

4) Getting enough data for setting policy and planing the program for disease content of health education media and materials for health education campaigns/activities.

5) Getting the information for evaluating the health behavior development program.

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2.7 Development of health behavior information system

Management Information System (MIS) is consisted of:- 1) identifying the information needed; 2) identifying steps, methods and standards; 3) identifying instruments and technology to be used; 4) identifying management system and identifying the organization that will be responsible for managing the information system; and 5) identifying the resources needed, budget, and personnel to fit with the specific system: (Chalermsook Bunthai, 1988: 2-7).

Regarding the health behavior information, it should be the information that be necessary for organizing health education program and health behavior development, which is composed of: socio-demographic and political data and resources needed for health education program; epidemiological data of the health problems and impacts of the problems on population, health behaviors and researches, plan/project information that indicated goals, strategies, activities, progress, and evaluation of the related organizations both inside and outside a hospital (Division of Health Education, 2001: 10).

3. Outcome Standard: Regarding the measure of quality, Omachonu (1990: 44) suggested that quality of care consisted of 2 components: 1) quality of conformance which means that the performance is made in accordance with the professional standard set, another words, the performance has been done in accordance with the structure, process and outcome; and 2) perceived quality with refers to the quality that judged by the expectation of the care receivers. For this study, the outcome has been measured after the health personnel were trained and gained skills for implementing health education services about hypertension and the necessary structure standards have been developed. It was expected that these activities would be effective having hypertensive patients practiced appropriate behaviors to control hypertension and the health personnel and hypertensive patients satisfied with the services provided. Each components were discussed in details as follows:

3.1 Quality of Care

Quality of care is an ability to response to the needs of the care receivers. The quality of care is different from the quality of goods in the 4 following characteristics: the service is a non-touchable subject, variety of things with in itself, can not be separated, and can not be instored. Thus, the quality of care has been measured

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through the service providing process, and outcome from the services provided especially the interaction between the care providers and services (Parasuraman, 1985: 41). According to Jirutm Srirutanabull (1996: 171), the quality of care does not only respond to the needs of the care receivers but also it should be assessed whether or not it conforms to the standards set. Kotler (1994: 85) indicated that the expectation about the quality of care of the receivers depends largely on their past experience. When they received the care they would compare the recent one with their expectation. If the quality of the recent one was less than their expectation they would dissatisfied with the care. Oppositely, if the quality of care received was equal or better than their expectation, they would satisfied, impressed and came back again. Thus, there is a relationship between quality of care and receivers' satisfaction. For this study, the measurement of satisfaction was concentrated on service satisfaction and job satisfaction.

3.2 Service Satisfaction

Service satisfaction means an individual's emotional status on positive feeling resulted from the equal level of comparison between the quality received compared with the expected quality. Thus, service satisfaction is important for both the care providers and the receivers. Service Satisfaction will help the care providers set their service's characteristics, evaluate their service achievement, including helping the receivers get better quality of life as a result from improving the quality of care to serve receivers' need, to satisfy them and to made them continue their utilization (Jittinand Dechakupt, 1996: 23).

Aday & Andersen (1975: 4-11, 52-80) mentioned that satisfaction is a feeling or opinion relating to individual's experience of utilizing the service and that experience was congruent with his/her expectation. The level of satisfaction depends on various factors. According to a study carried out by a day and Andersen regarding service satisfaction among United States people toward hospital services, it was found that there were 6 factors relating to service satisfaction, as follows: 1) convenience: awaiting time, prompt treatment, physical facilities; 2) coordination: one-stop-service, wholistic medical treatment, medical follow-up; 3) courtesy: hospitality, caring; 4) medical information: providing information regarding causes of illness, treatment i.e.

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self-care, medication; 5) quality of care: quality of all service received and attitudes toward the services ; and 6) out of pocket cost: all expenses for illness.

Locken et al. (1997: 731-741) postulated that service satisfaction should be done regarding the following 4 aspects: 1) structure: refers to physical environment, convenience and accessibility; 2) process: relationship skills of care providers, coordination, service technical competences; 3) discomfort: physical and psychological discomfort; 4) general Satisfaction: the present satisfaction that will affect on the future one. For this study, the concept and principles developed by Aday and Andersen were applied to measure service satisfaction.

3.3 Job satisfaction

Job satisfaction is the health care givers' attitudes or specific feeling of like and dislike which resulted from individuals' job experience. The positive feeling depends on the extent to which individual's job has served his/her physical and psychological needs have been served with his/her jobs, that individual will satisfy, be happy and willing to work (Dhebhanom Muangman and Swing Suwan, 1997).

Slavitt, et al. (1978) indicated that factors affecting health providers' satisfaction are as follows: 1) benefits; 2) autonomy: quantity of job that could be done independently and creatively by the persons themselves whereby the manager gave that opportunity; 3) job characteristic:- type of job including difficulty and ease of routine job; 4) organization policy; 5) interaction: an opportunity of interact with other persons, formal and informal, both within and outside professional; 6) Professional status: feeling toward his/her own professional's significance by her/himself and other including its usefulness.

Whitley & Putzier (1994) developed the indicators of job quality in order to assess job satisfaction and job environment as follows: 1) professional work environment: the needs for planning work environment to reach maximum benefits; 2) autonomy: being able to make decisions freely regarding job; 3) work worth: being interested in creating job value or job benefits; 4) professional relationships: realization of the significance of working together with colleagues; 5) role enactment: determining the clear procedures for providing services; and 6) benefits: salary, fringe benefit, job pattern, medical care and service, safe-security service, holidays, etc. For

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this study, the concept and principles developed by Whitley and Putzier has been applied for measuring satisfaction.

At present, standard of HES is in the process of experimentation, scarcely directed research has been done. But for nursing profession, nursing standard has been developed and some related researches were presented as follows:

Yuvadee Rodjarkpai (2002) studied the quality improvement model for community hospitals health education programme in Chantaburi Province. The results showed that the model consisted of sequentially integrated tools and activities, including self-assessment, AIC techniques, benchmarking processes, a competency development, planning of the diabetic education program, implementation of an action plan and evaluation of the diabetic education program, as planned. After applying the model, it was found that knowledge, attitude, health education practice and satisfaction of practice of services providers was statistical significance after the experimentation. Diabetic patients had also increased in statistical significance of knowledge, attitude, self-care practices and satisfaction.

Thomas & Shea (1994) developed nursing standard for Accident and Emergency Care Department in St. Mary Medical Center, California by applying nursing process based on 3 fundamental areas: treatment pattern, significant symptoms of patients and nursing diagnosis. The result of the study was the standard of Nursing Profession and Nursing Standard that reflected structure, process and outcome. The standard was used in St. Mary Medical Center under the name "Emergency Nursing Standard" which showed the good benefits after it has been evaluated against the core standard of U.S.A. Emergency Nursing Association.

Jureevatn Kongtong (1996) studied the effects of using the Accident and Emergency Nursing Standard on nursing activities and job satisfaction among nurses working at the Accident and Emergency Unit, Maharach Hospital, Nakon Rajasima Province. It was found that after using the standard the mean score of nursing activities was significantly higher but no significant difference was found in regard to job satisfaction.

Juramanee Kunnawuti (1999) studied the effects of using the nursing standards for diabetes mellitus patients on patients' satisfaction and number of day for hospitalization. The studied was done with diabetic in- patients in the Internal

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Medicine Department, both male and female ward, Samutsakorn Hospital. It was found that after using the nursing standard, service satisfaction among diabetic patients was significantly higher than before using the nursing standard. The number of day for hospitalization was decreased but significant decrease was not found.

Aroonrat Rodchua (2000) studied the effects of using the nursing standards for post-operative cataract patients on nursing service quality and patients' self-care knowledge. The results showed that the nurses' satisfaction before and after using nursing standards for post-operative cataract patients were high level. However, there were not significantly different. The patients self-care knowledge after using nursing standards for post-operative cataract patients were significantly higher than before using the nursing standards.

Related Concepts and Theories

System Theory

The concept of quality components is based on the system theory whereby 3 main components can be categories as follows: structure, process and outcome (Carter, et. al.; 1976: 3; Nicholls & Wessells, 1977: 34-35; Donabedian, 1980, 1986; St. Leger, et. al.; 1992: 2; Anuwatana Supachutikul et al.; 1999: HO1-3), as the following details:

1. Structure: Structure concerns with characteristic of staff and hospital i.e. the adequacy of resources, medical equipment's, qualification of physicians or health personnel, hospital status, including management pattern and budget. Thus, structure is health service input which is a necessary component of any type of service.

2. Process: Process concerns with various components of interaction between physicians or other medical personnel and activity occurred within or among group of health providers and patients. According to Donabedian, this process composed of 2 aspects: 1) technical; refers to the science of care whereby sciences from multidisciplinary areas have been applied to manage health problems. The management depends on knowledge, decision making and skills in using appropriate strategies for caring. The criteria used to evaluate the quality of care are based on the

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hypothesis/the high quality care should produce useful products; 2) Interpersonal refers to arts of care. It means the management of psychosocial interaction between care receivers and care providers. This process should serve needs and expectations of care providers and health services standards. Nevertheless, patients or care receivers did not consider technical process but most of them usually concern only with interaction process. Therefore, service satisfaction has been studied in a large scale.

3. Outcome: Outcome concerns with health status of care receivers, the change of present and future health status of care receivers, psychosocial factors that are the predisposing factors from health status, including community impact.

Empowerment Education Model

1. Concept of empowerment: empowerment is one type of educational models that emphasizes on active learning by using the dialogue to exchange knowledge and opinions among learners, have learners identified their own problems, analyzed the causes and backgrounds of the problems through critical thinking and developing visions of the future society that should be, then strategic plan will be developed to solve the problems in accordance with the goals set. This type of educational strategy not only helps learners possessed their self-esteem, got higher level of self-efficacy but also practiced more accurate health behaviors, both individually and collectively (Wallerstein & Bernstein, 1988: 379-394).

2. The Significance of Empowerment

Empowerment is a social process that promotes an individual, organization and community self-control, an ability to make decision and determine individual's organization's and community's future. Empowerment is a process that individuals work together in the society with the aim to make the change in the desirable direction but it is not the power to force or oppress others (Downie, et. al., 1991: 3; Wallersteine & Bernstein, 1988). This internal power is the thing that individual/group of individuals must develop by her/him self/by the group of individuals themselves. It has been believed that the situation whereby the individual has powerless will cause a lot of problems including health problems. Therefor empowerment means oppositely with powerless or depowering whereby the people who have been depowered will fell

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that they do not have any power (powerless), are not willing to control any situation, ignor/ do not respond to any stimuli, and lack of motivation. Powerless may be caused by an individual allows other persons depower him/her self. Regarding the individual depowered him/her self or let others depower him/herselt, it may be caused by the individual's self-concept, by other people or by the system itself that try to have power over that individual, do not want to have some changes, or get the feeling toward other persons as disability, can not be self-directed, must be of oppresed or led by others. Therefore, with this feeling, those people are not allowed to express their opinion, have not been motivate, or even get involved, etc.

Empowerment is very important in implementing the new concept of health promotion, whereby the Word Health Organization has recommended to strengthen the participation of individuals and community through getting more information, developing skills and self-esteem in order to be able to control or determine their own health (Tones, et al.,1990: 3; WHO,1991: 4; Downie, et al.,1991: 59-60). Formally, when empowerment concept has been applied in health education program, individual empowerment was emphasized to enhance an individual ability to make decision an have control over his or her personal life, but presently, the role of health education is also emphasized on community change, the empowerment should be aimed for developing policy and changing environments that conducive to community health (Tomes, et al.,1990: 12; Downie,et al.,1991: 59-60).

3. Principles of Empowerment

In empowering individual, group and community, the principles are as follows (Bishop,et al.,1988; Arnold & Bruke, 1983) :

3.1 To empower people by supporting learner to realize relationship between themselves and environment and promote perception of self-worth to change their own health, including the health of community and society.

3.2 The starting point is form the concrete experience of the learner, then critically assessing the social role of their problems and develop action strategies to change their personal and social life.

3.3 Involving a high level of participation in every step, starting form selecting the interesting and significant issues to be learned, planning the activities,

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involving in dialogue and implementing of the activities, self-evaluation and program evaluation.

3.4 Collection learning should be emphasized. It is assumed that everyone is learning together, everyone teaches, everyone learns. Teacher's role is changed to be a facilitator or coordinator instead of transmitter of knowledge. Through the group process whereby learners can exchange their knowledge, opinions, experiences, it is not only promoting individual learning but also develop a sense of being in a group that thinks and acts together which this powerful group learning can lead to solve problems or change something to meet the target goals.

3.5 The aim should be emphasized on change which composed of changing knowledge, attitudes, feeling, and skills. These changes may be immediate or take time to change after the individuals take actions.

3.6 It is a continuous process that does not limited only in the classroom since learners can learn from concrete experience and from their own actions.

3.7 It is a flexible educational process and fun by modifying content, methods and materials appropriately with needs of learners and the group. The learners do not feel that they are forced to study the non-related or non-significant issues or forced to do the things that they do not have ability to do.

3.8 The learning of objectives must be clearly stated which can be able to select appropriate procedures, techniques, instruments and activities, to help learners learn and serve the objectives as stated.

4. Process and Outcome

The dimension of empowerment are varied, it can be process and outcome for individual development, the process dimension means interaction among people in allocation of power or mobilizing mutual power, helping people improve their own potentiality and cooperate with other persons for improving society. For the outcome dimension, it means the effect an empowerment training which consisted of ability, efficiency, strength in living his/her life or performing any activities in daily life (Gibson, 1991: 355; Wallerstein, 1994: 202-203). Regarding the assessment is the measurement of self-esteem and self-efficacy. The second idea is the measurement of the outcome-related as the produce from being involved in the group's activities by measuring social network, social support on individual's satisfaction of having

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interaction with other persons on getting together in the group. And the third idea is the measurement of the changes of the environment on health status (Wallerstein & Bernstein, 1994: 141-148). For this project, the outcome of the empowerment program was measured based on the first idea whereby self-esteem and self-efficacy of health personnel were measured.

4.1 Process

There are many recommendations about organizing teaching – learning experience for empowerment, base on different concepts and theories, i.e. active learning, interactive learning through action or participatory learning through action (PLA); experiential learning, self-centered learning, including other working and research procedures which were believed to be effective procedures for learning and empowerment, e.g. participatory rural appraisal (PRA), participatory research (PR) or participatory action research (PAR), future search conference (FCR), etc. These mentioned procedures are based on the common concepts of getting direct involvement and interaction with other persons, dialogue that provides opportunity to think critically and diversely, to see difference alternatives including reasons and consequences of each alternative, to be able to make reasonable dicisions, whereby these characteristics reflect the person's power (Cornwall & Jewkes, 1995; Koning & Martin, 1996; Naidoo & Wills, 1988; cited in Nit Tassniyom, 2000: 89). For this study, the concept of participatory learning and adult learning were applied in organizing an empowerment program for health personnel because the concepts were relevant to problem situation and the study's context.

4.1.1 Participatory learning

Kolb (1984: 40) developed the experiential learning process bases on the educational theories and concepts developed by Lewin, Dewey, and Piaget. The experiential learning is a continuous learning process which composed of 4 components: concrete experience; reflection observation; abstract conceptualization; and active experimentation. Later on, Nicole et al. (1994) had integrated the experiential learning process with group process and named it as participatory learning.

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Component of participatory learning

The important principle of learning is to develop maximum learning in the learner through maximum participation and reach maximum performance. The four components are as follows :

1) Experience: Have learners brought their experience to develop the new body of knowledge.

2) Reflection and discussion: Learners should have an opportunity to express their opinion in order to exchange ideas, to develop mutual learning, to come up with varied conclusions, and to work as a team.

3) Understanding and conceptualization: The learners initiated their understanding and added to make it complete by the instructor or in the opposite way, the instructor guided and then learners made it complete until they formed their concepts.

4) Experimentation/application: Have learners put the new things learned in various situations until the learners find the guideline to perform some behaviors by themselves.

4.1.2 Experiential Learning

Experiential learning is the learning that the teacher emphasized on the learners created their learning from their former experience. There are 5 significant characteristics of experiential learning as follows (Department of Mental Health, 1998: 13; Watanaporn Rangubtukh, 1999: 41-42; Jongkolanee Chutimathewin, 1999: 41):

1) The learning that depends on learners' experience.

2) It helps to create challenged new-learning continuously and an active learning.

3) There is an interaction between learners themselves and between learners and teachers, which helped create the reflection and dialogue.

4) The interaction occurred could expand the network of information that every member hold which will lead to understanding and conceptualization.

5) There is a communication process through dialogue or writing, which are the media for exchanging, analysis, synthesis and application of the new learning to various situations until they can conceptualize the guideline to perform specific behavior.

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4.1.3 Group Process

Group process is the compiling of experiences of many people who interact with other group members with their satisfaction of mutual relationship, which is called interaction. This interaction will help the group find the solutions satisfactorily. Every group member gets the chance to exchange knowledge, experience, encourage other group members, and express courtesy to other group members. The collection of these experiences resulted in group's power, which has a direction, speed, and quantity within itself. Each member will have the feeling of achievement (Winich Katekham and Kompetch Chatsupakul, 1979: 14-15). The group design must be planned appropriately to make it fit with learners and activities of specific component of participatory learning. Each type of group design has specific advantages and disadvantages, as shown in Table 2.

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Table 2 Types of group designs and their advantages and disadvantages

Type of Group	Characteristics	Advantages	Disadvantages
Pair Group	Have students worked together on the assigned activity	Everybody gets a chance to express his/her opinions or to practice	Limited variety of opinions or experiences
Triad Group	Each group of 3 members has specific roles can be rotated	Everybody can participate in the learning process and can learn every role	Lack of varieties and clarity, more time may be needed for role rotation
Buzz Group	The group of 3-4 members, established temporarily to exchange opinions	Student participate in the activity for a short period of time with no need for conclusions or depth-conclusions	Lack of details because of no discussion
Small Group	The group of 5-6 members, working on an assigned task	The members exchange their opinions and discuss deeply until reach the solutions	Time consumed
Large Group	Discussion among 15-30 members	Need for more exchange of ideas, back and forth, to compile opinions from the groups and get into solutions.	Some members may not pay attention to participate and time consumed
Cross-over Group	There are 2 steps of activities, with about 8-12 members, firstly divided into small groups of 3-4 members who work on specific task. Then all groups meet together, discuss and get the conclusions.	Need to have students utilized their own potentials in developing new body of knowledge. Maximum participation and maximum contents in the students are the major goals.	Time consumed and may not get all knowledge

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Table 2 (continued) Types of group designs and their advantages and disadvantages

Type of Group	Characteristics	Advantages	Disadvantages
Subgroup	There are 2 steps of group activities. From the group 0f 8-12 members, divided into subgroups of 3-4 members each, assigned different task for each subgroup. Then, all subgroups meet together in order to integrate the conclusions.	Difference tasks are allocated for group members and conclusions will be made in the large group, without group leaders (resource person).	In working with small groups discussion, group leader or resource person should work with the group to organize the group activities.
Pyramid	Compiling opinions of the big group by starting from 2-4 members and then asking more members gradually until getting all members' opinions.	Developing awareness and understanding among the group members	Lack of conclusions and details.

Source: Mental Health Department, Ministry of Public Health. Guideline for participatory training. 2000: 18-19 and Watanaporn Rangubthuk. Lesson plan emphasized on learner-centered, 1999: 44-45.

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4.1.4 Adult learning

Sullivan & Decker, 1988 (cited in Marquis & Huston, 1996: 276-77) has applied the principles of adult learning based on the concepts developed by Knowles in training of trainers and health educators, as follows:

1) A climate of openness and respect will assist in the identification of what the adult learner wants and needs to learn.

2) Adults enjoy taking part in and planning their learning experiences.

3) Adult should be involved in the evaluation of their progress.

4) Experiential techniques work best with adults.

5) Mistakes are opportunities for adult learning.

6) If the value of the adult's experience is rejected, the adult will feel rejected.

7) Adult readiness to learn is greatest when they recognize that there is a need to know (such as in response to a problem).

8) Adult need the opportunity to apply what they have learned very quickly following the learning.

9) Assessment of need is imperative in adult learning.

It can be seen that the principles of adult learning is different from the principle of formal school education (pedagogy) whereby pedagogy emphasizes on conventional learning which starting from accepted fact or axiom and then connected to the development of new body of knowledge. But for adult learning, the learners hold experiences, opinions, and philosophy of life, etc. that the learners bring with themselves. Therefore learning of adults involves motivation of the learner to search for new knowledge rather than teaching. Adults learn things that they want to learn, want to hear, want to listen, and each individual will have his/her own learning style. While they have shared their experience with other group members they will also be able to help them learned more effectively. Adults need to be free for participating in the group's activities. Thus, andragogy should emphasize on the process of cooperation and care (Chanin Chareonkul, 2002: 152-153).

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4.2 Outcome composed of 2 components; self-esteem, and self-efficacy, as the following details:

4.2.1 Self-Esteem

According to Maslow's theory, self-esteem is the basic need of people (Maslow, 1943 cited in Moorhead & Griffin, 1995: 83). It is one part of self-concept. After a person has self-concept, he/she will assess and make value judgement by making self-appraisal regarding products, ability and self-image by comparing those characteristics with standards and ideal self. Then, the judgement will be made in term of self-worth (Lawrence, 1987: 1-6). Self-worth is self-satisfaction and self-esteem, self-respect and self-worth (Rosenberg, 1965 cited in Carpenter, 1996: 182-183). A person who posseses high level of self-esteem generally, he/she will be happy, have a freedom, hold a high level of confidence, have a low level of anxiety, satisfy with the present life situation, be able to face with the present surrounding , confidently, and feel self-worth (Coopersmith, 1967 cited in Parent & Whall, 1984: 9). Self-esteem is the result of the experiences of achievements or other successful actions which in turn the individual was admired by family members, friends or other persons. This feeling of satisfaction will be accumulated gradually and becomes self-esteem (Chutima Buranathanit, 1996: 30).

4.2.2 Self-Efficacy

Self-efficacy is the confidence that a person holds for performing a specific action with a specific situation which is difficult to perform or some obstacles might occur during the action. Self-efficacy depends on 3 dimensions:- 1) Strength ; 2) magnitude; 3) generality (Bandura, 1986: 390-453; Bandura cited in stretcher, 1986 : 88). Factors affecting self-efficacy are as follow: 1) mastery experience, which is the most effective means, according to Bandura. Therefore, in order to develop self-efficacy it is necessary to have that individual been trained to have adequate skills to perform the action successfully and at the sometimes, the individual should perceive his/her can be able to use that skills trained. 2) modeling, or vicarious experience; 3) verbal persuasion; and 4) physiological and affective states. If the individual can be able to lower the emotional arousal state, he/she will perceive higher level of self-efficacy and will result in better actions (Bandura, 1997: 79-115). Therefore, in order to have the person performed any actions, that person have to perceive his/her own

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ability to act and can be able to do the action effectively. Decision making is not only think to do first but also, other factors have to be considered, i.e. the person has to learn more about what to do , adequate skills to do, and the feasibility of doing, including motivation to perform the action (Bandura, 1977).

The benefits of applying the concept of empowerment in organizing educational, training, all health education program, are as follows: (Jurmo, 1989 a: 17-28) :

1) Learning efficiency: The learning process used in empowerment program is emphasized on student's maximum participation in related to planning, active learning by reflecting of the concrete experience received and applying the learned experience into real life practice. The issue brought to the learning situation are the issue that learners / learners are interested in and are important for them. Besides, empowerment is emphasized on developing some necessary skills, e.g. autonomy, self-realization, self-worth, working with other persons, decision making, communication, problem solving, etc. these skills will help learners learned efficiently and beneficially for their own lives.

2) Personal development: The aim of empowerment is to develop and individual the power of though that can help them be able to think, making decisions, solve problems, and put his/her thought into action. Another aim is to help and individual to realized self-worth, to encourage his/herself to develop his/herself as well as society be responsible and understand his/her own right, lead he/she to be qualified an efficient for development.

3) Social change: One of the important aims of education is social reconstruction or social change. This change needs an individual and group of people who hold ability, efficiency and quality to: understand social problem, analyze the problems and course of problem, plan and implement the program to solve the problem together. Social change need the high caliber society and people who can initiate changes to promote a better society in related to health, social, economics and quality of life.

A selection of related studies on empowerment program were shown as follows:

William (1995) studies "Education for Empowerment implications for professional development and training in health promotion" This paper discusses an empowerment approach to the study of education on a postgraduate health promotion

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program. If professionals are to understand and espouse an empowerment approach in their work, they need opportunities to explore the process of empowerment in their own professional development and training. The experiences of one facilitator and a group of learners taking part in a module based on empowerment principles. It explores the core values of participation and holistic learning underpinning it, discusses the major learning processes and outcomes, and reflects on the value of this approach.

Brower (1995) studies "Empowering teams: what, why, and how in 1995", discusses what are empowerment teams, why they are important to employees, customers, and organizations, and how to go out empowering teams. The author presents a model of empowerment and argues that empowerment means: authorize to make decision, accountability, alignment of direction, and ableness. It was suggested that ways to develop each of these were including visual frameworks, tools, and team activities. Also other requirements for lasting successful empowerment were information supportive function and systems and leadership.

Wallerstein & Bernstein (1988: 379-94) applied empowerment principles in organizing alcohol drinking and drugs prevention program for junior and senior high school learners in New Mexico, U.S.A., where there is a higher percentage of social disability population and high alcohol drinking rate. The program was aimed to empower the risk group of adolescents to be free from social pressure, be able to select the good things for their life, and participate in changing the society. The student leader volunteers have been empowered through a training program. The trained volunteers set up the teaching program for the lower grade learners and also participated in the community programs. After the program has been implemented for 8 months, the learners in the experimental group has significantly increased their perceived susceptibility of risk behaviors regarding alcohol drinking, drugs using, and driving. For the comparison group, their perceived susceptibility has been decreased. Among the student volunteers, it was found that their perceived susceptibility of alcohol drinking, drugs using and driving has been increased, they felted more confident to teach and discuss with their friends and lower grade learners, and their sense of responsibility and care for others has also increased. It was also found that

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after the program has been implemented for 3 years, more learners have joined this program and expanded their activities to the community.

Margulies & Ito (1990: 57-59) developed an empowerment education program for peer education by training the selected group of learners leaders for 30 hours. The aim of training program was to train participants the following skill: communication, problem solving, and decision making, with the long-term goal of developing self-esteem and healthy lifestyle among the student leaders. Evaluation was carried out after implementing the program for 1 year, it was found that the trained student leaders had taught their classmates and other learners and they could be able to reach their target group more effectively than teachers or learners' guardians who could not do this job effectively.

Krobthong, V. (2001) studied the effects of an empowerment program on self-esteem to control hypertension among hypertensive patients. The results of the study revealed that the mean score of self-esteem, knowledge, belief, and practices of the experimental group was significantly higher than before the program and than the comparison group and the average score of diastolic and systolic blood pressure, level of the experimental group was significantly lower than before the program and than the comparison group.

Sathirapanya, C. (2001) applied the principles of empowerment developed by Gibson in implementing an empowerment program on promoting quality of life of cerebrovascular disease patients and their relatives, Psychosis Hospital, Songkla, with 38 patients in each group of experimental and comparison group. The significantly higher average score of quality of life, self-esteem, self-efficacy, and daily routine ability among the experimental group was found, including the significantly lower average score of depression status, when compared with the average scores of the comparison group.

Sornngai, A. (1999) studied social mobilization for developing health behaviors of elderly by applying concepts the concepts of empowerment and participation of stakeholders e.g. government health officers, religions leaders, community leaders, etc. The results of the study showed that social mobilization program was effective in changing the behaviors of the elderly regarding dietary, stress management,

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participation in elderly society's activities, self-esteem, self-efficacy, and blood pressure level.

Prapapen Suwan, et al. (1997) studied the effectiveness of AIDS prevention and control programs in family: woman empowerment, and community participation. The results of the study showed that the program was effective in changing AIDS knowledge among housewives and their husbands, creating more communication about AIDS among husband and wife. The empowerment program for housewives was more effective than the empowerment program through housewife leaders because the achievement of housewife leader program depends largely on their time devotion and their potentials. Regarding the community participation model, it was found that strength and potentials of the community leaders are the cores of the program.

Supa Pengpis (1993) studied effectiveness of participatory development process for developing health education program in a postpartum ward, Noparatanaratchathani Hospital. The samples were 22 nurses in a postpartum ward, 60 patients before the program and 60 patients after the implementation of the program. The results of the study showed that the team work behaviors, participation and job satisfaction among the sampled nurses were statistically higher at the end of the program compared with before the program.

Pensirinapa, N. (1995) studied the effectiveness of empowerment education program for smoking prevention behavior among junior high school learners, Supanburi Province through student leaders. It was found that the program was effective in enhancing student leaders with regard to the following behaviors: self-esteem, negative attitudes toward smoking, and participation in anti-smoking activities in the school. For the sampled group of junior high schools, significant higher level of the following behaviors was found among the experimental group when compared with the comparison group: self-esteem; self-efficacy; and smoking behavior.

Warapa Chunchot (1997) studied the effectiveness of empowerment training program on development of attitude, self-esteem and self-efficacy in nursing students. The results were: the experimental group had higher mean scores of self-esteem than the comparison group at posttest.

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Boromtanarat, C. (1999) studied the development of a management-training program by using an empowerment model to develop leadership among heads of health centers. Experimental research design was employed. The first experimental group was trained by using empowerment management training model, for 10 days. The second experimental group was trained by using the management-training program developed by the Ministry of Public Health, for 10 days. After the program it was found that the leadership potentials of the first experimental group was significantly higher than of the second group, with regards to: empowerment ability; effective leadership; performance quality; and service satisfaction among villagers who were care receivers at the health centers. It was also found that cost-effectiveness of the empowerment management-training model was better than the conventional training model.

Therefore the empowerment training program that emphasized on participatory learning and andragogy will help the health team perceived their own self-esteem, self-efficacy in performing standards of HES which will result in making hypertensive patients got higher level of knowledge, perception, and appropriate hypertension control behaviors including satisfaction of health personnel or health providers and hypertensive patients toward health education and health services received.

Action Research

The origins of action research are unclear within the literature. Authors such as Kemmis and McTaggert (1988), Zuber-Skerrit (1992), Holter and Schwartz-Barcott (1993) state that action research originated with Kurt Lewin, an American psychologist. McKernan (1988 as cited in McKernan, 1991) states that action research as a method of inquiry has evolved over the last century and careful study of the literature shows “clearly and convincingly that action research is a root derivative of the scientific method’ reaching back to the Science in Education movement of the late nineteenth century ” (McKernan, 1991: 8).

Three of many definitions for action research are: “a systemic inquiry that is collective, collaborative, self-reflective, critical and undertaken by participants in the inquiry” (McCutcheon and Jurg, 1990: 48). “A form of collective self-reflective

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inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out" (Kemmis and McTaggert, 1990: 5). "Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework" (Rapoport 1970: 499 as cited in McKernan,1991: 4)

Within all these definitions there are four basic themes: empowerment of participants; collaboration through participation; acquisition of knowledge; and social change. The process that the researcher goes through to achieve these themes is a cyclical process or interaction spiral process of action research cycles consisting of four major phase: 1) planning: situation analysis, identifying problems or conflicts and setting the program procedures; 2) action: implementation of the plan, including collecting data and analysis of data during the program's activities; 3) observation: the effect of action, and 4) reflection: analysis of collected during the implementation of the program in order to improve the plan (re-planning) including making conclusions with the aim to get the best model for solving the problems effectively, with the collaboration of all concerned people. The cyclical process depends on the flexible action plans that can be changeable accordingly with the uncertain situation where definite outcome can not be expected. Action and reflect phases are overlapped in order to change the plan as needed (McTaggart, 1991: 170-72; Meyer, 1993: 1066; Zuber-Skerritt, 1996: 95).

The two major aims of action research are improvement and involvement. The aim of improvement focuses in three areas: 1) to improve practice 2) to improve the understanding of the practice by its practitioners and 3) to improve the situation in which the practice takes place. The aim of involvement includes all participants in the process of planning, acting, observing and reflecting in order to achieve the aim of improvement (Grundy and Kemmis, 1988)

Types of Action Research

Grundy (1982: 353) discusses three modes of action research: technical, practical, and emancipatory. Holter and Schwartz-Barcott (1993: 301) also discuss three types of action research that of a technical collaborative approach, a mutual

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collaborative approach and an enhancement approach. McKernan (1991: 16-27) also list three types of action research: type 1: the scientific-technical view of problem solving; type2: practical-deliberative action research; and type 3: critical-emancipatory action research. McCutcheon and Jurg (1990: 145-147) discusses three perspectives of action research: a positivist perspective, an interpretivist perspective and a critical science perspective. Masters (1995) compiled these types of action research as follows:

Type1: Technical / Technical-collaborative / Scientific-technical / Positivist

Early advocates of action research such as Lippitt and Radke in 1946, Lewin in 1947, Corey in 1953, and Taba and Noel in 1957 put forward a scientific method of problem solving (cited in McKernan, 1991: 16). The underlying goal of the researcher in this approach is to test a particular intervention based on a pre-specified theoretical framework; the nature of the collaboration between the researcher and the practitioner is technical and facilitatory. The researcher identifies the problem and a specific intervention, then the practitioner is involved and they agree to facilitate with the implementation of the intervention (Holter and Schwartz-Barcott 1993: 301). The communication flow within this type of research is primarily between the facilitator and the group, so that the ideas may be communicated to the group (Grundy, 1982: 360).

Technical being the skill of action research, the idea being how the event will occur, the event is the taking of the idea and the thoughts that the researcher has about the event and making them happen. By technical action research will have the following characteristics: the project would be instigated by a particular person or group of people who because of their greater experience or qualifications would be regarded as experts or authority figures. Technical action research promotes more efficient and effective practice. It is product directed but promotes personal participation by practitioners in the process of improvement. This approach to action research results in the accumulation of predictive knowledge, the major thrust is on validation and refinement of existing theories and is essentially deductive (Holter, et al. 1993: 301).

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Type 2: Mutual-collaborative / Practice-deliberative / Interpretivist perspective

In this type of action research project the researcher and the practitioners come together to identify potential problems, their underlying causes and possible interventions (Holter, et al. 1993: 301). The problem is defined after dialogue with the researcher and the practitioners and a mutual understanding is reached. "Practical action research seeks to improve practice through the application of the personal wisdom of the participants" (Grundy, 1982: 357). The communication flow in this type of action research must be unimpaired between each member of the group and the facilitator (Grundy, 1982: 360).

This design of action research allows for a more flexible approach, not available in the positivist paradigm. "Indicative of this flexibility is the frequent use of 'interpretive' as an umbrella term that comfortably accommodates interactive and phenomenological perspectives" (McCutcheon and Jung, 1990: 146).

McKernan (1991: 20) feels that the practical model of action research trades off some measurement and control for human interpretation, interactive communication, deliberation, and negotiation and detailed description. "The goal of practical action research is understanding practice and solving immediate problems" (MaKernan, 1991: 20). The practitioner involved in the mutual collaborative approach action research gave a new understanding of their practice, the changes implemented tent to have a more lasting character. However the changes tend to be connected to the individuals directly involved in the change process, and therefore the interventions tend to be short lived when these individuals leave the system or there is an influx of new people (Holter, et al. 1993: 301).

"Practical action research fosters the development of professional by emphasizing the part played by personal judgment in decisions to act for the good of the client" (Grundy 1987: 154). This mode of action research "promotes autonomous, deliberative action-…praxis"

Grundy (1982: 356) discusses three types of knowing. The first is techne or knowing-how, the source of skilful action. The second is episteme, the source of scientific action or knowing that. The third type of knowing is phronesis, the knowing-why, the source of moral action, which is often called practical judgment. Techne, as

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occurs in Type 1 action research results in a making action, it is product related. While phronesis results in a doing-action or praxis, and is therefore product centered. The 'idea' in the interaction is personal, subjective and never fully formed, rather it is constantly being formed and being influenced by the situation (Grundy, 1982: 357).

Type 3: Enhancement approach / Critical-emancipatory action research / Critical science perspective

Emancipatory action research "promote emancipatory praxis in the participating practitioners; that is, promotes a critical consciousness which exhibits itself in political as well as practical action to promote change" (Grundy, 1987: 154). There are two goals for the researcher using this approach; one is to increase the closeness between in the actual problems encountered by practitioners in a specific setting and the theory used to explain a resolve the problem. The second goal, which goes beyond the other two approaches, is to assist practitioners in identifying and making explicit fundamental problems by raising their collective consciousness (Holter, et al. 1993: 302).

Jurgen Habermas, a critical social theorist presents a theoretical model for understanding emancipatory action research. (Habermas, 1972 as cited in Grundy, 1982). Habermas presents a framework within which social critique may be developed. "It is through the development of critique that the meditation of theory and practice is possible. The development of action-orientated critique has three phrases: theory, enlightenment, and action" (Grundy, 1982: 358).

Emancipated strategic action follows from the disposition of critical intent. Critical intent is the disposition which motivates action and interaction at all stages of emancipatory action research and is particularly important in the development of the theoretical perspective which informs and underpins a project (Grundy, 1982: 358).

Critical intent is not "the intention to be rigorously discriminating only with regard to one's own practice. It has a social consciousness as well in that it is a disposition toward the critical assessment of the extent to which the social milieu impedes the fostering of the good". This mode of emancipatory action research does not begin with theory and end with practice, but it is informed by theory and often it is confrontation with the theory that provides the initiative to undertake the practice

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(Grundy, 1982: 358). The dynamic relationship between theory and practice in emancipatory action research entails the expansion of both theory and practice during the project.

When a person reflects upon theory in the light of praxis or practical judgment, the form of knowledge that results is personal or tacit knowledge. This tacit knowledge can be acquired through the process of reflection, with the input from critical intent leads to critical theorems (Grundy, 1982: 359).

The second function, which Habermas distinguishes in the meditation of theory and practice, is the practice is the organization of the process of enlightenment in which critical theorems are applied and tested in a unique manner by the initiation of processes of reflection carried out within certain groups towards which these processes have been directed. These group processes of reflection will give rise to enlightenment in the form authentic insights (Habermas, 1972 as cited in Grundy, 1982: 360). The facilitator must not attempt to direct the outcome of the deliberative process by attempting to trust enlightenment on the participants, but must allow symmetrical communication to occur from which enlightenment will flow (Grundy, 1982: 360).

The third function, which Habermas distinguishes, is the organization of action. The organization of enlightenment has its focus upon the past while the organization of action is oriented. The form of strategic action resulting form enlightenment is a form of praxis. " Whereas action which resulted from phronesis was also a form of praxis, the development of "critical theorems" and the process of enlightenment result in the true praxis for it is action, which is freed from the dominating constraints of the environment "(Grundy, 1982: 361).

It is not in the methodologies that the three modes of action research differ, but rather in the underlying assumptions and worldviews of the participants that cause the variations in the application of the methodology (Grundy, 1982: 363).

"The differences in the relationship between the participants and the source and scope of the guiding 'idea' can be traced to a question of power. In technical action research it is the 'idea' which is the source of power for action and since the 'idea' often resides with the facilitator, it is the facilitator who controls power in the project. In practical action research power is shared between a groups of equal participants, but the emphasis is upon individual power for action. Power in emancipatory action

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research resides wholly within the group, not with the facilitator and not with the individuals within the group. It is often the change in power relationships within a group that causes a shift from one mode to another" (Grundy, 1982: 363).

Table 3 Types of action research

	Technical action research	**Mutual - collaboration action Research**	**Participatory action research**
Philosophical base	Natural sciences	Historical-hermeneutic	Critical sciences
The nature of reality	Single, measurable, fragmental	Multiple, constructed, holistic	Social, economic. Exists with problems of equity and hegemony
Problem	Defined in advance	Defined in situation	Defined in the situation based on values clarification
Relationship between the knower and known	Separate	Interrelated, dialogic	Interrelated, embedded in society
Focus of collaboration theory	Technical validation refinement, deduction	Mutual understanding, new theory, inductive	Mutual emancipation, validation, refinement, new theory, inductive, deductive
Type of knowledge produced	Predictive	Descriptive	Predictive, descriptive
Change duration	Short lived	Longer lasting, dependent on individuals	Social change, emancipation
The nature of understanding	Events explained in terms of real causes and simultaneous effects	Events are understood through active mental work, interactions with external context, transactions between one's mental work and external context	Events are understood in terms of social and economic hindrances to true equity
The role of value in research	Value free	Value bounded	Related to values of equity
Purpose of research	Discovery of laws underlying reality	Understand what occurs and the meaning people make of phenomena	Uncover and understand what constrains equity and supports hegemony to free oneself of false consciousness and change practice toward more equity

Source: Masters, J. Action research electronic reader.The history of action research. http://www.cchs.usyd.edu.au/arow/reader/rmaster/rmaster.htm 1995.

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This study is emphasized on technical collaborative approach, and based on standards of HES. By definition the action research process is grounded in two essential principles: improvement and involvement (Grundy and Kemmis, 1988). On the one hand action research is concerned with an improvement in existing conditions. However on the another hand this improvement is only gained when participants take action. In this way improvement is linked with action (involvement) and through this action gain a better approach of the current practice. Therefore, the researcher employed action research cycle and empowerment through participatory learning process including adult learning to improve standards of HES in the HEd Unit and the HT/H Clinic. A selection of related studies on action research were shown as follows:

Promtussananon, S. (2001) studied the integrated approach of health promoting hospital model. The development of the model followed an eight stage emancipatory action research for organization change model. It was found that the behavior of the hospital organization had significantly improved since the beginning of the program, which increased activities, policies and regulations for safety and environment, and increased facilities and equipment to support a healthy life style. At the end of program the hospital staff had significantly increased their health promotion behaviors by reduce stress levels, increased the number of physical fitness tests as well as reducing the risk factors. The group of patients and their relatives as well as industrial workers were found to have increased their health status and well being.

Valla Tantayotai (1998) studied the development of self-care agency model in insulin dependent diabetic patient. The results indicated that therapeutic relationship and interaction between nurse and patient is the core component in developing patients' self-care agency. Development of self-care agency model consisted of 11 helping methods included: giving information and knowledge, guiding, enhancing confidence in patients' own capacities, assessing the health status, coordinating care and helping, emotional support, helping in management of intercurrent illness, providing material support, teaching psychomotor skill, developing dependent care agency, and improving patient- family relationship.

Sudsiri Hirunchunha (1998) studied the development of a care model for the caregivers of stroke patients at home. The findings revealed that the suitable care

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model consisted of 1) caregivers transformation process; 2) promoting care at home; 3) care related factors; 4) caregivers' caring competencies; and 5) caring outcomes. Caregivers transformation process is comprised of four stages: inability to adjust/think, a transition period, seeking/modifying caring techniques, and settle into a normal lifestyle. Promoting care consisted of preparing caregivers, developing caregivers' caring and self-management abilities, developing self-reliance on their caring abilities and adjusting to their roles, and maintaining quality of care and adjusting their lifestyle. The strategies in promoting care included 10 methods: building trust and confidence, promoting self-reflective skills, mutual participation, seeking support groups, empowerment, incorporating traditional and non- traditional caring beliefs, reinforcing caregivers' abilities, providing mutual encouragement, establishing spiritual support, and being friends.

The evaluation of data regarding problems and situation of the HEd. Unit and the HT/H Clinic through in-depth interview with health personnel, self-evaluation in the standards of HES, focus group discussion with patients, and participant-observation, including concepts and theories learned from literature review, the researcher has set an empowerment program for training the health personnel. Participatory learning was emphasized with composed of the following concepts and principles: experiential learning and group process including adult learning. The aim of this training was to empower the health personnel to realize their self-esteem, self-efficacy, and gain skills in performing standards of HES which included process and structure standard. The health personnel have involved at the beginning of the program, starting from planning, action and observation including reflection and re-planning, in accordance with action research spiral. The researcher / resource person was only facilitator and coordinator. It was expected when the health personnel put their learned experience into practice with hypertensive patients, it will empower patients to be able to take care of themselves appropriately, interact with other persons, exchange information and experience, which will result in gaining more knowledge, accurate perception about hypertension and ability to perform hypertension control behaviors regarding medicine taking, dietary. physical exercise, weight control, stress management, and appointment keeping appropriately,

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continuously, and sustainability. It was also expected that using standards HES as a guideline for planning and implementing the program will help patients / services receivers received the high quality care in accordance with the quality improvement policy of the hospital which will result in satisfaction of both patients / services receivers and health personnel/provider. Therefore, the study conceptual framework was developed, as shown in Figure 3.

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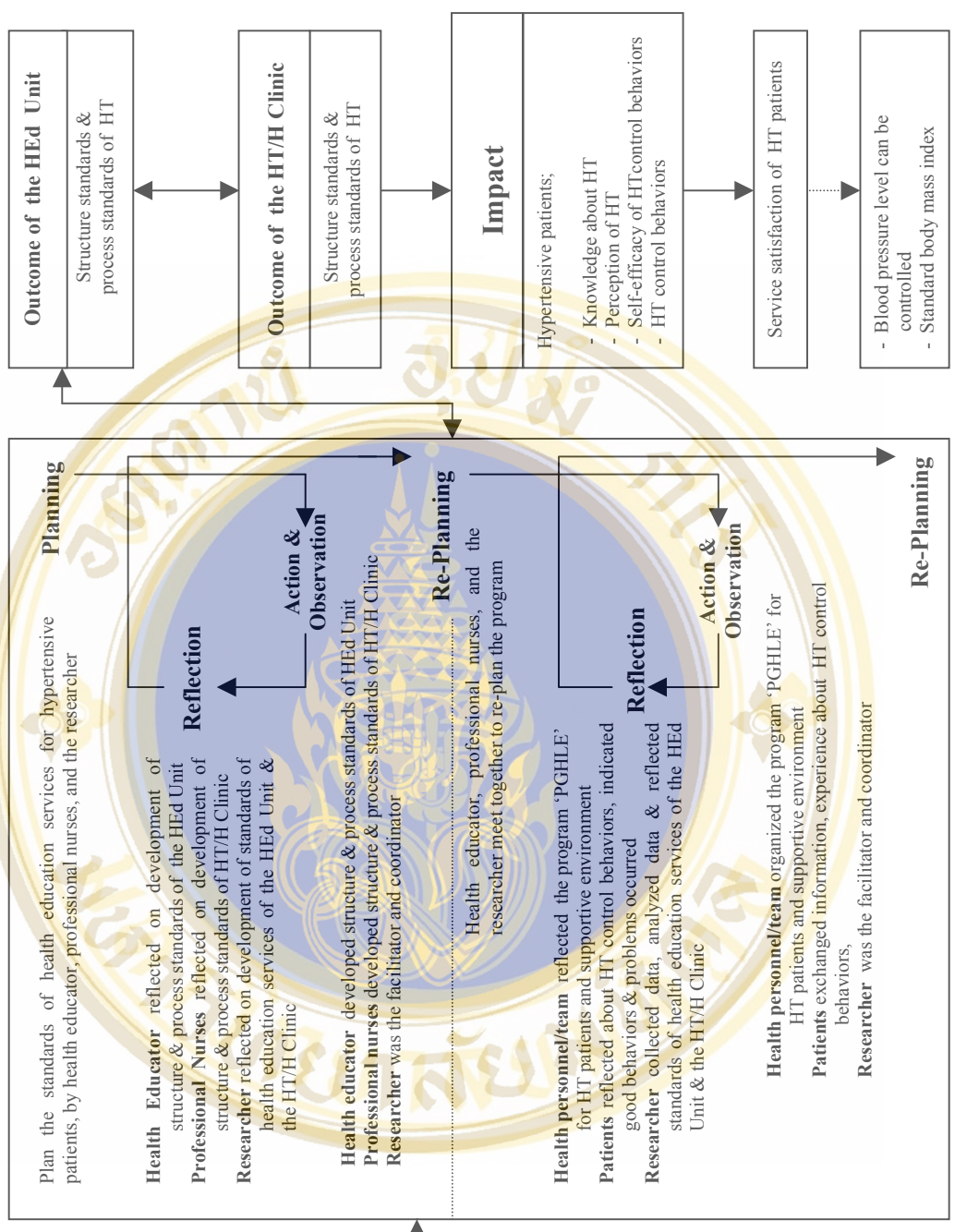

Figure 3 Conceptual framework according to the standards of Health Education Services based on action research through the Empowerment Training Program: A case study in the Hypertension / Heart Clinic

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CHAPTER III

RESEARCH METHODOLOGY

This chapter will be presented research methodology which composed of: research design, population and sample, instruments for collecting data, instrument for organizing the research activities, research procedure, and data analysis: quantitative and qualitative data.

Research Design

This research is an action research, emphasized on technical collaboration approach, which purposed to study the developmental process and the effects of standards of health education services: a study of hypertensive patients. The research project was organized through the collaboration between the researcher and health personnel in solving the problems and putting the plan to action with the aims for creating sustainable changes.

Population and Sample

Studied Population: The populations of this research were health personnel comprising 2 health educators and 17 professional nurses who worked at the Outpatient Department and at the Hypertension/Heart Clinic(HT/H Clinic), and hypertensive patients who registered at the HT/H Clinic, Department of Internal Medicine, Rajavithi Hospital.

Sample The sample was composed of 2 groups as follows:

1. The principal sample: The health personnel who were composed of professional health educators, professional nurses of the Outpatient Department and the HT/H Clinic. All of the mentioned personnel were the sample of the study.

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2. The subordinate sample: The hypertensive patients who were selected by the following criteria;

2.1 Were diagnosed by a physician as having hypertension (I10 followed by ICD10) and had been registered with the HT/H Clinic for at least 1 year;

2.2 Aged between 40-72 years, both male and female;

2.3 Able to see, listen, speak or communicate well so it was easy for them to participate in group process. 2.4 Using medication treatment.

2.5 Were willing to participate in the whole program.

Sampling: From 150 hypertensive patients for health behavior surveillance data of the Health Education Unit were selected 100 people according to above criteria. Afterwards, a simple random sample of 50 patients for each group of the experimental and the comparison by using a list of all 100 HT patients, each patients was given a number 1 to 100, and these numbers were written on small pieces of paper. All the 100 papers were put in a box, after which the box was shaken vigorously to ensure randomization. Then, the odd number of paper was taken out of the box and the numbers were recorded for the sample of the experimental group. Simultaneously, the even numbers were the sample of the comparison group. The HT patients belonging to these numbers would constitute the sample.

Research Instruments

The research instruments were composed of the instruments for collecting data and the instruments for organizing the program's activities.

1. Instruments for collecting qualitative data:The instruments were composed of:

1.1 Guidelines for indepth interview. This guideline was used with the sampled health personnel regarding health education activities, problems and obstacles, and suggestions for development (Appendix A).

1.2 Self-evaluation form in standards of HES for non-communicable diseases (Hypertension) of the HEd Unit and self-evaluation form in standards of HES for hypertension of the HT/H Clinic.

1.3 Guideline for indepth interview for the HT patients regarding hypertension control behaviors, problems and obstacles, and health care needs (Appendix A).

1.4 Field instruments: tape cassette, notebook, and camera.

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2. Instruments for collecting quantitative data: The instruments were composed of:

2.1 The first set of questionnaire (Appendix A): This set was used with the health educators, in order to evaluate the program, before, during and after the program. The questionnaire was composed of the following parts:

2.1.1 Socio-demographic data: the questions were related to sex, age, education, position, and years of experiences. The total numbers of questions was 5.

2.1.2 Self-esteem composed of 16 questions regarding self-value, ability, achievement, pride, and self-satisfaction. The scoring system was as follows:

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Score	5	4	3	2	1

2.1.3 Self-efficacy and health education service skills in accordance with process standard composed of 15 questions for health educators regarding: planning; implementing the plan; developing materials; supervising; evaluation; health behaviors surveillance; information management system; and research. The scoring system was as follows:

Perception level	Highest	High	Moderate	Low	Lowest
Score	5	4	3	2	1
Practice level	Practice	Uncertain	Do not practice		
Score	3	2	1		

2.1.4 Self-efficacy and health education service skills in accordance with the structural standard. The questions were related to structural organization, plan/project, roles and responsibility, participation, health education materials, organizing the environment. There were 12 questions for health educators. The scoring system was as follows:

Perception level	Highest	High	Moderate	Low	Lowest
Score	5	4	3	2	1
Practice level	Practice	Uncertain	Do not practice		
Score	3	2	1		

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2.1.5 Job satisfaction of health personnel in providing health education services. The questions were related to professional environment (7 questions); autonomy (4 questions); work worth (4 questions); professional relationship (6 questions); and role enactment (4 questions). The scoring system was as following:

Satisfaction level	Highest	High	Moderate	Low	Lowest
Score	5	4	3	2	1

2.2 The second set of questionnaire (Appendix A): This set was used with the professional nurses, in order to evaluate the program, before, during and after the program. The questionnaire was composed of 5 parts. Three parts of questionnaire were socio-demographic data, self-esteem, and job satisfaction, which was the same as questionnaire of health educator. For 2 parts were different as follows:

2.2.1 Self-efficacy and health education service skills in accordance with process standard composed of 9 questions for professional nurses regarding: planning; implementing the plan; supervising; evaluation. The scoring system was the same as self-efficacy of process standard of health educator.

2.2.2 Self-efficacy and health education service skills in accordance with the structure standard. The questions were related to roles and responsibility, participation, provided necessary media and materials, organizing the environment conducive to health education services. There were 10 questions for professional nurses. The scoring system was the same as self-efficacy of structure standard of health educator.

2.3 The third set of questionnaire (Appendix A). This set was used with the health personnel regarding the outcomes of the workshop organized, training process, and the application for organizing health education program. There were 13 questions and the scoring system was as follows:

	Highest	High	Moderate	Low	Lowest
Score	5	4	3	2	1

2.4 The fourth set of questionnaire (Appendix A). This set of questionnaire was used with the sampled hypertensive patients in order to do the quantitative

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evaluation of the program, before and after the program. It was composed of 9 parts as follows:

2.4.1 Socio-demographic data: The questions were related to sex, age, years of illness with hypertension, level of blood pressure, weight, height, marital status, education, occupation, and type of health care payment (health insurance). The number of the questions was 11.

2.4.2 Knowledge on hypertension: It was composed of questions regarding causes and risk factors (12 questions), signs and symptoms (10 questions), complications (7 questions), self-care (9 questions), practices that evaluated blood pressure level (4 questions), and meaning of hypertension (5 questions). There were 47 questions all together. The score of 1 was assigned to the correct answer and the score of 0 (zero) was assigned to the incorrect answer.

2.4.3 Perception of hypertension: The questions were concerned with perceived susceptibility and perceived severity of complications (5 questions for each variable). The scoring system was as follows:

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Score	5	4	3	2	1

2.4.4 Self-efficacy for controlling hypertension: The questions were related to dietary, physical exercise, stress management, medicine taking, and appointment keeping. The total number of questions was 16. The scoring system was as follow:

	Can do it definitely	Can do it	Uncertain	Can't do	Can't do it definitely
Score	5	4	3	2	1

2.4.5 Hypertension control behaviors: This part was composed with the following sections:

1) Dietary behaviors: The questions were related to consumption of the following types of food: fat, protein, vegetables and fruits, salt (sodium chloride), and

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beverage. The scoring system was based on frequency and food quality, which was affected an invert in score for each item as follows:

	Everyday	3-4 times/week	1-2 times/week	1-2 times/month	never
Score	5	4	3	2	1

2) Physical exercise: The questions were concerned with type, frequency, time duration, warming up, and symptoms after exercise. The scoring system was as follow:

Frequency	Everyday	3-5 times/week	1-2 times/week
Score	3	2	1
Time duration	More than 30 min.	21-30 min.	Less than 30 min.
Score	3	2	1

For warming-up, 1 was assigned for “practice” and 0(zero) was assigned for “do not practice”. For exercise, the score 0 was assigned for answering question 1 and 1 was assigned for answering questions number 2, 3, 4, and 5.

3) Stress management: The questions were related to behaviors performed when facing with stress and for taking a rest. Score of 1 was assigned for a positive stress management method and 0 (zero) was assigned for the negative behavior. For sleeping pattern questions 1-3, the scores are 3,2,1 respectively. For taking the rest during the daytime, questions number 2,1,3,4, the score are 4,3,2 and 1 respectively.

4) Medicine taking: The questions were concerned with method of taking medicine, the score of 1 was assigned for answering item number 6, 2 was assigned for item number 2 and the score of 0 (zero) was assigned for answering other items. For the complete numbers and types of medicine (items 1-3), the scores of 1, 2 and 3 were assigned respectively. Regarding the practice if forgetting to take medicine, the score of 1 was assigned to the answer of items 1 and 2 and 0 (zero) for answering item 3.

5) Appointment keeping behaviors: The score of 1 was assigned for keeping the appointment and the score 0 (zero) was assigned for not keeping the appointment. The data were presented by using frequency and percentage.

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2.4.6 Satisfaction on health care services. The questions were concerned with convenience (10 questions), information received (9questions), and collaboration of services (7 questions), providers' manners (6 questions), quality of care (7 questions), and cost (1 question). The total number of the questions was 40. The scoring system was as follows:

	Highest	High	Moderate	Low	Lowest
Score	5	4	3	2	1

Constructing and Developing Instruments

1. Studying the fundamental information, related literature and identifying the main issues that will be covered in the questionnaire/ interviewing schedule.

2. Content validity of the questionnaire/ interview schedule was checked by professional experts in health education standards, behavioral sciences, hypertension, and dissertation advisory committee, and followed by revision of the questionnaire/ interview schedule.

3. Pretesting the instruments developed with the sample group of 51 hypertensive patients who were similar to the sample of the research project. Computing coefficient of internal consistency developed by Cronbach tested reliability. The results of the analysis were as follows:

3.1 Knowledge about hypertension: The total number of 47 questions, the value of reliability was 0.8588.

3.2 Perception about hypertension: The total number of the questions was 10 and the reliability value was 0.6868.

3.3 Self-efficacy: The total number of the questions was 16 and the reliability value was 0.8174.

3.4 Satisfaction of health care services: The total number of the questions was 40 and the reliability value was 0.9282.

Regarding the analysis for discrimination power, Student's t-test was employed. The statements with the t-test value less than 1.75 were reconsidered and were discussed with the dissertation committee member. Revision was made before preparing the final version.

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For the first, the second, and the third set of questionnaire were checked content validity by professional experts, reliability was not tested among them because there were scarce health personnel who were similar to the sample of the research project.

3. Instruments for Organizing the Program Activities

3.1 Empowerment Training Program (ETP) for health personnel developed by the research team: The research team was consisted of the researcher, resource persons, and research assistants. The program was aimed to enhance the trainees' skills and ability to perform quality health education services including ability to apply the lessons learned into action, which will be effective in changing behaviors of the target groups. The ETP was checked content validity by professional experts.

The contents of the training were composed the main topic as follows: 1) knowing self and others; 2) team work skill; 3) developing vision/ mission of health education services; 4) empowerment techniques for self and the target group; and 5) program planning and evaluation.

The ETP documents were: 1) training program: *by the researcher;* 2) new dimension of health education: *by the Provincial Hospital Division;* 3) hospital health education standard: *by the Health Education Division;* 4) outpatient nursing standard: *by the Nursing Division;* 5) health education program of the OPD: *by assoc. prof. Dr. Suree Chanthamolee;* 6) health promotion learning and teaching (emphasize on empowerment): *by lecturer Dr. Nit Tassniyom;* 7) self-evaluation form accordingly with standards of HES for non-communicable disease (Hypertension) of the HEd Unit and self-evaluation form accordingly with standards of HES for hypertension of the HT/H Clinic: *by the researcher*; and 8) health education and public health planning: *by assoc. prof. Dr. Nirat Imamee.*

3.2 Documents for health personnel meeting: After the completion of the training program, 4 meetings were organized to assess the progress of activities and solving problems that might be occurred. The following documents were distributed to serve the needs for each meeting, as follows:

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The first meeting: The first meeting was held in February, 2002. The following documents were distributed: 1) plan for quality improvement of Rajavithi Hospital: *by the Total Quality Management (TQM) Center of Rajavithi Hospital;* 2) plan for key performance indicators of the Nursing Unit of the OPD: *by the Nursing Unit of the OPD;* 3) the results of evaluation of the ETP: *by the researcher;* 4) vision, missions, strategies /activities of the revised health education program after the ETP: *by the researcher;* 5) national health education policy and 10 national health commandments: *by the Health Education Division;* 6) empowerment in public health: *by assoc. prof. Dr. Nittaya Pensirinapa;* 7) learner-centered teaching plan: *by the Mental Health Department, and Dr Watanaporn Rangubthuk;* 8) roles of health team in an empowerment process, and 9) diagram of health behavioral change process: *by Yawalugse Anurugse, et al.*

The second meeting: The meeting was held in March, 2002. The following documents were used: 1) the program on "Providing Group Health Learning Experience for Patients and Relatives at the Outpatient Departmen": *by the health educator;* 2) record form for abnormal symptom surveillance: *by the researcher;* 3) guideline for health behavior analysis of the target group: *by the The Provincial Hospital Division;* 4) guideline for evaluating acute and chronic diseases: *by the r*esearcher; and 5) declaration on policy and goals of campaign for Thailand health promotion year: *by the Prime Minister Office.*

The documents developed by the Mental Health Department, Ministry of Public Health was also distributed as follows: 1) manual for participatory training; 2) exercise manual for promoting mental health of elderly; 3) nursing care manual for mental health problems and psychiatric patients; 4) physical exercise for life power: chikong; 5) stress management at work; and 6) living with healthy mind for elderly.

The materials from the Institute Geriatric Medicine were used as follows: 1) manual for the care of the late elderly for physicians and health personnel; 2) manual for the care of late elderly for public; and 3) seminar on life will.

The third meeting: The meeting was held in August, 2002. The following documents were distributed: 1) manual for dietary flag (adequate eating for happiness): and 2) suggesting of dietary for Thai people's health: *by the Nutrition*

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Division, Health Departmen; and 3) food exchanged list for Thai: *by the Dietician (Food Management Group).*

The fourth meeting: The meeting was held in September, 2002. The following documents were used: 1) summary report of health education program of the Nursing Unit of the OPD: *by the Researcher;* 2) summary report of health education program of the HT/H Clinic, a case study of hypertensive patients: *by the Researcher;* 3) daily work plan of health personnel at the HT/H Clinic: *by the the Head Nurse of HT/H Clinic and the Researcher;* 4) adult learning theory: *by Sullivan & Decker, (1988, cited in Marquis & Huston, 1996: 276-277);* and 5) clinical nurse specialist collaboration: development of a generic job description and standard of performance: *by Chambers, et al, (1987: 124-124).*

3.3 Instruments for Organizing the Program "PGHLE" for hypertensive patients

3.3.1 Flip chart on "Learning together for Self-Care in Controlling Hypertension's Complication", developed by the research with collaboration of the Health Education Unit and the Medical Technology Unit, including the manual for using the flip chart.

3.3.2 Exhibition set on nutrition in health promoting hospital, developed by the Division of Nutrition, Department of Health.

3.3.3 Booklet for recording physical exercise developed by the research.

3.3.4 Other printed materials: books manuals, leaflets, posters regarding hypertension, physical exercise, dietary, stress management, medicine taking, and other related information, including videotapes on Tai-Geg, Ram-Maiplong and a tape cassette on stress management. These materials were kindly supported by the Institute of Geriatric Medicine, Department of Medical Services; Bureau of Mental Health Development, Department of Mental Health; Nutrition Division, Department of Health; Hospital Pharmaceutical Association (Thailand); Health Education Unit, Rajavithi Hospital; and some were developed by the researcher.

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Research Procedures

The research procedures of standards of HES divided into 7 stages as shown in Table 4.

Table 4 The main activities of developmental process according to standards of HES

Stage	Activities	Months
1	Planning: Preliminary study for situation analysis	Oct – Dec 2000
2	Empowerment Training Program	Nov 2001 – Jan 2002
3	Planning a program according to standards of HES	Feb 2002
4	Implementing the program planned according to standards of HES of the HEd Unit	Feb 2002 – Sep 2002
5	Implementing the program planned according to standards of HES of the HT/H Clinic	Feb 2002 – Sep 2002
6	Reflection implementing the program according to standards of HES of the HEd Unit and the HT/H Clinic	Mar 2002 – Sep 2002
7	Sustainable development guidelines	Sep 2002 – Oct 2002

Stage 1: Planning: The activities were as follows:

1.1 Preliminary study: The stage was aimed to analyze the situation and study the project feasibility, was composed of the following activities: 1) indepth interview was employed with health personnel: health educators and professional nurses of the HT/H Clinic; 2) have health personnel evaluated themselves by using the self-evaluation form in standards of HES for non-communicable diseases (a case of hypertension), of the HEd Unit, and the self-evaluation form in standards of HES for hypertension of the HT/H Clinic; 3) group discussions with hypertensive patients regarding control of hypertension; 4) participant observation by using participant as observer was organized, the researcher participated in the activity and let the participants knew about her research roles and responsibility but not for the activities that did not relate to the research project (Gold, 1958 cited in Junya Sesthabutr, 1998:180), for example the researcher observed the steps and service system of the HT/H Clinic.

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1.2 Coordinating and collaborating with the related units: In order to get cooperation, the following units have been coordinated by the researcher: Research and Ethical Committee of Rajavithi Hospital, Quality Improvement Center, Health Education Unit, Nursing Unit, Nursing Unit of the OPD, and Internal Medicine Unit.

Stage 2: Empowerment Training Program (ETP)

2.1 Preparation of the ETP entitled "Empowerment Health Personnel in Health Education Services in Accordance with Health Education Standards to Promote Health Promoting Hospital Policy".

2.1.1 The ETP for Head of the HEd Unit has been proposed by the researcher because the limited budget of the HEd Unit the ETP was integrated into the activities of the Quality Improvement Center of the Hospital. The ETP has been approved and then the organizational committee was appointed and the ETP was developed. Roles and responsibility of the committee members were assigned.

2.1.2 The approved ETP was submitted to the Head of the Nursing Unit of the OPD in order to select the professional nurses of the Nursing Unit, who will act as the focal points in organizing health education activities of each clinic and participate in the ETP.

2.1.3 Pre-training evaluation of health personnel was made by questionnaire set 1 for health educators and set 2 for professional nurses.

2.2 Organizing the ETP: The trainees were composed of 2 health educators and 16 professional nurses of the OPD. The specific objectives of the ETP were to help participants to be able to gain more: 1) self-esteem; 2) learn and understand more about other people; 3) skills in working with other persons; 4) concepts regarding self-empowerment; 5) concepts regarding empowering the target population; 6) skills in planning and organizing activities aiming to develop desirable health behaviors among the target population; and 7) skills in evaluating the outcomes of the activities organized. (See Appendix B).

The ETP process was carried out by the researcher and research team which composed of the following activities: ice breaking, life-tide of health education, TOSO, "Are you a chicken or an eagle?", " Safe-guard of the eggs", "Visions of desirable health education", "Mission of health education", group discussion on

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“ Empowerment of the health personnel to develop health education”, “ Helping each other to think, do and present a health education program planning and evaluation: a case study on hypertension”. (See detailed in Appendix B).

The important activities firstly were the development of vision and mission of health education. Each trainee was asked to write down the vision regarding “Desirable Health Education” in the card provided. The cards were grouped into 5 groups as follows: modification of health behaviors, teamwork, health media and materials, group organizing, and organizing a supportive environment. The trainees were then divided into 4 groups and each group was asked to write down the missions leading to the vision stated which related to 4 issues: self-development, providers, consumers, and work system. The results of the working groups were compiled by the researchers and were presented in the plenary session for discussion and revision.

Secondly, the important activities were health education plan/program. At the end of the lecture on “Health Service Planning and Evaluation”, the trainees were divided into 2 groups and were asked to develop a health education plan regarding hypertensive patients. Eight issues were asked as follows: project title, objectives, target group, strategies, activities, responsible person(s), sites, and media/materials. Two projects were developed. The groups presented their projects in the plenary session. Lastly, post-training evaluation of health personnel was made by questionnaire set 3.

Stage 3: Planning a program according to standards of HES

After the ETP, the meeting was organized among health personnel for presentation of the results of the training’s evaluation, visions, missions, and discussion how to put the program planned into action in accordance with standards of HES of the HEd Unit and the HT/H Clinic.

Stage 4: Implementing the program planned of the HEd Unit

4.1 Developing vision and mission: The meeting was held among the Head of the Health Education Unit, Professional health educators, consultants from the Quality Improvement Center, and the researcher, with the aim to identify visions and missions of the Health Education Unit.

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4.2 The change of work structure: In order to make health education activities congruent with vision and mission was developed.

4.3 Health behavior surveillance: The meeting was held for research assistance to explain the objectives of the research project, questionnaire for data collection, including providing practice session of using the questionnaire.

4.4 Provision and production of materials:

4.4.1 Provision of materials: The formal request letters were submitted to the related organizations.

4.4.2 The meeting was held with the staff of the HEd Unit and the Medical Technology Unit (MT Unit) and the researcher, to plan the production of the flip chart and the videotape about hypertension.

Stage 5: Implementing the program planned of the HT/H Clinic

5.1 Implementing the program on " Providing Group Health Learning Experience = PGHLE " for hypertensive patients.

5.1.1 Meeting with the research assistance to clarify steps of program's procedures and collecting data.

5.1.2 Study the health care system provided for the hypertensive patients at the HT/H Clinic and make use of the data collected in implementing the program.

5.1.3 The coordination was also made among the Head nurse of the HT/H Clinic, professional nurses, pharmacists and nutritionists.

5.1.4 The samples of 50 patients for the experimental group and 50 for the comparison group were selected from 150 hypertensive patients by aforementioned criteria.

5.1.5 Within the experimental group, the group learning experiences were organized 2 days a week. Therefore, for the comparison group, individual health education was carried out by the regular service system.

5.2 Developing supportive environment

5.2.1 The suitable place was developed for implementing health education activities.

5.2.2 Provided information corner at the HT/H Clinic.

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5.3 Meeting during program implementation

Meetings were held during the program implementation with the aim to follow up the progress and to solve the problems occurred with the Head nurse and professional nurses of the HT/H Clinic.

Stage 6: Reflection implementing the program of HEd Unit and the HT/H Clinic

6.1 Meeting with health personnel

Two meetings with health personnel were held during the program implementation in order to follow up and revise the program according to the agenda.

6.2 Reflection by evaluating the research project: The results of the project were evaluated in accordance with the different target groups.

6.2.1 The group implemented the program which was consisted of the different groups of health personnel as follows: health educators and professional nurse.

6.2.2 The target group that used to measure the program's impact which were the hypertensive patients.

Stage 7: Sustainable developmental guidelines

Meeting for summarizing the program was held among health personnel in order to summarize the results of the program, including looking for effective ways to develop the quality standards of HES and to make it a sustainable program.

Data Analysis

1. Qualitative data: The Qualitative Data of each activity of the program were collected, grouped, differentiated in accordance with objectives and characteristics of the data. Then, the data were presented in order to describe the phenomena occurred during study.

2. Quantitative data: Frequency, percentage, arithmetic means, and standard deviation were used for the analysis of the general data. Within each sample group, the difference and the change of mean scores of variables measures were tested by using Repeated Measure Analysis of Variance (RMANOVA) in the principal group of

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personnel and for the second sample group, the hypertensive patients (experimental and the comparison group), Student's t-test, Paired Sample t-test, Z-test and RMANOVA were used.

According to the research procedures 7 stages of standards of HES could be summarized by subject/setting, method/strategy, instrument, data collection, and data analysis for each stage as shown in Table 5.

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Table 5 Research procedure according to standards of Health Education Services: A case study of hypertension

Stage	Subject/Setting	Method/Strategy	Instrument	Data Collection	Data Analysis
1. Planning: (Preliminary study)	Health personnel	Interview	Indepth interview guideline	Qualitative	Content analysis
	HT patients	Focus group	Focus group guideline	Qualitative	Content analysis
	HEd Unit & HT / H Clinic	Self evaluation	Self evaluation form	Quantitative	Descriptive stat
	HT / H Clinic	Participant observation	Field note form	Qualitative	Content analysis
		Interview	Interview guideline	Qualitative	Content analysis
2. Empowerment Training Program	Health personnel & the researcher	Participatory learning & adult learning	Empowerment Training Program developed by the researcher	Questionnaire set 1, 2 and 3 Take note, Video tape Photograph	Content analysis Descriptive stat RMANOVA
3. Planning a program according to standards of HES	Health personnel & the researcher	Meeting through participatory learning	Meeting agenda & related documents	Tape record, Take note Photograph	Content analysis
4. Implementing of HEd Unit	Health educator & the researcher	Participatory learning through 'PGHLE' program	Structure & process standard of HT of HEd Unit	Tape record, Take note Photograph, Ques 1	Content analysis RMANOVA
5. Implementing of HT/H Clinic	Professional nurses & the researcher	Participatory learning through 'PGHLE' program	Structure & process standard of HT of HT/H Clinic	Tape record, Take note Photograph, Ques 2 Questionnaire set 4	Content analysis RMANOVA T-test, Z-test
6. Reflection of Implementing of H Ed Unit &HT Clinic	Health personnel & the researcher	Meeting through participatory learning	Meeting agenda & related documents	Tape record, Take note Photograph, Ques 1, 2, 3 &4	Content analysis RMANOVA T-test, Z-test
7. Sustainable Development	Health personnel & the researcher	Meeting through participatory learning	Meeting agenda & related documents	Tape record, Take note Photograph	Content analysis

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CHAPTER IV

RESEARCH RESULTS

This study was an action research, aimed to study the processes and the effects of developmental standards of health education services, through the empowerment training program among health personnel, on patients' hypertension control behaviors. The results of the study were presented, accordingly with the research objectives, as the following 4 parts.

Part 1: The developmental process according to standards of health education services (HES), on the HEd Unit and the HT/H Clinic, presented by each step in the research procedure, which was composed of 7 stages; preliminary study for situation analysis, the Empowerment Training Program (ETP) for health personnel, planning a program according to standards of HES, implementing the program planned according to standards of HES of the HEd Unit, implementing the program planned according to standards of HES of the HT/H Clinic, reflection implementing the program according to standards of HES on the HEd Unit and the HT/H Clinic, and sustainable developmental guidelines.

Part 2: The effects according to standards of HES, on the HEd Unit and the HT/H Clinic.

Part 3: The changes according to standards of HES behaviors among health personnel after attending the ETP.

Part 4: The changes of hypertensive patients' behaviors.

All of the four parts of research results were shown in Figure 4.

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Part 1: The developmental process according to standards of HES

Stage 1 Preliminary study for situation analysis

1.1 In-depth interview with health personnel

1.2 Self-evaluation of standards of HES on the HEd Unit and the HT/H Clinic

1.3 Focus group discussion with HT patients

1.4 Participant observation

Stage 2 Empowerment Training Program for health personnel

2.1 Vision and mission of health education services

2.2 Health education plan/program

Stage 3 Planning a program according to standards of HES

Stage 4 Implementing the program planned according to standards of HES of the HEd Unit

Stage 5 Implementing the program planned plan according to standards of HES of the HT/H Clinic

Stage 6 Reflection implementing the program according to standards of HES on HEd Unit and the HT/H Clinic

Stage 7 Sustainable developmental guidelines

↓

Part 2: The effects according to standards of HES of the HEd Unit & the HT/H Clinic

1. The effects of standards of HES; structure & process standards of the HEd Unit
2. The effects of standards of HES; structure, process & outcome standards of the HT/H Clinic

↓

Part3: Standards of HES behavioral changes among health personnel

1. Self-esteem
2. Self-efficacy and service skills of process standard and structure standard of HES
3. Satisfaction on performing standards of HES

↓

Part4: Hypertensive patients' behaviors

1. Knowledge on hypertension
2. Perception of susceptibility and severity of hypertension
3. Self-efficacy of performing hypertension control behaviors
4. Hypertension control behaviors
5. Satisfaction of health education and health care services

Figure 4 Research results

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Part 1: The developmental process according to standards of HES

Stage 1: The results of the preliminary study; in-depth interview with health personnel, self-evaluation of standards of HES on the HEd Unit and the HT/H Clinic, focus group discussion with HT patients, and participant observation were presented in Chapter I, in the part on Background and Rationale.

Stage 2: Empowerment Training Program for health personnel

Eighteen health personnel were emphasized on participatory learning which composed of experiential learning, group process, and adult learning, through activities of 2 days the ETP. This program was organized cooperatively with the Quality Development Center, Rajavithi Hospital, HEd Unit, Nursing Unit of the OPD. The training was aimed to develop the health personnel more skills in implementing standards of health education services.

" It was the good opportunity to have the training program organized during the right time that the hospital is developing its quality service, especially in accordance with the 1 indicator of the total 12 indicators of the Nursing Unit of the OPD, which was stated that " A nurse should be responsible for providing health education services for patients which aimed to help them understand their illness, self-care behaviors, and observe their abnormal symptoms that might occur, the head nurse of OPD said ."

" The accomplishment of a health education program depends largely on the collaboration of many concerned health personnel, especially the professional nurses whose number was very large when compare with other health personnel and who work closely with the patients. Most of the nurses got a good knowledge about diseases but lacked skills of group health education approaches. Through this training program, it was expected that the nurses would learn more about those skills, the health educator expressed".

For the trainees, the reflections regarding ETP was made as follows:

" The 2-day training was too short, it should be 3 days or 1 week, so the details can be learned, especially the planning and evaluation of a health education program and the methods of group health education approach".

" All activities were interesting which made the learning program more attractive. But some activities, for example, TOSO, the resource person spent too

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much time in making conclusions. The implications of the lessons learned from those activities were difficult to put into practice with patients".

" Through the 2-day training program, the group empowerment methods have been learned. But if these principles will be put into practice with patients, I need to practice first in order to get more confidence. After the training, another meeting should be organized and do not forget to invite the personnel of the Health Education Unit to join the meeting".

" The OPD should organize a precised and systematic health education activities and these activities should be applied to other clinics in the hospital as well".

The results of the ETP were the vision, mission and 2 health education programs as follows:

2.1 Health education vision:

" Collaboration and group power for development of health behavior and environment in order to develop learning, strengthen community and improve quality of life ".

Mission of health education:

" Self-development and being a good health role-model, shared thoughts, actions and decision making in the health team, providing supportive environment conducive to learning, organizing group activities and workshop, developing quality of care continuously ".

2.2 Health education program:

At the end of the lecture on "Health service planning and evaluation", the trainees were divided into 2 groups, especially only one health educator in each group and developed a health education plan regarding hypertensive patients. Two projects were developed: 1) behavioral modification of hypertensive patients, and 2) self-help program for hypertensive patients. The groups presented their projects in the plenary session.

To summarize, the results from the systematic situation analyses regarding organization's structure, health personnel (health care providers), and patients (health care users), showed that health education program has not been implemented, in regard with the systematic standard; structure, process, and outcome, in both the HEd

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Unit and the HT/H Clinic (Nursing Unit of the OPD). The researcher has organized the ETP with the aim to get health educators and professional nurses of the Nursing Unit of the OPD involved in implementing standards HES through the participatory learning. The activities included establishing visions and missions of health education and planning a health education program for hypertensive patients, in accordance with the action research cycle, as shown in Figure 5

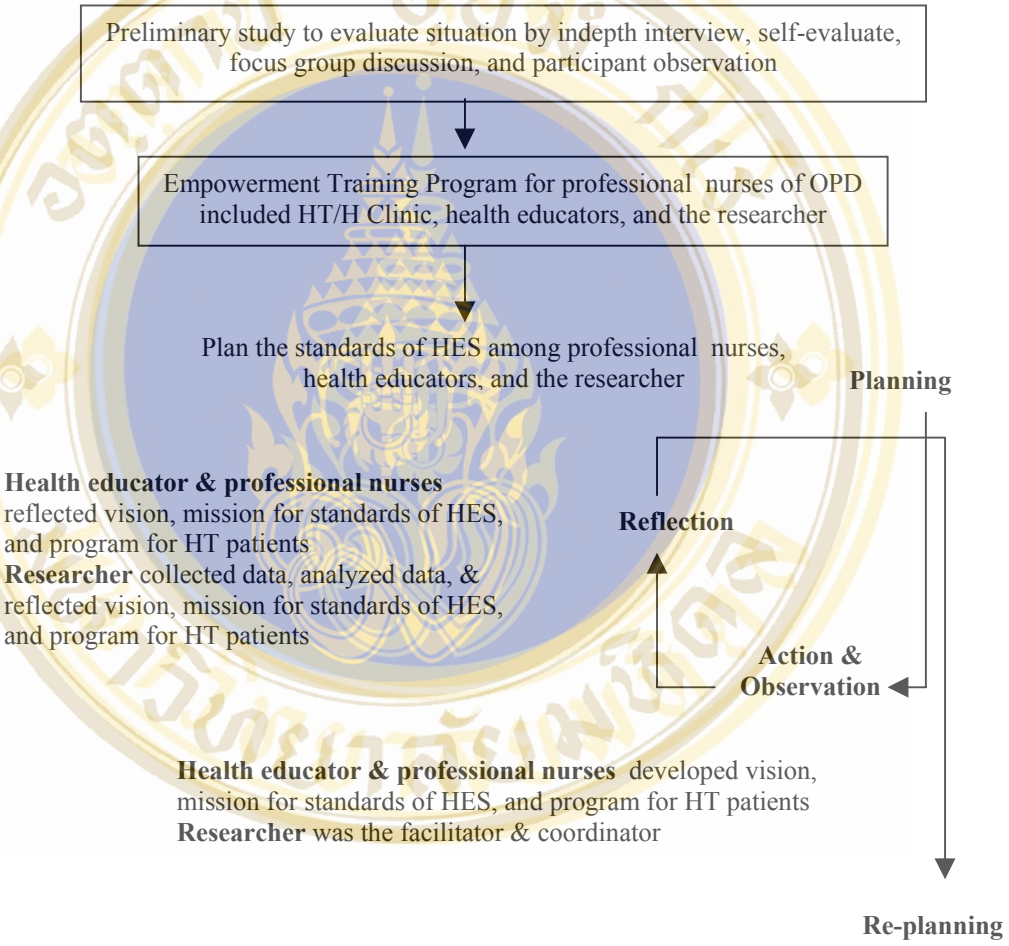

Figure 5 Action research spiral for standards of HES on the ETP

Stage 3: Planning a program according to standards of HES

After the ETP, organizing the meeting health personnel for program implementation by presenting the results of the training's evaluation, vision, mission, and strategies/activities of the health education services have been revised by the experts and the dissertation advisory committee (Appendix C).

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Discussion how to put the program planned into action. The conclusions have made, as every service room under the responsibility of the Nursing Unit of the OPD should provide group-learning experience for patients and their relatives. The meeting group has assigned the health educator to develop the new program by applying from the 2 programs of hypertensive patients on the ETP. The new program entitled "Providing Group Health Learning Experience for Outpatients and their Relatives (PGHLE) ". After revision of the program was made by the group members and the researcher, the program was proposed to the hospital administrator for approval.

Implementation of PGHLE: A case study of hypertensive patients. The program was implemented cooperatively with the HEd Unit and the HT/H Clinic. The HEd Unit was responsible for providing/developing materials and organizing a program on health behavior surveillance. For the HT/H Clinic, it was responsible for organizing a group process for hypertensive patients, including organizing supportive environments conducive to learning. The details were presented in stage 4 and stage 5.

Stage 4: Implementing the program planned according to standards of HES of the HEd Unit

4.1 Developing vision and mission: The meeting was held among the Head of the HEd Unit, health educators, consultants from the Quality Improvement Center, and the researcher, with the aim to identify vision and mission of the HEd Unit. The meeting agreed to set vision and mission of hospital health education in accordance with the ones set by the Provincial Hospital Division, the final conclusions were presented as follows:

Vision of hospital health education:

The process integrated in health services of a hospital by applying behavioral sciences, with the aim to change people's behaviors effectively, which will help them, live in the society happily.

Mission of hospital health education:

1. Health education in hospital is one component of hospital services with the aim to provide services by applying behavioral sciences in curation, prevention, promotion and rehabilitation services.

2. Organizing activities for personnel development in order to develop skills and concepts regarding health education for hospital personnel and related organizations.

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3. Development of information system and new knowledge from behavioral science researchers in order to develop appropriate strategies, activities, and learning materials for changing behaviors of consumers and providers, for getting maximum benefits from existed resources.

4.2 The change of work structure: In order to make health education activities congruent with vision and mission developed, the HEd Unit had changed the former work structure, from 6 sub-units to 4 sub-units, as follows:

The former structure was composed of 6 sub-units: - 1) Information dissemination; 2) Health instruction development; 3) Health counseling; 4) Development of technology and materials; 5) Services and training; and 6) Research and study on health education and behavioral sciences.

The revised structure was composed of 4 sub-units: 1) Health behavior development; 2) Modification of health behaviors and lifestyle; 3) Promotion of health behavior and disease prevention; and 4) Development of hospital health education system.

Establishing visions and missions of health education in the ETP was the visions and missions at the practical level whereby establishing visions and missions of the HEd Unit was aimed to cover health education program of the whole hospital. In order to make a health education program meets the visions and missions stated, the structure of the HEd Unit has been changed from 6 to 4 sub-units. But there were no enough health educators to be assigned to the 4 sub-units. The health educator has expressed the reasons as:

" Actually, there were 4 health educators but 2 of them have been transferred to help in other units. Among the 2 health educators of the unit, only one was qualified to work in the health education position. So even though, the structure has been changed, but the activities might be the same since the number of the health education staff is not enough".

Besides that, the data from observation and interview with other health personnel who worked collaboratively with the HEd Unit, made by the researcher, showed that

" Most of health education activities organized was concentrated on routine work rather than proactive ones. Regarding development of health education

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materials, leaflets/pamphlets, other departments/units sent the content to the HEd Unit for the technical- review and then the drafted materials will be sent to the publishing company. No involvement of the health team in the material production process has been done ".

4.3 Health Behavior Surveillance: The activities were as follows:

The meeting was held for research assistance to explain the objectives of the research project, questionnaire for data collection, including providing practice session of using the questionnaire. At last, interviewing 150 hypertensive patients in February, 2002 to collect the baseline data on health behavioral surveillance.

" The HEd Unit has not yet organized activities regarding health education behavior surveillance. Thus, the data collected from the hypertensive patients in this project could be used as the baseline data of health behaviors and could be the model for other clinics as well ", said the health educator. Another comment was -.

" There was a problem concerning the collection of health behavior baseline data because the inadequate number of staff. The appropriate plan should be made about this matter in order to suit with other clinics.

4.4 Provision and Production of Materials: The procedures were used as follows:

The formal request letters were submitted to the following organizations: the Institute of Geriatric Medicine, Department of Medical Services; Bureau of Mental Health Development, Mental Health Department; Nutrition Division, Department of Health; and Pharmaceutical Association (Thailand).

The meeting was held with the staff of the HEd Unit and the Medical Technology Unit (= MT Unit) and the researcher, to plan the production of the flip chart on "Learning together for Self-care in Controlling Hypertension" and the Manual for using the flip chart. Checking for content validity and the appropriateness of the pictures was also carried out.

The MT Unit produced the flip chart. Revision was made after pretesting the flip chart with the hypertension patients at the HT/H Clinic by the researcher and the nurse of clinic.

The researcher worked with the HEd Unit and the MT Unit produced the video-tape entitled "You Can Control Hypertension". The researcher developed the

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production plan and submitted to the HEd Unit and the MT Unit for comments and revision. Then the plan was submitted to the hospital administrator for approval.

Meeting among the HEd Unit, the MT Unit , and the researcher; the meeting group has assigned the head of MT Unit to developed video script. Until 3-4 weeks it has not been finished, the Head of MT Unit said:

" At present, the urgent task was to make the new Identification Card for all hospital staff. One of the staff of our unit was responsible for this task but three mistakes were found that the ID cards' names were not relevant with the card owners' pictures. So I have to manage and supervise that staff closely and did not have enough time to write the script of hypertension".

Finally, the videotape script was developed by the researcher. Its content and technological appropriateness were checked by the specialist in coronary heart disease, general practitioners, public health media experts, dissertation committee members, health educators, and the Head of the MT Unit. The script was revised again by the Head of the MT Unit. Even though the Head of the MT Unit has been trained in videotape script writing but the MT Unit could not produce the videotape as planned because the MT unit was very busy with other urgent tasks during that period. Therefore, the HEd Unit was responsible for producing the videotape.

" The script made was too academic and was not suitable for hypertensive patients. The script needed to be improved to make it more dramatic and more interesting for patients. The production of video- tape needs adequate time, since there are many steps to be followed, starting from writing the script, production for pre-testing, pre-testing with the target group, and lastly, revision. Therefore this task has been postponed ", the head of the MT Unit expressed.

" I'm not sure whether or not this video-tape production can be accomplished because I have to coordinated with many units, MT Unit, physicians, nurses, hypertensive patients of the HT/H Clinic, and other actors/actresses. The HEd Unit is also busy with the preparation of the documents to be ready for the auditing of the Hospital Quality Control Unit ", a health educator said.

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Additionally, the HEd Unit and the MT Unit had worked together to produce the touch-on-video-tape series and hypertension is one of the 15 topics. The video-tapes were composed of content presentation and the question-answer-session.

" The media were produced already but have not installed. The MT Unit's head informed us that we have to wait for equipment's for installation.", said the health educator.

In conclusion, the activities of the HEd Unit were composed of: the professional health educators worked cooperatively with the researcher in identifying visions and missions of health education in the hospital; improving the structure of the HEd Unit; and collecting data from hypertensive patients for health behavior surveillance. In regard to PGHLE: HT, the health educator had provided materials and worked collaboratively with the Health Medical Technician (HMT) and the researcher, to produce the flipcharts and videotapes. But for videotape production, this task has not been accomplished during this research project. The activities implemented by the HEd Unit were presented in the action research cycle, shown in Figure 6

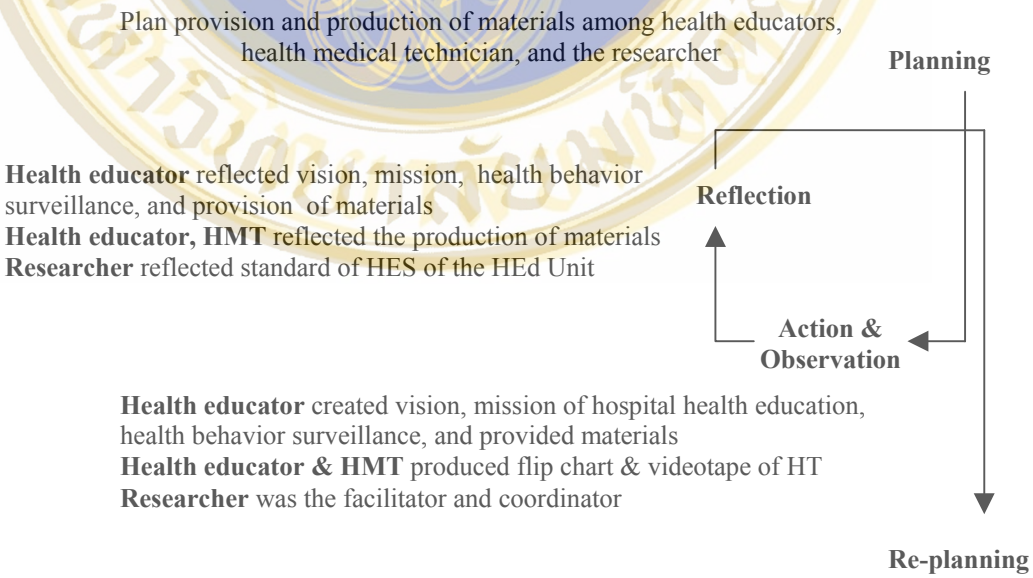

Figure 6 Action research spiral for standards of HES of the HEd Unit

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Stage 5: Implementing the program planned according to standards of HES of the HT/H Clinic

5.1 Implementing the program on PGHLE: HT

Meeting between the researcher and the research assistance to clarify steps of program's procedures and collecting data.

Study the health care system provided for the hypertensive patients at the HT/H Clinic and make use of the data collected in implementing the program; with the caution that the research project should not disturb the regular clinic activities. The HT/H Clinic hours were Monday 13.00-16.00 hours and Friday 9.00-12.00 hours. The coordination was also made among the Head of the HT/H Clinic, professional nurses, pharmacists and nutritionists.

The samples of 50 patients for the experimental group and 50 for the comparison group were selected by using simple random sampling from health behavior surveillance data of 150 hypertensive patients by aforementioned criteria.

Within the experimental group, the group learning experiences were organized 2 days a week, on Monday 10.30-12.00 hours and Friday 7.30-9.00 hours. The group was composed of 3-8 patients. Each group participated in the program at least 5 times, 1-2 month apart. The reminding was made by giving a call at least 3 times, after participating in the group activity 2-4 weeks and 1-2 days before the appointment. Therefore, for the comparison group, the health team members including distribution of materials carried out individual health education at the first time, but group activities have not set.

The patients have been involved in the activities of the "PGHLE: HT" at least 5 times, whereby the 1st and the 5th were the data collection before and after the program and the 2nd to the 4th sessions were concerned with group process to exchange patients' experiences regarding hypertension control behaviors. The participatory learning was emphasized. Specific objectives and principle issues have been set for each group process accordingly with the groups' needs. The group's activities were flexible in order to meet the group's needs (Appendix D)

The first phase of the program, the researcher was a group facilitator because the professional nurse of HT/H Clinic responsible for the program especially on Monday

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had observed the group process organized because she did not feel confident and needed more experience in order to be able to answer all of the patients' problems.

" Individual health teaching has been done mostly, but for the group approach, it has been used by using the teacher-centered approach. Regarding group process, the emphases of participatory learning and student-centered approach have not been employed. I'd like to join the program by being an observer first whereby the researcher should act as the group facilitator with the hypertensive patients. Through this way, I can learn before practicing in the real situation".

In addition, she was also worry about her responsibility as a nurse in the clinic. These problems were discussed with the Head nurse of HT/H Clinic. Finally, the daily timetable of assigned responsibility was developed for the clinic's personnel.

Later, the professional nurse of the HT/H Clinic was trained to be a group facilitator for 2 times by the researcher. The group discussion guideline was used along with the flip charts and the researcher acted as a patient. Self-evaluation and feedback from the researcher were made. Then, the professional nurse had organized a group process with the groups of hypertensive patients and the researcher was the observer. It has been found that the nurse could be the good facilitator.

" I'm so worry about the activities to be performed. I don't know how to start my talking with the patients. But after I've tried to be a group facilitator and practiced with the hypertension patients, I've got more self-confidence and I believed that the more I've practiced the more skills I've gained".

" Regarding the appropriate number of the patients in the group for the group health education approach, I think that after I've got experiences in working with different numbers of the patients in each group, I will get experiences and learn more. But for the beginning, the researcher should be the observer and provide me with the feedback. The exchange of experiences with the researcher will help me learn more and be able to put into practice effectively in the future".

" The hypertensive patients were very interested in and cooperated with the group activities. They have exchanged ideas and experiences about self-care behaviors whereby I've learned many things from them and I can apply in other patient groups".

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" The change of group's facilitator makes me get myself to be prepared and alert all the time. I've studied more about the disease. Before I was not interested in reading any materials distributed by the drug dealers but now I've read all of those materials in order to be ready in the group activities with the patients who may ask variety of questions about their illness"

" The patients got many benefits from inviting other disciplinary staff to join the group activities, e.g. pharmacist, nutritionist. They can ask many questions directly with the experts and the nurses learned more from the answers of those questions asked".

The feedbacks from the pharmacist and the nutritionist who have participated in the group activities of "PGHLE: HT" were as follows:

" It was a good opportunity for me to participate in this program because I like this kind of proactive activities that enriched my experiences. It was found that patients were very interested in asking many questions about drug use, especially anti hypertension drugs. I hope that this type of the program should be continued and I'll give the full support ", said the pharmacist.

" After I've participated in the group activities regarding diets for hypertensive patients, it was found that the patients were interested in this issue and enthusiastic to ask many questions. They have exchanged their various aspects of their experiences and asked many questions regarding appropriate diets for each meal. The time for this session went so fast ", said the nutritionist.

For the hypertension patients, they have expressed their opinions about participating in the group process's activities and hypertension control behaviors concerning food consumption, physical exercise, stress management, medication taking, appointment keeping, and service satisfaction, as follows:

Food consumption behaviors

" Control of food consumption is very difficult. I ate as much as I want and got obesity. I have knee joint pain because of the over weight. I think I must control my diet and practice physical exercise".

" The food list for hypertensive patients distributed was very useful and helped me learn about the kinds of foods that I should and should not eat because of the high amount of salt contained. The physician and nurses had recommended me to limit

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taking the high salt-contained food before but they did not tell the types of foods that contained high salt".

" Regarding the Food Exchange List, at first I was confused about the numbers presented. But after the nutritionist showed us the measured cup, table spoon, tea spoon, including the nutrition exhibition, I've understood clearly about the amount of each kind of food that should be taken in each meal".

" Before, I believed that eating more fruits will replace other kinds of food and can help me control the body weight effectively, for example, I can eat about 2 kilograms of mangosteen. But, from participating in the group activities, I've learned that we should consume variety of foods, with appropriate amount, and all kinds of foods groups, will help us control the body weight, including appropriate physical exercise".

Physical exercise behaviors

" Before, I never thought about physical exercise, but after participating in the group activities and knew that other group members have practiced physical exercise, I've tried and found that my feeling was better, with no previous fatigue and my knee joint pain has been decreased".

" The first day after practicing physical exercise, I've got leg pain and body fatigue, but after regular practicing I could climb the stairs tirelessly, with less knee joint pain, and have a good sleep".

" Presently, I try to practice physical exercise every the other day. I feel that my health is better and have a stable body weight. My doctor admired me that I could control my body weight effectively. I feel proud and have high motivation to practice physical exercise".

Stress management behaviors

" Participating in the group activities helped me meet my classmate whom I can talk to and who understands me better than my children/grand children. After I've expressed my opinions I felt better and my stress has been released. But sometimes I felt that the persons that I've talked to may get boring".

" Waiting for my children who got home late at night caused my bad sleep. My friends in the group told me to not worry too much about my children since they are old enough to take care of themselves".

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" Every problem can be solved. Do not get more stress on the problems. Stress could cause cerebral hemorrhage or other serious complications. The best way is to think that what ever will be, will be".

Medication taking behaviors

" Taking diuretic drug makes me urinate frequently, so I did not take the drug regularly. So my blood pressure level could not be controlled. I'm afraid to tell my doctor. But after I joined the group, I found out that my friends did the same thing as I've done, but they have tried to change their behaviors. I decided not to do that again and I'm afraid of having complications".

" Hypertension is a chronic disease that needed to be controlled by medicine. Medication is a part of my life and I have to take care of myself so I don't have to add any burden to my children".

Appointment keeping behaviors

" I've tried to keep every appointment but sometimes I have to skip it because of forgetting and some important events occurred, e.g. important business, sickness or death of relatives, etc."

" Sometimes I missed the appointment because no body accompanied me, e.g. my child was busy and he/she did not let me come by myself. Presently, if I did not keep the appointment, the HT/H Clinic called me or mailed the reminded postcard to me. I think that service was very good ".

Service satisfaction

" I've got the appointment on Monday afternoon but I have to come early in the morning to report to the registration unit to get the ordered number to see the physician (first come first serve basis). Sometimes I came early to get the blood test. So I have to wait for the afternoon appointment. Instead of wasting the time, I've a chance to talk to other HT patients group and exchange opinions and experiences with each other. This type of activities was very useful and should be continued".

" For Friday appointment, if the group activities will be organized, the time should be set before 9.00 am., before meeting with the physician. So the patient will not worry about the order to see the physician and all the patients arrived at the hospital early".

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" I have come to this clinic for many years and I found that the clinic has been improved a lot even though the patients' number has been increased. It was the good opportunity for the patients to talk with the head of the clinic directly so the patients' needs and the clinic's limitations have been clarified. If it is possible, this type of activities should be organized every month".

5.2 Developing Supportive Environment

The place for implementing health education activities: For implementing health education activities on Friday, 7.30-9.00 a.m., Room No. 8 of the Clinic was used. But there was a problem regarding the use of the room on Monday, 10.30-12.00 a.m. because the room was used for providing services of the Lung Clinic. The meeting was organized by moving to the rooms of the Narcotics Clinic and sometimes at the Antenatal Clinic, but the room was not convenient because the meeting rooms were far from the HT/H Clinic. Lastly, the meeting place was moved to the meeting room of the Internal Medicine Department.

" There was a problem regarding the room for organizing the group activities that can be used regularly. It was not convenient for the patients to move from one meeting room to another meeting room. This aspect will be discussed formally and resolved" expressed the head nurse of the HT/H Clinic.

Information Corner: The information corner was provided at the clinic, which was responsible by a nurse of the HT/H Clinic. The materials, i.e. poster, leaflet, etc. was available at the corner.

"From observation, it was found that the health education materials provided at the health education corner were run out every day because HT patients took them after reading and the patients from other units took out the materials".

5.3 Meetings were organized during program implementation with the aim to follow up the progress and to solve the problems occurred, by having 3 meetings with the Head Nurse and professional nurses of the HT/H Clinic.

"HT/H Clinic was open 2 days a week. The activities of the PGHLE:HT, scheduled on Monday, have been responsible by a professional nurse of the HT/H Clinic. Another nurse needed to be assigned to be responsible for the Friday activities; therefore this issue has been discussed with the head nurse of the OPD and also was brought up during the meeting," said the head nurse of the HT/H Clinic.

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"Regarding the nursing activities of the OPD, each clinic has been assigned to present its outstanding activities in order for them to be summarized in the outcome of nursing quality development of the OPD Nursing Unit. The HT/H Clinic has presented the activities of the "PGHLE: HT" as their outstanding activities. The presentation included concepts, activities and the outcome of the program".

"Bringing a group facilitator of the HT patients where participatory learning was emphasized, not only helped create an exchange of information and experiences, but also helped me to be ready regarding a variety of knowledge as well as maintaining a trustful personality. I was also eager to observe the facilitating process for HT patients by the professional nurse on Friday in order to have more experiences and learn more thoroughly within the exchanging of these various experiences," said the nurse of the HT/H Clinic.

To summarize, the activities of the HT/H Clinic have been planned cooperatively among the professional nurse of the HT/H Clinic and the researcher in implementing participatory learning process in the PGHLE: HT. Other concerned health personnel have been invited to participate in the program, e.g., pharmacist, nutritionist. Supportive environments that conducive to learning have been provided, e.g. providing an appropriate meeting room for implementing group activities, a health information corner, etc. The activities were implemented accordingly with the action research cycle, as shown in Figure 7

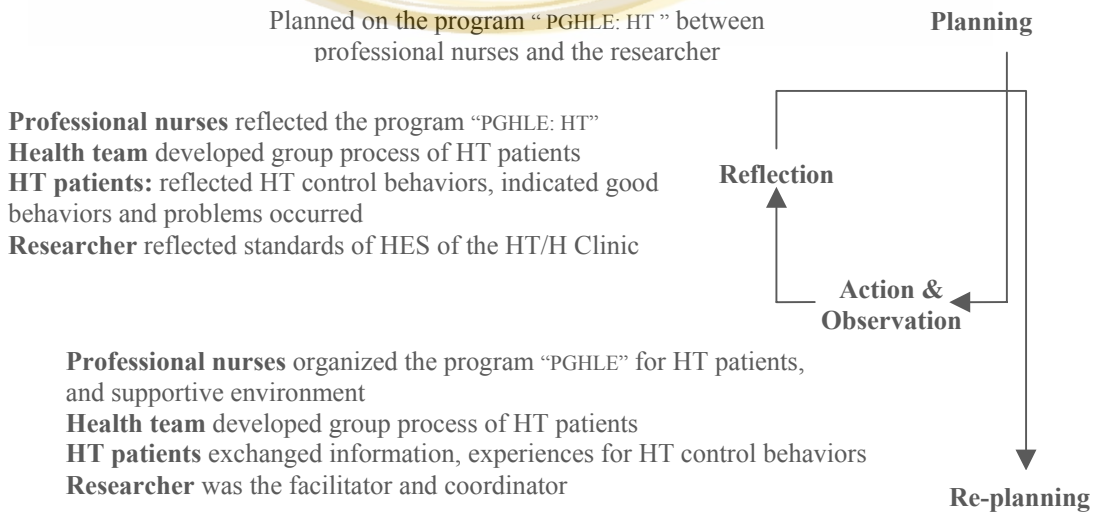

Figure 7 Action research spiral for standards of HES of the HT/H Clinic

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Stage 6: Reflection implementing the program according to standards of HES on the HEd Unit and the HT/H Clinic

6.1 Meeting with health personnel: Two meetings with health personnel were held during the implementation of the program in order to follow up and revise the program, as follows:

6.1.1 The First Meeting, was held in March, 2002, as following agenda:

1) Informing the results of the program implementation whereby health education was one indicator of the nursing quality indicators.

2) Presenting the progress, problems, obstacles and solutions of the program on "PGHLE: HT" of the HT/H Clinic.

3) Presenting the progress, problems, obstacles and solutions of the provision and production of materials and health behavior surveillance of the HEd Unit.

6.1.2 The Second Meeting, was held in August, 2002, as following agenda:

1) Setting the data for pre-survey Hospital Accreditation of the Hospital Development and Accreditation Team.

2) Presenting the results of the program implementation and health behavior surveillance of 150 hypertensive patients of the HEd Unit.

3) Problems and obstacles of program implementation. The problem about the meeting room for health education activities on Monday has been solved by asking the Head Nurse of the HT/H Clinic to get improving from the Head Doctor of Medicine Department for using the meeting room of the Internal Medicine Office.

4) Organizing a health information corner and assigning a responsible person.

5) Appointing a professional nurse to be responsible for the program on "PGHLE: HT" of the HT/H Clinic on Monday and on Friday a professional nurse of the Chemotherapy Room was also assigned for the same responsibility. Because she did not attend the ETP, the project activities were summarized for her by the researcher and giving her all related project materials. The clinic nurse who was responsible for health education activities in the HT/H Clinic has explained about her experience in organizing group process. Discussion, questions and suggestions were followed. The head nurse of HT/H Clinic had suggested that the nurse from

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Chemotherapy Room should observe the group process before taking her responsibility of the Friday Clinic.

6) The procedure for putting the program "PGHLE" into practice of every clinic including problems and obstacles.

7) Developing related media and materials for supporting the program "PGHLE".

6.2 Reflection by evaluating the research project

The results of the project were evaluated in accordance with the different target groups, as follows:

6.2.1 The group that implemented the program**.** This group was consisted of the different groups of health personnel as follows: health educators, professional nurses of the OPD and the HT/H Clinic. The following evaluation was made:

1) Pre-training evaluation: The evaluation of the following variables was made: self-esteem, perceived self-efficacy and skills in standards of HES, and job satisfaction (The questionnaire set 1 for health educators and questionnaire set 2 for professional nurses).

2) Post-training evaluation: The evaluation of the ETP was made by health personnel (Questionnaire set 3).

3) Post-training evaluation at 1 month after the ETP, before starting the program "PGHLE" (Questionnaire set 1 and set 2).

4) Evaluation at the 7th month, completed of the program (Questionnaire set 1 and set 2).

6.2.2 The target group that used to measure the program's impact which were the hypertensive patients. The following evaluations were used:

1) Pre-test Evaluation before implementing the program on " PGHLE: HT ". The following variables were evaluated: knowledge and perceptions on hypertension, self-efficacy for controlling hypertension, hypertension control behaviors, satisfaction of health care services (Questionnaire set 4).

3) Evaluation at the end of the program (Questionnaire set 4).

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To summarize, the meetings have been organized to reflect and revise the implementation plan of the standard health education program of the HEd Unit and the HT/H Clinic, including the resolution of the problems /obstacles regarding the room for organizing health education activities, the assignment of the person to be responsible for the "PGHLE", and the health information corner, and assessing the achievement of the program by measuring changes among health personnel and project's outcomes on hypertensive patients. The reflections of the program's activities accordingly with the action research cycle were shown in Figure 8

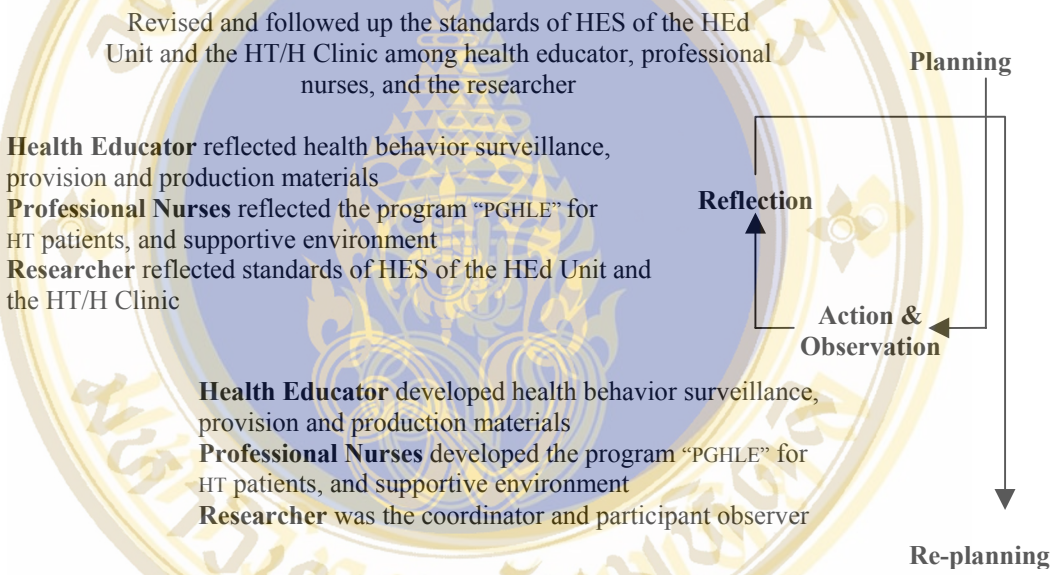

Figure 8 Action research spiral for standards of HES of the HEd Unit and the HT/H Clinic

Stage 7: Sustainable developmental guidelines

Meeting for summarizing the program, was held in September, 2002. The meeting was held among health personnel in order to summarize the results of the program by making a summary of the overall health education programs of the Nursing Unit of the OPD and of the HT/H Clinic, with the special case of hypertension. The presentation was made in relation to concepts, activities, outcomes, problems, obstacles, and solutions, including looking for effective ways to develop the quality standards of HES and to make it a sustainable program. The responsible person for health education program was assigned, the supervision system was

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assigned and regular follow-up program was organized in order to evaluate the program from various levels of supervisors.

"Every clinic expressed its need to organize the "PGHLE", because this program was one of the quality developmental activities of the OPD. Every clinic can study the activities' procedures from the HT/H Clinic and apply to its own environment effectively. If the problems and obstacles occurred during the implementation, or they have the need to exchange their personal experiences, they can bring these issues to be discussed during the monthly meetings of the OPD," said the head nurse of the OPD.

"It was expected that this project could be continued. The Health Education Unit will be pleased to support the needed materials including printed materials and other electronic media. The staff of each clinic can be authorized to borrow or ask for materials for supporting the activities of program "PGHLE" from the Health Education Unit," expressed of the health educator.

"The Health Education Unit should prepare a list of various materials of the unit and distribute it to each clinic in order to facilitate the activities of program "PGHLE","professional nurses of the OPD said.

"Inviting the experts to join the "PGHLE", e.g. nutritionist, pharmacist, etc., was the teamwork activities performed among various disciplines. This opportunity can be continued to ensure the kind of quality service development that is centered on the patients," said the head nurse of the OPD.

Standards of HES of the HT/H Clinic was applied to other clinic of the OPD, for example; The Head Nurse of the Gynecology Clinic and the professional nurse who was responsible for health education activities in the Gynecology Clinic have come to observe the health education program "PGHLE: HT" of the HT/H Clinic. The two professional nurses were assigned by the head nurse of HT/H Clinic to present the on-going project, problems, obstacles and solutions. The researcher had also participated in the presentation and made some suggestions.

"The Gynaecology Clinic has implemented the "PGHLE", and it was found that the patients had participated and were interested in exchanging their experiences. But there were some questions asked by the patients that the facilitator could not answer. In order to know how the facilitator should solve this problem, I had participated in

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observing the activities carried on by the HT/H Clinic," said the head nurse of the Gynaecology Clinic.

Supervising and following-up the program: After the completion of the program the researcher has visited the program in order to observe and sustainable activities. The health education program for "PGHLE: HT" have been continue in the HT/H Clinic as well as other clinics that started this type of the program, e.g. Gynecology Clinic, Eye Clinic, General Internal Clinic, etc. The Head Nurse of the OPD, has appointed the head nurses of those mentioned clinics were the supervisors and responsible for following-up in each clinic. The outcomes of the project were evaluated by the academic team of the Nursing Unit, OPD. The program "PGHLE" for patients and their relatives was one of 13 of quality improvement activities of the Nursing Unit, OPD.

In summary, the process of improving the standards of health education services of the Health Education Unit and the HT/H Clinic, accordingly with the action research cycle through empowerment program with the emphasis on participatory learning: experiential learning and group process including adults learning, was composed of seven stages as follows: base line data study for situation analysis, empowerment training program for health personnel, planning a program in standards of health education services, implementing the program planned of the Health Education Unit, implementing the program planned of the HT/H Clinic, reflection of the feedbacks of the programs organized by the two units, and sustainable developmental guidelines of the program, as shown in Figure 9

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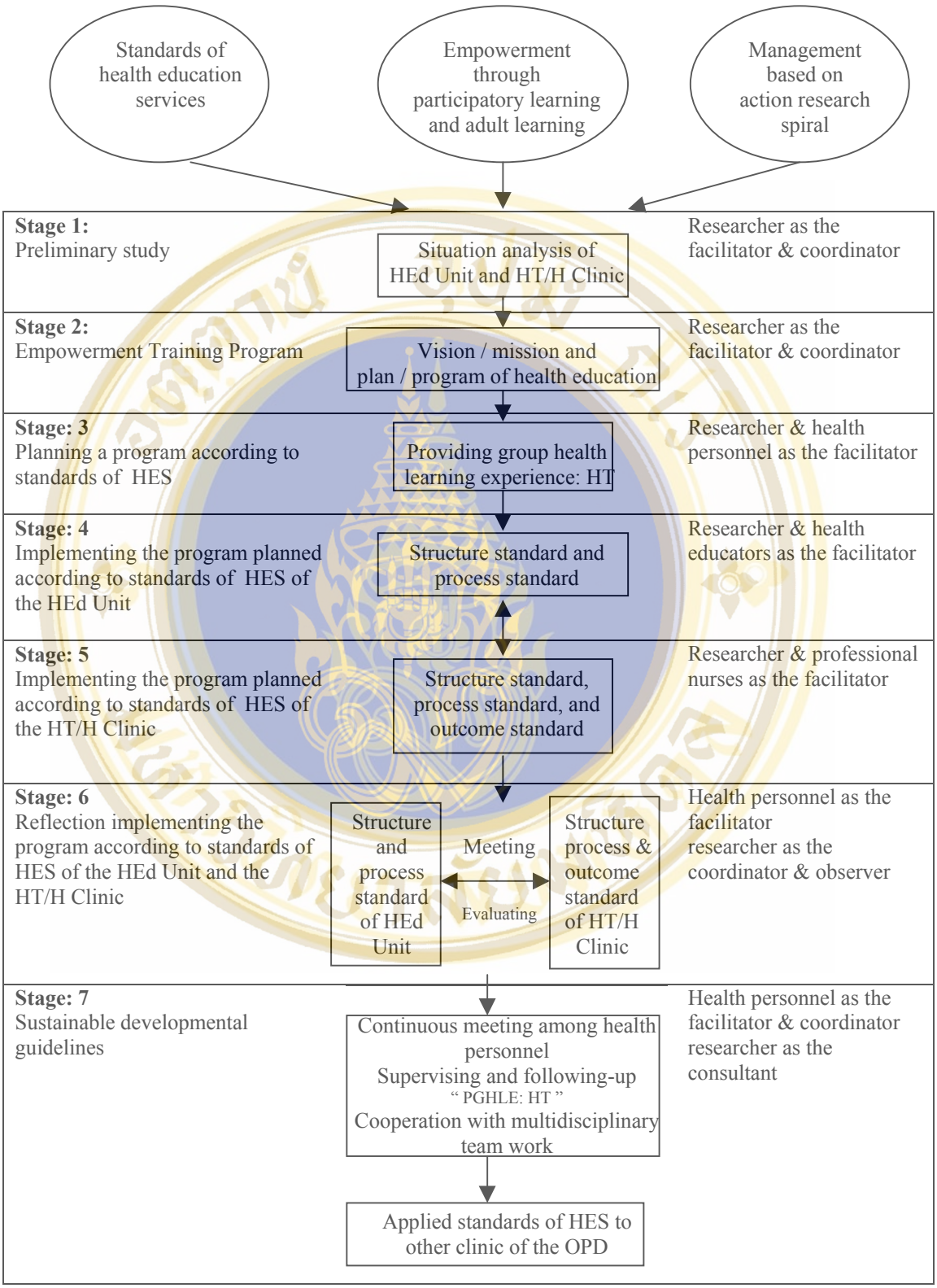

Figure 9 Developmental process according to standards of health education services (HES) of the Health Education Unit and the HT/H Clinic

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Part 2: The effects according to standards of HES on the HEd Unit and the HT/H Clinic

In organizing of the research project, one of the activities organized was the "Empowerment Training Program of Health Personnel according to Standards of Health Education Services to Promote Health Promoting Hospital Policy", developed by the researcher, with the cooperation of the Quality Improvement Center, Rajavithi Hospital; Nursing Department of the OPD; and Health Education Unit. The outcomes of the ETP were vision, mission, strategies/activities, including 2 programs of health education services: "Behavior Modification Program for Hypertensive Patients" and "Self-Help Group Program for Hypertensive Patients". These two programs have been combined to be one program "Providing Health Group Learning Experience for Outpatients and their Relatives: A Case Study of Hypertensive Patients", organized by standards of HES on the HEd Unit and the HT/H Clinic. The results were presented, accordingly with structure standard and process standard of the HEd Unit, and structure standard, process standard, and outcome standard of the HT/H Clinic as follows:

2.1 The effects according to standards of HES on the HEd Unit

2.1.1 Structure standard of the HEd Unit

1) Establishing health behavior development plan: With the cooperation with the Nursing Department of the OPD, the program on "PGHLE" has been organized with the following aims: 1) every medical check-up room organized group health learning experience for patients and their relatives; 2) the patients and their relatives had more chance to their health related experience; 3) the patients can change their self-care behaviors regarding their illness with the support from their relatives; and 4) to help patients and their relatives be able to observe their abnormal symptoms that may occur, by using the HT/H Clinic as the model for implementing the activities.

2) Providing and developing materials: The development of the flip chart on "Learning Together for Self-care in Controlling Hypertension's Complications" was carried out with the cooperation from the HEd Unit, the Medical Technology Unit (MT Unit), and the researcher. The team have worked together to plan the activities for testing the technical validity (the relevance of pictures and

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contents). The MT Unit was responsible for construction the flip chart. Then, the flip chart was pretested with 4 groups of patients, 5-6 patients each, by the researcher. There were 3 pictures that need to be revised. For the Manual of the Flip Chart, it was composed of the contents regarding the meaning of blood pressure and hypertension; types of hypertension, signs and symptoms, treatment, types of lower-blood pressure medicines, complications, and things to do for controlling blood pressure by using and non using medicines. Have the nurse of the HT/H Clinic tried the revised flip chart with the patients again and the flip chart has been finally revised before using with the target sample.

The development of Videotape on "You Can Control Your Blood Pressure". The researcher has prepared the project proposal of the project and submitted the project to the HEd Unit and the MT Unit for revision before proposing to the administrator. The researcher prepared the videotape's script, which has been checked, for content and technical validity by coronary heart disease experts, general medical practitioners, public health material experts, dissertation advisors, health educators, and the head of the MT Unit. But, because the MT Unit was busy with other responsibility assigned by the Department of Medical Services and the Quality Improvement Center, Rajavithi Hospital, this project of videotape development was carried out by the HEd Unit of the hospital.

Providing Other Materials. Other materials used in this project were supported by various organizations: Institute of Geriatric Medicine, Department of Medical Services; Bureau of Mental Health Development, Department of Mental Health; Nutrition Division, Department of Health; and the Hospital Pharmaceutical Association (Thailand).

3) The change of work structure: Formerly, the work structure of HEd Unit was composed of 6 sub-units: 1) Information Dissemination; 2) Health Instruction Development; 3) Health Counseling; 4) Development of Technology and Materials; 5) Services and Training; and 6) Research and Study on Health Education and Behavioral Sciences. Then, the work structure has been revised in order to make the structure congruent with the vision and mission developed, by dividing into 4 sub-units: 1) Health Behavior Development; 2) Modification of Heath Behaviors and Lifestyle; 3) Promotion of Health Behaviors and Disease Prevention; and 4)

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Development of Hospital Health Education Service System. But the allocation of responsible health educators could not do because of the inadequate number of health educators. There were only 2 health educators who worked full-time and 2 0f them moved to work in other units.

2.1.2 Process standard of the HEd Unit

1) Development of self-care manual: The manual was composed of the following issues:

Hypertension, causes, signs, treatment, things to do regarding controlling hypertension by pharmacological treatment and non- pharmacological treatment.

Physical exercise plan, how to form a physical exercise habit, warming-up, physical exercise record booklet.

Nine Dietary Commandments, diets for hypertensive patients, table of food exchange lists, example of recording and analysis of foods, Table of Standard height and weight.

Stress-a disease of modern people, appropriates coping methods.

Things should know about using anti-hypertensive drugs, diuretic expired medicine-how to take care of the elderly, five commandments before taking medicine, precautions of taking medicine.

Decrease/quit smoking, decrease/quit alcohol drinking.

2) Health behavior surveillance: The data were collected from 150 hypertensive patients of the HT/H Clinic in order to make use for planing and implementing health education program for developing health behavior in the clinic.

3) Health information system development: The planning for utilizing health behavior surveillance data to develop a health information system has been made. But the plan could not be implemented because of the limit of time and personnel, since some health educators did not have computer skills.

4) Supervision: The supervisory process was employed with the aims to make suggestions, clarify the work procedures, motivate, remedy, promote, and to enhance abilities for carrying out the program, by the head of the HEd Unit, assigned professional health educator and the numbers of the Quality Improvement Team of Rajavithi Hospital.

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5) Evaluation: The evaluation has been done 3 times, self-evaluation standards of HES of the HEd Unit, evaluation during the ongoing program, and post-program evaluation.

6) Research: The further research plan has been made regarding non-communicable diseases, heart diseases.

2.2 The effects according to standards of HES on the HT/H Clinic

2.2.1 Structure standard of the HT/H Clinic

1) Establishing health behavior development plan: With the cooperation from the HEd Unit, the program on "PGHLE" of hypertensive patients has been developed.

2) Assigning the responsible professional nurses: Because the HT/H Clinic is opened 2 days a week, the head nurse assigned a nurse from the HT/H Clinic be responsible for Monday's activity and another professional nurse working in Chemotherapy Room be responsible for Friday's activity.

3) Providing necessary media & materials: The adequate materials were provided by the HEd Unit and other organizations, i.e. Nutrition Division, Health Department; Institute of Geriatric Medicine, Department of Medical Services; Bureau of Mental Health; Hospital Pharmaceutical Association, whereby some materials were developed by the researcher with the cooperation from the HEd Unit, and HT/H Clinic.

4) Organizing supportive environment

One special room was available for organizing health education activities, Room No.8 of the HT/H Clinic. In case that this room was not available, another room in the Bureau of the Internal Medicine or Chemotherapy Room was used.

The health information corner was established. Posters, leaflets, etc. for specific disease of each clinic day were available. One professional nurse was assigned to take care of this corner.

2.2.2 Process standard of the HT/H Clinic

1) Implementing the plan: The HT/H Clinic was designed to be a model clinic for implementing the program on "PGHLE" with hypertensive patients. Coordination was also made with health team, e.g. pharmacists, nutritionists. Other

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clinics of the OPD were interested in this type of the program they had sent their staff to study and observe the program at the HT/H Clinic.

2) Supervision: The follow-up procedures have been set and implemented, with the aims to: clarify the program's procedures, suggest, observe, motivate, remedy, promote, and to enhance abilities for carrying out the program. The supervision was done by the head nurse of the OPD, the head nurses of each clinic of the OPD, academic team of the Nursing Unit of the OPD and the staff of the Quality Improvement Team of Rajavithi Hospital.

3) Evaluation: The evaluation has been carried out 3 times, self-evaluation in accordance with the Health Education Standards of the HT/H Clinic, evaluation during the ongoing program, and post-program evaluation.

2.2.3 Output standard of the HT/H Clinic

1) Hypertension control behaviors: Hypertensive patients' behaviors regarding knowledge, perceived severity and susceptibility of hypertension, self-efficacy of performing hypertension control behaviors, hypertension control behaviors:- medicine taking, dietary control, physical exercise, stress management, and appointment keeping.

2) Satisfaction: Health personnel satisfied with their performance accordingly with standards of HES and the hypertensive patients satisfied with health education and health care services received.

In summary, the effects according to standards of HES of the HEd Unit composed of structure and process standard and the HT/H Clinic composed of structure, process, and outcome standard as shown in Figure 10.

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Health Education Unit		Hypertension/Heart Clinic
1. Structure Standard 1.1 Establishing health behavior development plan "Providing Group Health Learning Experience" for hypertensive patients was carried out with the cooperation with the Nursing Unit of the OPD. 1.2 Providing and developing materials - The flip chart & videotape of HT were developed. - The touch on computer of HT was developed. - Providing other materials were supported by various organizations. 1.3 The vision, mission, and the change of work structure of Health Education unit were developed. **2. Process Standard** 2.1 Self-care manual of HT was developed. 2.2 Health behavior surveillance was collected from 150 HT patients of the HT/H Clinic. 2.3 The supervision was done by the head of the Health Education Unit, assigned health educator and the staffs of the Quality Improvement Team of Rajavithi Hospital. 2.3 The evaluation has been done 3 times, self-evaluation in standards of health education services of the Health Education Unit, evaluation during the ongoing program, and post- program evaluation.	COORDINATION ⟷ FACILITATION	**1. Structure Standard** 1.1 Establishing health behavior development plan "Providing Group Health Learning Experience=PGHLE" for hypertensive patients was carried out with the cooperation with the Health Education Unit. 1.2 The professional nurses were assigned to be responsible for health education activities. 1.3 The Health Education Unit and other organizations provided the necessary media and materials. 1.4 Organizing supportive environment, one special room was available for organizing health education activities and the health information corner was established. **2. Process Standard** 2.1 Implementing the program on "PGHLE" for HT patients was carried out with the cooperation with health team. 2.2 The supervision was done by the Head nurse of the OPD, the Head nurse of the HT/H Clinic, academic team of Nursing Unit of the OPD, and the staffs of the Quality Improvement Team of Rajavithi Hospital. 2.3 The evaluation has been carried out 3 times, self-evaluation in standards of health education services of the HT/H Clinic, evaluation during the ongoing program, and post- program evaluation. **3. Outcome Standard** 3.1 Knowledge, perception, and self-efficacy of HT 3.2 Hypertension control behaviors (practical behaviors). 3.3 BP level can be controlled; Standard BMI. 3.4 Health personnel satisfied on their performance and the HT patients satisfied on health education & health care services received.

Figure 10 The effects according to standards of Health Education Services of the Health Education Unit and the Hypertension/Heart Clinic

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Part 3: The changes according to standards of HES behaviors among health personnel after attending the ETP with regard to: self-teem, self-efficacy, skills, and satisfaction on performing standards of HES

3.1 General information of health personnel

3.1.1 General information of health educators: Two health educators participated in the ETP, later on, one person moved to work in the Department of Medical Services, so only one health educator joined the program. This male health educator aged 42 years, the highest degree was Master Degree in Health Education, with the 7 classified rank, and has worked in this position for 19 years.

3.1.2 General information of professional nurses, OPD: There were 17 nurses, age average was 51 years, 94.1 percent graduated Bachelor degree. The group was composed of heads of the clinics (47.1%), clinic nurses (52.9%). The average year of nursing practice was 10 years (Table 6). Among 17 nurses, 3 of them worked at the HT/H Clinic as professional nurses. Thirty three percent of the group were clinic head nurses and 66.7 percent were clinic nurses (1 nurse worked at the HT/H Clinic and 1 worked at the Chemotherapy Room who was assigned to join health education activity of the HT/H Clinic). The average working year in the Clinic was 2.67 years .

Table 6 Number and percentage of general data of 17 professional nurses of the OPD

Variables	Number	Percent
Age (year)		
40 – 50	9	52.90
51 – 60	8	47.10
Min 46 Max 57 Mean 51 ± 2.76		
Education		
Bachelor degree	16	94.10
Master degree	1	5.90
Position		
Clinic Head Nurse	8	47.10
Clinic Nurse	9	52.90
Work experience in the Clinic (year)		
1 – 10	11	64.70
11 years upper	6	35.30
Min 1 Max 31 Mean 10.53 ± 8.84		

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3.2 The changes of behaviors of health personnel: The changes of 4 parts of behaviors regarding self-esteem, self-efficacy, health education service skills, job satisfaction according to standard of HES were measured from 3 times of evaluation: - before the ETP, before the implementation of program on "PGHLE: HT", and after implementing the program 7 months. The results were as follows:

3.2.1 Health educators: The data from the evaluation of 3 aspects showed that the score of almost all behaviors was increased, except for the skills on health education services. It was found that the maximum score of this part was equal (45) of all 3 measurement. Regarding self-efficacy of process standard and structure standard measured at the 2nd and the 3rd time, the same score were found, score of 74 and 60, respectively. For the job satisfaction regarding role enactment, the score of the 2nd measurement has decreased compared with the score at the first measurement, and the score of the 3rd measurement has increased, the scores of 12, 11, and 15 respectively.

3.2.2 Professional OPD nurses: It was found that the score of perceived self-esteem has increase gradually, compare between the 1st, 2nd, and the 3rd, with the average score of 60.65, 63.24, and 65.82 respectively. Regarding self–efficacy and health education service skills on both process standard and structure standard, the score has also increased, especially health service skills of process standard the average score increased from 22.59 (1st measurement) to 25.4 (3 rd measurement) but for the second measurement, the average score decreased to 22.47. Regarding service skills of structure standard, the average score increased from 23.41 to 25.12 and 27.18 respectively. For the total job satisfaction, the average score has increased, as shown in Table 7.

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Table 7 Average score of behavioral changes of 17 OPD nurses after attending ETP

Variables	1st Measurement Mean ± SD min, max	2nd Measurement Mean ± SD min, max	3rd Measurement Mean ± SD min, max
Self-esteem	60.65 ± 5.16 46, 70	63.24 ± 5.63 50, 76	65.82 ± 6.06 52, 79
Process Standard			
- Self-efficacy	29.18 ± 3.97 20, 37	30.65 ± 3.74 23, 38	32.71 ± 4.38 27, 4
- Service skills	22.59 ± 3.00 18, 27	22.47 ± 2.98 18, 27	25.41 ± 1.87 22, 27
Structure Standard			
- Self-efficacy	29.94 ± 4.70 24, 42	32.59 ± 5.17 26, 47	35.29 ± 5.14 28, 50
- Service skills	23.41 ± 4.21 16, 30	25.12 ± 3.16 20, 30	27.18 ± 2.53 22, 30
Job Satisfaction	75.29 ± 11.18 56, 97	82.59 ± 10.48 65, 108	87.06 ± 10.02 73, 109
- Professional work environment	20.06 ± 3.90 15, 28	22.76 ± 3.38 19, 33	24.41 ± 3.76 19, 33
- Autonomy	12.71 ± 2.82 7, 18	14.53 ± 2.48 9,19	15.06 ± 1.68 11, 18
- Work worth	15.82 ± 2.21 10, 19	16.71 ± 1.72 13, 20	16.71 ± 2.02 12, 20
- Within / between professional relationship	20.00 ± 2.89 16, 25	21.18 ± 3.15 17, 30	21.94 ± 3.09 18, 30
- Role enactment	6.71 ± 1.79 3, 10	7.41 ± 2.21 4, 12	8.94 ± 2.49 6, 15

Regarding the behaviors of professional nurses of the HT/H Clinic, it was found that the average score of self-esteem, self-efficacy related to process standard and structure standard has increased but the average score of service skills of process standard has increased in the 2nd measurement (the average score of 20.67 to 20.0) but the score has increased in the 3rd measurement (25.0). For the skills on structure standard the equal average score was found at the 1st and the 2nd measurement (23.0) and for the 3rd measurement the score was 26.67. Regarding the average score of the total job satisfaction, increasing average score was found.

3.3 Analysis of variance of the results of attending the ETP on behavioral change of professional nurses

Analysis of the results of attending the ETP on 4 aspects of behaviors regarding self-esteem, self–efficacy, health education service skills on process standard and structure standard, and job satisfaction, measured before the ETP, before implementing a program on "PGHLE: HT", and after implementing the program for 7

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months, were computed by using Repeated Measure Analysis of Variance: RMANOVA by testing Multivariate with Wilks'Lambda, including testing the Multiple Comparison by using Least Significant Difference: LSD, it was found that there was a significant difference of the average score of every behavior measured ($p < 0.05$) except job satisfaction on work worth ($p<0.145$) (Table 8). Among the professional nurses at HT/H Clinic, no statistically significant difference was found of the average score every variable measured.

Table 8 RMANOVA of the results of the ETP on behavioral changes of 17 OPD professional nurses by different time of measurement

Variable / Time	Mean *	SD	F	p-value
Self-esteem				
Pretest	60.65 [b, c]	5.16		
Posttest Week 4	63.24 [a, c]	5.63	37.04	< 0.001
Posttest Week 28	65.82 [a, b]	6.06		
Process Standard				
- Self-efficacy				
Pretest	29.18 [b, c]	3.97		
Posttest Week 4	30.65 [a, c]	3.74	15.38	< 0.001
Posttest Week 28	32.71 [a, b]	4.38		
- Service skills				
Pretest	22.59 [c]	3.00		
Posttest Week 4	22.47 [c]	2.98	9.14	< 0.001
Posttest Week 28	25.41 [a, b]	1.87		
Structure Standard				
- Self-efficacy				
Pretest	29.94 [b, c]	4.70		
Posttest Week 4	32.59 [a, c]	5.17	24.71	< 0.001
Posttest Week 28	35.29 [a, b]	5.14		
- Service skills				
Pretest	23.41 [b, c]	4.21		
Posttest Week 4	25.12 [a, c]	3.16	10.80	< 0.001
Posttest Week 28	27.18 [a, b]	2.53		

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Table 8 (continued) RMANOVA of the results of the ETP on behavioral changes of 17 OPD professional nurses by different times of measurement

Variable / Time	Mean *	SD	F	p-value
Total Job Satisfaction				
Pretest	75.29 [b, c]	11.18		
Posttest Week 4	82.59 [a, c]	10.48	13.07	< 0.001
Posttest Week 28	87.06 [a, b]	10.02		
- Professional work environment				
Pretest	20.06 [b, c]	3.90		
Posttest Week 4	22.76 [a]	3.38	9.67	< 0.001
Posttest Week 28	24.41 [a]	3.76		
- Autonomy				
Pretest	12.71 [b, c]	2.82		
Posttest Week 4	14.53 [a]	2.48	4.94	0.022
Posttest Week 28	15.06 [a]	1.68		
- Work worth				
Pretest	15.82 [b]	2.21		
Posttest Week 4	16.71 [a]	1.72	2.20	0.145
Posttest Week 28	16.71	2.02		
- Within / Between Professional relationship				
Pretest	20.00 [b, c]	2.89		
Posttest Week 4	21.18 [a]	3.15	4.30	0.033
Posttest Week 28	21.94 [a]	3.09		
- Role enactment				
Pretest	6.71 [c]	1.79		
Posttest Week 4	7.41 [c]	2.21	5.50	0.016
Posttest Week 28	8.94 [a, b]	2.49		

- *The same letter on mean demonstrates the difference in each pair*
  a = 2 nd & 3 rd time, b = 1 st & 3rd time, c = 1 st & 2nd time

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Part 4: Results on behavioral changes among hypertensive patients

This part was consisted of 6 subparts: general Information; knowledge on hypertension; perceived susceptibility/severity of hypertension; self-efficacy to perform hypertension control behaviors; hypertension control behaviors; and service satisfaction of hypertensive patients. The details were presented as follows:

4.1 General Information: The socio-demographic data of the experimental and the comparison groups, 50 patients each, were similar characteristics. Most of them were females, and the high percentage of them were in the age group of 60-69 years, while the average age were 64.14 years in the experimental group and 61.76 years in the control group. Married were the major marital status in both groups, about a half of them finished primary school level. Regarding occupation, the high percentages of them were housewives. The average year of illness was 7.84 and 7.18 years in the experimental and the comparison group, respectively. Ninety-two percent of them indicate that they found out that they were sick with hypertension when they checked-up for other illness in both groups. Regarding their illness stage in the experimental and comparison group were 42.0 percent and 36.0 percent in the high-normal stage of hypertension, respectively. In regards to body mass index, high percentage of them had normal level of body mass index and overweight , respectively. For cost payment, most of them were paid by the government (Table 9).

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Table 9 General information of HT patients, experimental & comparison group

Demographic Data	Experimental group (n=50) Number	Percent	Comparison group (n=50) Number	Percent
Sex				
Male	14	28.0	13	26.0
Female	36	72.0	37	74.0
Age (year)				
40 - 49	2	4.0	5	10.0
50 - 59	8	16.0	13	26.0
60 - 69	29	58.0	20	40.0
= > 70	11	22.0	12	24.0
	Min 43 Max 72 Mean 64.14 ± 6.69		Min 40 Max 72 Mean 61.76 ± 8.63	
Marital status				
Single	2	4.0	4	8.0
Married	30	60.0	29	58.0
Widow/Divorced/Separated	18	36.0	17	34.0
Educational level				
No education	2	4.0	2	4.0
Primary school	28	56.0	21	42.0
Secondary school	4	8.0	10	20.0
Vocational education	8	16.0	9	18.0
University	8	16.0	8	16.0
Occupation				
Housewife	18	36.0	17	34.0
Trader	4	8.0	3	6.0
Low-skill worker	11	22.0	14	28.0
Government officer	-	-	5	10.0
Agriculturist	-	-	1	2.0
Do not work	4	8.0	3	6.0
Retired officer	13	26.0	7	14.0
Year of illness				
1 - 5	18	36.0	21	42.0
6 – 10	26	52.0	24	48.0
11 – 15	5	10.0	3	6.0
16 – 20	1	2.0	2	4.0
	Min 1 Max 18 Mean 7.84 ± 3.88		Min 1 Max 18 Mean 7.18 ± 4.27	

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Table 9 (continued) General information of HT patients, experimental and comparison group

Demographic Data	Experimental group (n=50) Number	Percent	Comparison group (n=50) Number	Percent
Knowing about the illness				
Having symptom and did the check-up	4	8.0	4	8.0
Check-up with other symptoms and found this illness	46	92.0	46	92.0
Know blood pressure level				
Yes	12	24.0	19	38.0
No	38	76.0	31	62.0
Level of blood pressure [Systolic And / Or Diastolic (mmHg)] (1^{st})				
Normal < 130 And < 85	9	18.0	13	26.0
High normal 130-139 Or 85-89	21	42.0	18	36.0
HT Stage 1 140-159 Or 90-99	13	26.0	13	26.0
HT Stage 2 160-179 Or 100-109	7	14.0	6	12.0
Body mass index (Kg/m^2) (1^{st})				
Less than 20	-	-	2	4.0
20-24.99	23	46.0	19	38.0
25-29.99	21	42.0	18	36.0
= > 30	6	12.0	11	22.0
	Min 20.11	Max 40.06	Min 16.85	Max 43.28
Health insurance				
Paid by patient/family	10	20.0	11	22.0
Gold card	7	14.0	10	20.0
Government	33	66.0	29	58.0

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4.2 Comparison of knowledge on hypertension

4.2.1 Knowledge on hypertension

There were 6 questions in the knowledge part, with the score range of 0-34. The scores were divided into 3 levels, as following criteria:

Level	Percent	Score
Low	< 60	≥ 20
Moderate	60-79	21-27
High	80+	28+

The data showed that in the experimental group changed from a half of them in low level to moderate and high level of knowledge on HT after the experimentation but in the comparison group remained almost the same (Table 10).

Table 10 Distribution of number and percentage of respondents by knowledge on HT

Level of knowledge	Experimental group				Comparison group			
	Before		After		Before		After	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Low	27	54.0	5	10.0	32	64.0	32	64.0
Moderate	14	28.0	24	48.0	13	26.0	15	30.0
High	9	18.0	21	42.0	5	10.0	3	6.0
Total	50	100.0	50	100.0	50	100.0	50	100.0

4.2.2 Comparison of knowledge mean score on HT between and within the experimental and the comparison group

Comparison of knowledge mean score on HT between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. It was confirmed that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similar to significance. (Table 11).

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Table 11 Comparison of knowledge mean score on HT between and within the experimental & the comparison group, before & after the experimentation

Knowledge on HT	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	17.92	9.27	0.71	98	0.479
Comparison group	16.68	8.15			
After the program					
Experimental group	26.70	4.13	8.66	98	< 0.001
Comparison group	17.26	6.51			
Within the experimental group					
Before the program	17.92	9.27	-7.75	49	< 0.001
After the program	26.70	4.13			
Within the comparison group					
Before the program	16.68	8.15	-1.70	49	0.096
After the program	17.26	6.51			

4.3 Comparison of perception of hypertension

4.3.1 Perception of hypertension

Perception of HT composed of 2 variables: perceived susceptibility of complication of HT and perceived severity of HT. There were 10 statements with the score range of 10-50. The perception was grouped into 3 levels, as follows:

Level	Percent	Score
Low	< 60	≥ 29
Moderate	60-79	30-40
High	80+	41+

The results showed that within the experimental group changed from a half of them in moderate level and a half them in high level to the most of them in high level of perception of HT after the experimentation but in the comparison group remained almost the same (Table 12).

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Table 12 Number and percentage distribution of the sample by perception of HT

Level of perception	Experimental group				Comparison group			
	Before		After		Before		After	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Low	-	-	-	-	-	-	-	-
Moderate	24	48.0	2	4.0	27	54.0	26	52.0
High	26	52.0	48	96.0	23	46.0	24	48.0
Total	50	100.0	50	100.0	50	100.0	50	100.0

4.3.2 Comparison of perception mean score of HT between and within the experimental and the comparison group

Comparison of perception mean score of HT between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. It was confirmed that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 13).

Table 13 Comparison of perception mean score of HT between and within the experimental & the comparison group, before & after the experimentation

Perception of HT	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	40.32	4.13	-0.05	98	0.963
Comparison group	40.36	4.49			
After the program					
Experimental group	46.40	3.06	9.69	98	< 0.001
Comparison group	39.96	3.57			
Within the experimental group					
Before the program	40.32	4.13	-10.90	49	< 0.001
After the program	46.40	3.06			
Within the comparison group					
Before the program	40.36	4.49	1.31	49	0.198
After the program	39.96	3.57			

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4.3.3 Comparison of perceived susceptibility mean score of HT complications between the experimental and the comparison group

Comparison of perceived susceptibility mean score of HT between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. The total number of questions was 5, with the total score of 25. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were significantly alike (Table 14).

Table 14 Comparison of perceived susceptibility mean score of HT between & within the experimental & the comparison group, before & after the experimentation

Perceived susceptibility of HT	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	19.98	2.62			
Comparison group	19.90	2.64	0.05	98	0.880
After the program					
Experimental group	23.14	1.77			
Comparison group	19.78	2.25	8.29	98	< 0.001
Within the experimental group					
Before the program	19.98	2.62			
After the program	23.14	1.77	-9.02	49	< 0.001
Within the comparison group					
Before the program	19.90	2.64			
After the program	19.78	2.25	0.61	49	0.541

4.3.4 Comparison of perceived severity mean score of HT between the experimental and the comparison group

Comparison of perceived severity mean score of HT between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. The total number of questions was 5, with the total score of 25. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similar to significance. (Table 15).

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Table 15 Comparison of perceived severity mean score of HT between & within the experimental & the comparison group, before & after the experimentation

Perceived severity of HT	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	20.34	2.05			
Comparison group	20.46	2.46	-0.26	98	0.791
After the program					
Experimental group	23.26	1.61			
Comparison group	20.18	2.13	8.16	98	< 0.001
Within the experimental group					
Before the program	20.34	2.05			
After the program	23.26	1.61	-9.98	49	< 0.001
Within the comparison group					
Before the program	20.46	2.46			
After the program	20.18	2.13	1.70	49	0.095

4.4 Comparison of self-efficacy to perform HT control behaviors

4.4.1 Self-efficacy to perform HT control behaviors

Self-efficacy to perform HT control behaviors composed of 16 questions, with the score range of 16-18. The scores were grouped into 3 levels based on the following criteria:

Level	Percent	Score
Low	< 60	≥ 47
Moderate	60-79	48-63
High	80+	64+

The results showed that within the experimental group changed from a half of them in moderate level and a half of them in high level to the most of them in high level of self-efficacy to perform HT control behaviors after the experimentation but in the comparison group remained almost the same (Table 16).

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Table 16 Number and percentage of the sample by level of self-efficacy to perform HT control behaviors

Self-efficacy level	Experimental group				Comparison group			
	Before		After		Before		After	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Low	1	2.0	-	-	1	2.0	-	-
Moderate	21	42.0	2	14.0	22	54.0	22	44.0
High	28	56.0	48	86.0	27	46.0	28	56.0
Total	50	100.0	50	100.0	50	100.0	50	100.0

4.4.2 Comparison of self-efficacy mean score to perform HT control behaviors between and within the experimental and the comparison group

Comparison of self-efficacy mean score between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. It was confirmed that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 17).

Table 17 Comparison of self-efficacy mean score between and within the experimental & the comparison group, before & after the experimentation

Self-efficacy	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	63.44	6.90	-0.47	98	0.636
Comparison group	64.08	6.59			
After the program					
Experimental group	69.58	4.87	5.47	98	< 0.001
Comparison group	63.80	5.66			
Within the experimental group					
Before the program	63.44	4.13	-7.99	49	< 0.001
After the program	69.58	4.87			
Within the comparison group					
Before the program	64.08	6.59	0.63	49	0.532
After the program	63.80	5.66			

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4.5 Comparison of hypertension control behaviors

4.5.1 Hypertension control behaviors

Hypertension control behaviors, the data were collected from questions regarding 5 aspects of practices, including dietary, physical exercise, stress management, medicine taking, and appointment keeping behaviors with the score range of 37-193. The scores were grouped into 3 groups based on the following criteria:

Level	Percent	Score
Low	< 60	≥ 114
Moderate	60-79	115-153
High	80+	154+

The results showed that within the experimental group changed from the most of them in moderate level to 2/3 of them in moderate level and 1/3 of them in high level of HT control behaviors after the experimentation but in the comparison group remained almost the same (Table 18).

Table 18 Number and percentage of the sample by level of HT control behaviors

Level of HT control behaviors	Experimental group				Comparison group			
	Before		After		Before		After	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Low	1	2.0	-	-	3	6.0	1	2.0
Moderate	44	88.0	31	62.0	42	84.0	45	90.0
High	5	10.0	19	38.0	5	10.0	4	8.0
Total	50	100.0	50	100.0	50	100.0	50	100.0

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4.5.2 Comparison of HT control behaviors mean score between and within the experimental and the comparison group

Comparison of HT control behaviors mean score between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. It was confirmed that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similar to significance (Table 19).

Table 19 Comparison of HT control behaviors mean score between and within the experimental & the comparison group, before & after the experimentation

HT control behaviors	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	137.90	12.59	0.44	98	0.663
Comparison group	136.78	13.01			
After the program					
Experimental group	151.06	8.96	7.35	98	< 0.001
Comparison group	135.86	11.55			
Within the experimental group					
Before the program	137.90	12.59	-11.87	49	< 0.001
After the program	151.06	8.96			
Within the comparison group					
Before the program	136.78	13.01	1.64	49	0.108
After the program	135.86	11.55			

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4.5.3 Comparison of food consumption behaviors mean score between and within the experimental and the comparison group

Comparison of food consumption behaviors mean score between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. The total score was 150. It was confirmed that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 20).

Table 20 Comparison of food consumption mean score between and within the experimental & the comparison group, before & after the experimentation

Food consumption behaviors	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	109.26	7.96	0.90	98	0.370
Comparison group	107.82	8.03			
After the program					
Experimental group	114.84	6.93	5.38	98	< 0.001
Comparison group	108.00	7.09			
Within the experimental group					
Before the program	109.26	7.96	-10.72	49	< 0.001
After the pogram	114.84	6.93			
Within the comparison group					
Before the program	107.82	8.03	-1.17	49	0.246
After the program	108.00	7.09			

4.5.4 Regarding the food consumption behaviors related to adding fish sauce/soy sauce on the food, the frequency, percentage and test of proportional difference (z-test) between the experimental and the comparison group, before and after the program.

The results showed that within the experimental group, before the program a half of them had added ½ teaspoon of sauce (51.52%). After the program, it was found that 48.48 percent said that they had added ¼ teaspoon of sauce and 45.46 percent

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added ½ teaspoon of sauce, whereas in the comparison group remained almost the same before and after the program (Table 21).

Table 21 Behaviors related to adding fish sauce on the food of the experimental and the comparison group,before and after the program

Adding fish-sauce behaviors	Experimental group (n / %)		Comparison group (n / %)	
	Before	After	Before	After
Did not added	17 (34.0)	17 (34.0)	14 (28.0)	14 (28.0)
Added	33 (66.0)	33 (66.0)	36 (72.0)	36 (72.0)
Amount of sauce				
¼ teaspoon	7(21.21)	16 (48.48)	2 (5.55)	5 (13.89)
½ teaspoon	17 (51.52)	15 (45.46)	24 (66.67)	23 (63.89)
1 teaspoon	8 (24.24)	2 (6.06)	8 (22.23)	7 (19.44)
1 tablespoon	1 (3.03)	-	2 (5.55)	1 (2.78)

When the difference comparison between the proportion of patients who decreased the amount of sauce added to their food, 9 patients of the experimental group and 3 patients of the comparison group, significant difference was found between the two groups (p-value=0.0188) (Table 22).

Table 22 The proportion difference of patients who decreased the amount of sauce added to their food, between the experimental and the comparison group

Sample	n	p1	p2	z-value	p-value
Experimental group	33	9	0.27	2.08	0.0188
Comparison group	36	3	0.08		

Note: *p1 = The number of patients who decreased the amount of sauce added to their food*
p2 = The decreased proportion

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4.5.5 Comparison of physical exercise behaviors mean score between and within the experimental and the comparison group

Comparison of mean score of physical exercise between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. The total score was 24. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 23).

Table 23 Comparison of physical exercise mean score between and within the experimental & the comparison group, before & after the program

Physical exercise behaviors	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	11.82	7.20	-0.59	98	0.556
Comparison group	12.70	7.69			
After the program					
Experimental group	19.22	4.79	5.72	98	< 0.001
Comparison group	12.50	7.11			
Within the experimental group					
Before the program	11.82	7.20	-8.24	49	< 0.001
After the program	19.22	4.79			
Within the comparison group					
Before the program	12.70	7.69	1.78	49	0.081
After the program	12.50	7.11			

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4.5.6 Comparison of stress coping behaviors mean score between and within the experimental and the comparison group

Comparison of stress coping mean score between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. The total score was 10. It was found that the changes after the experimentation of experimental group were not statistical significance and within the experimental group were not also significant (Table 24).

Table 24 Comparison of stress coping behaviors mean score between and within the experimental & the comparison group, before & after the program

Stress coping behaviors	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	8.08	1.34	1.47	98	0.146
Comparison group	7.66	1.52			
After the program					
Experimental group	8.20	1.26	1.93	98	0.056
Comparison group	7.66	1.52			
Within the experimental group					
Before the program	8.08	1.34	-1.23	49	0.224
After the program	8.20	1.26			
Within the comparison group					
Before the program	7.66	1.52	*		
After the program	7.66	1.52			

** No difference was found before and after the experimentation*

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4.5.7 Comparison of medicine taking behaviors mean score between and within the experimental and the comparison group

Comparison of medicine taking behaviors mean score between group was computed by using student's t-test, and within group by using paired samples t-test, with the level of confidence 95 %. The total score was 6. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 25).

Table 25 Comparison of medicine taking mean score between and within the experimental & the comparison group, before & after the program

Medicine taking behaviors	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	5.10	0.89	0.60	98	0.551
Comparison group	5.00	0.78			
After the program					
Experimental group	5.52	0.61	3.24	98	0.002
Comparison group	5.06	0.79			
Within the experimental group					
Before the program	5.10	0.89	-3.56	49	0.001
After the program	5.52	0.61			
Within the comparison group					
Before the program	5.00	0.78	-1.35	49	0.182
After the program	5.06	0.79			

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4.5.8 Appointment keeping behaviors, appointment keeping behaviors of the experimental and the comparison groups were as follows:

The results showed that in the experimental group, before the program 90.0 percent kept their appointment while 10.0 percent have not. Among who did not keep the appointment, 60.0 percent said they took the un-used medicines and 40.0 percent bought medicine from the drug store/pharmaceutical organization. After the program, it was found that the percentage of the patients who kept the appointment was increased to 96.0 percent because they have to participate in the "PGHLE" program. There were 4.0 percent did not keep the appointment and indicated that they took the medicine that they've got from the previous appointment.

In the comparison group, it was found that 92.0 percent kept the appointment while 8.0 percent did not. Those who did not keep the appointment, they took the medicine left from the previous appointment, bought medicine from the drug store/ pharmaceutical organization, stopped taking drugs until the next visit, or waited until having symptoms, then decided to visit the hospital again (25.0% for each behavior). After the program, it was found that 90.0 percent of the patients kept the appointment and 10.0 percent did not, who mentioned that they bought medicine from the drug store/ pharmaceutical organization, and used the medicine of the previous appointment (60.0 % 40.0 % respectively). The appointment keeping depended on the medical treatment plan or the time available for individual patient (Table 26).

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Table 26 Appointment keeping behaviors of the experimental & the comparison group

Appointment keeping behaviors	Experimental group (n / %)		Comparison group (n/ %)	
	Before	After	Before	After
Keep appointment	45 (90.0)	48 (96.0)	46 (92.0)	45(90.0)
Do not keep appointment	5 (10.0)	2 (4.0)	4 (8.0)	5 (10.0)
Behaviors if do not keep				
- use the medicine from previous appointment	3(60.0)	2(10.0)	1(25.0)	2(40.0)
- buy medicine from drugstore /pharmaceutical organization	2(40.0)	-	1(25.0)	3(60.0)
- stop taking medicine until visit the hospital again	-	-	1(25.0)	-
- wait until getting some symptoms	-	-	1(25.0)	-

The comparison of the proportional difference test (z-test) of patients who decreased the miss-appointment behavior, between 3 patients of the experimental group and the comparison group whereby no patients changed their appointment behaviors, showed significant difference (p-value = 0.0287) (Table 27).

Table 27 The proportional difference of patients who decreased the miss-appointment behavior, between the experimental and the comparison group

Sample	n	p1	p2	z-value	p-value
Experimental group	5	3	0.6	1.90	0.0287
Comparison group	4	0	0		

Note: *p1 = The number of patients who decreased the miss-appointment behavior*

p2 = The decreased proportion

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4.6 Comparison of service satisfaction

4.6.1 Service satisfaction: Service satisfaction was measured as the score level of satisfaction regarding services received from the HT/H Clinic as related to 6 sections: convenience, information, coordination, manner or providers' courtesy, quality of care, and cost. The score range was 41-205. The satisfaction score was divided into 3 levels based on the following criteria:

Level	Percent	Score
Low	< 60	≤ 121
Moderate	60-79	122-163
High	80+	164+

The results showed that within the experimental group changed from the most of them in moderate level to a half of them in moderate level and nearly a half of them in high level of service satisfaction after the experimentation but in the comparison group, the most of them changed to moderate level after the experimentation (Table 28).

Table 28 Distribution of frequency and percentage of respondents by level of service satisfaction, before and after the program

Level of satisfaction	Experimental group				Comparison group			
	Before		After		Before		After	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Low	3	6.0	-	-	7	14.0	2	4.0
Moderate	46	92.0	27	54.0	38	76.0	48	96.0
High	1	2.0	23	46.0	5	10.0	-	-
Total	50	100.0	50	100.0	50	100.0	50	100.0

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4.6.2 Comparison of service satisfaction mean score towards the HT/H Clinic, between and within the experimental and the comparison group

Comparison of service satisfaction mean score between group was computed by using student's t-test, and within group by using paired samples t-test, at the 95% of confidence level. It was confirmed that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similar significance (Table 29).

Table 29 Comparison of service satisfaction mean score between and within the experimental and the comparison group, before and after the program

Service satisfaction	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	137.28	9.70	-0.41	98	0.682
Comparison group	138.30	14.61			
After the program					
Experimental group	161.42	9.54	12.37	98	< 0.001
Comparison group	137.66	9.67			
Within the experimental group					
Before the program	137.28	9.70	-36.26	49	< 0.001
After the program	161.42	9.54			
Within the comparison group					
Before the program	138.30	14.61	0.72	49	0.474
After the program	137.66	9.67			

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4.6.3 Comparison of satisfaction mean score regarding convenience, between the experimental and the comparison group

Comparison of satisfaction mean score regarding convenience between group was computed by using student's t-test, and within group by using paired samples t-test, at the 95% of confidence level, with the total score of 50. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 30).

Table 30 Comparison of satisfaction mean scores regarding convenience between and within the experimental & the comparison group, before & after the program

Satisfaction regarding convenience	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	31.64	3.22	0.87	98	0.386
Comparison group	31.06	3.43			
After the program					
Experimental group	37.52	2.91	10.68	98	< 0.001
Comparison group	31.32	2.90			
Within the experimental group					
Before the program	31.64	3.22	-22.24	49	< 0.001
After the program	37.52	2.91			
Within the comparison group					
Before the program	31.06	3.43	-0.91	49	0.369
After the program	31.32	2.90			

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4.6.4 Comparison of satisfaction mean score regarding information received between the experimental and the comparison group

Comparison of satisfaction mean score regarding information received between group was computed by using student's t-test, and within group by using paired samples t-test, at the 95% of confidence level, with the total score of 50. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 31).

Table 31 Comparison of satisfaction mean score regarding information between & within the experimental & the comparison group, before & after the program

Satisfaction regarding information received	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	30.02	2.81	1.62	98	0.109
Comparison group	28.98	3.58			
After the program					
Experimental group	40.28	3.11	20.21	98	< 0.001
Comparison group	28.92	2.47			
Within the experimental group					
Before the program	30.02	2.81	-31.40	49	< 0.001
After the program	40.28	3.11			
Within the comparison group					
Before the program	28.98	3.58	0.18	49	0.854
After the program	28.92	2.47			

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4.6.5 Comparison of satisfaction mean score regarding coordination of services received between the experimental and comparison group

Comparison of satisfaction mean score regarding coordination of services received between group was computed by using student's t-test, and within group by using paired samples t-test, at the 95% of confidence level, with the total score of 35. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 32).

Table 32 Comparison of satisfaction mean score regarding coordination of services between & within the experimental & the comparison group, before & after the program

Satisfaction regarding coordination of services	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	22.62	1.85	0.98	98	0.329
Comparison group	22.10	3.26			
After the program					
Experimental group	28.48	2.04	15.45	98	< 0.001
Comparison group	21.98	2.16			
Within the experimental group					
Before the program	22.62	1.85	-23.22	49	< 0.001
After the program	28.48	2.04			
Within the comparison group					
Before the program	22.10	3.26	0.44	49	0.659
After the program	21.98	2.16			

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4.6.6 Comparison of satisfaction mean score regarding providers' courtesy between the experimental and comparison group

Comparison of satisfaction mean score regarding providers' courtesy between group was computed by using student's t-test, and within group by using paired samples t-test, at the 95% of confidence level, with the total score of 30. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 33).

Tables 33 Comparison of satisfaction mean score regarding providers'courtesy between & within the experimental & the comparison group, before & after the program

Satisfaction regarding providers' courtesy	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	24.02	2.84	0.19	98	0.846
Comparison group	23.90	3.32			
After the program					
Experimental group	25.40	2.52	4.03	98	< 0.001
Comparison group	23.46	2.30			
Within the experimental group					
Before the program	24.02	2.84	-7.31	49	< 0.001
After the program	25.40	2.52			
Within the comparison group					
Before the program	23.90	3.32	1.71	49	0.094
After the program	23.46	2.30			

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4.6.7 Comparison of satisfaction mean score regarding quality of care between the experimental and comparison group

Comparison of satisfaction mean score regarding quality of care between group was computed by using student's t-test, and within group by using paired samples t-test, at the 95% of confidence level, with the total score of 35. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 34).

Table 34 Comparison of satisfaction mean scores regarding quality of care between and within the experimental & the comparison group, before & after the program

Satisfaction regarding quality of care	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	28.98	3.17	0.56	98	0.577
Comparison group	28.60	3.61			
After the program					
Experimental group	29.74	2.84	2.27	98	0.025
Comparison group	28.42	2.97			
Within the experimental group					
Before the program	28.98	3.17	-5.48	49	< 0.001
After the pProgram	29.74	2.84			
Within the comparison group					
Before the program	28.60	3.61	0.89	49	0.376
After the program	28.42	2.97			

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4.6.8 Comparison of satisfaction mean score regarding cost between the experimental and comparison group

Comparison of satisfaction mean score regarding cost between group was computed by using student's t-test, and within group by using paired samples t-test, at the 95% of confidence level, with the total score of 5. It was found that the changes after the experimentation of experimental group were statistical significance better than the comparison group and within the experimental group were similarly significant (Table 35).

Table 35 Comparison of satisfaction mean scores regarding cost between and within the experimental & the comparison group, before & after the program

Satisfaction regarding cost	Mean	SD	t-value	df	p-value
Before the program					
Experimental group	3.94	0.62	1.76	98	0.081
Comparison group	3.70	0.74			
After the program					
Experimental group	4.28	0.50	4.06	98	< 0.001
Comparison group	3.84	0.58			
Within the experimental group					
Before the program	3.94	0.62	-4.63	49	< 0.001
After the program	4.28	0.50			
Within the comparison group					
Before the program	3.70	0.74	-1.36	49	0.181
After the program	3.84	0.58			

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4.7 Analysis of variance of change of blood pressure levels and body mass index of hypertensive patients between and within the experimental and the comparison group

The study of change regarding systolic blood pressure (SBP), diastolic blood pressure (DBP) level, and body mass index (BMI), of the hypertensive patients, measured 4 times, before the program and every 1-2 month, 3 times, was analyzed by using: Repeated Measured Analysis of Variance (RMANOVA); Multivariate analysis by Wilk' Lambda; and Multiple Comparison by Least Significant Difference (LSD). The following results were as follows:

4.7.1 Comparison of SBP, DBP level, and BMI mean score between the experimental and the comparison group

It was found that the mean score of SBP, DBP level, between the experimental and the comparison group were not significant difference, before and after the program, ($p = 0.675, 0.219$ respectively), (Table 36).

Whereas, the statistical significance was found between BMI, before and after the program, and between the experimental and the comparison group ($p = 0.023$) (Table 36).

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Table 36 RMANOVA of the changed levels of SBP, DBP, and BMI by time series, between the experimental & the comparison group

Variable / Time	Experimental group		Comparison group			
	Mean	SD	Mean	SD	F	p-value
Systolic Blood Pressure (mmHg)						
Pretest	134.20	14.44	136.00	13.40		
Posttest						
Week 4-8	132.20	12.00	136.00	12.60	0.51	0.675
Week 12-16	131.40	11.07	134.40	12.15		
Week 20-24	131.00	11.29	133.80	10.28		
Diastolic Blood Pressure (mmHg)						
Pretest	84.40	8.12	82.80	7.57		
Posttest						
Week 4-8	80.60	8.90	82.80	7.82	1.50	0.219
Week 12-16	80.00	6.06	81.80	6.29		
Week 20-24	81.60	5.84	82.40	6.87		
Body Mass Index (Kg/ m^2)						
Pretest	26.19	4.31	26.17	5.17		
Posttest						
Week 4-8	26.24	4.32	26.17	5.23	3.32	0.023
Week 12-16	26.02	4.36	26.23	5.15		
Week 20-24	25.95	4.23	26.23	5.13		

4.7.2 Comparison of SBP, DBP level, and BMI mean score within the experimental and the comparison group

Within the experimental group, the statistical significance was found between the means of SBP, DBP level and BMI (p = 0.006, 0.013 and 0.032 respectively). Among the comparison group, no statistical significance was found between the means of SBP, DBP levels and BMI (p = 0.591, 0.793 and 0.330 respectively) (Table 37).

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Table 37 RMANOVA of the changed levels of SBP, DBP, and BMI by time series, within the experimental & the comparison group

Variable / Time	Experimental group				Comparison group			
	Mean	SD	F	p-value	Mean	SD	F	p-value
Systolic Blood Pressure (mmHg)								
Pretest	134.20	14.44			136.00	13.40		
Posttest								
Week 4-8	132.20	12.00	4.75	0.006	136.20	12.60	0.64	0.591
Week 12-16	131.40	11.07			134.40	12.15		
Week 20-24	131.00	11.29			133.80	10.28		
Diastolic Blood Pressure (mmHg)								
Pretest	84.40	8.12			82.80	7.57		
Posttest								
Week 4-8	80.60	8.90	4.02	0.013	82.00	7.82	0.42	0.739
Week 12-16	80.00	6.06			81.80	6.29		
Week 20-24	81.60	5.84			82.40	6.87		
Body Mass Index (Kg/ m^2)								
Pretest	26.19	4.13			26.17	5.17		
Posttest								
Week 4-8	26.24	4.32	3.19	0.032	26.23	5.23	1.17	0.330
Week 12-16	26.02	4.36			26.23	5.15		
Week 20-24	25.95	4.23			26.30	5.13		

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CHAPTER V

DISCUSSION

This chapter was discussed the research results of the developmental process and the effected of standards of health education services by the research objectives as follows:

The first objective: To study the developmental process according to the standards of health education services (HES), in the Health Education Unit and the HT/H Clinic respectively.

It can be concluded from Figure 9 (page 105) of this research that the developmental process of the standards of HES composed of seven stages are as follows:

1. Preliminary study for a situation analysis combined with the in-depth interview with health personnel, self-evaluation of standards of HES in the HEd Unit and the HT/H Clinic, focus group discussions with HT patients, and participant observation.

This process was the assessment of the health education service system of the HEd Unit and HT/H Clinic that regarded personnel, work system, and service users (patients). The qualitative evaluation has been mostly emphasized. The researcher has carried out the in-depth interview with the health personnel and group discussions with the patients and participatory observations, as the service system provided by the HT/H Clinic. The professional health educator has evaluated the health education activities of the HEd Unit whereby a professional nurse has evaluated the health education activities of the HT/H Clinic. The evaluation of the whole work system helped us to know clearly about the problems involved in the health education program for quality improvement of the health education services. Throughout this stage, the researchers acted as a facilitator and coordinator.

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2. The Empowerment Training Program (ETP) developed by the researcher.

The data of the evaluation and situation analysis of the health education program in stage 1 showed that there was a lack of cooperation and collaboration between the HEd Unit and the HT/H Clinic. Also, the professional nurses lacked self-confidence and skills of systematic health education services, in regard to planning, health education strategies, and the health education program evaluation. Therefore, the researcher has organized an ETP. The training program was emphasized on participatory learning with the following activities: lecture, videotape showing, experience sharing, teamwork skills, group discussion, brainstorming, and practice sessions,with regard to standards of HES. Through those mentioned activities, the participants have learned from each other by exchanging opinions and experiences and from their involvement in all activities organized. The outcomes of the training were health education visions, missions, and two health education programs. The researcher acted as a facilitator and coordinator through this stage.

3. Implementing the plan accordingly with the standards of HES

The meeting was held between the health personnel and the researcher after the implementation of the ETP with the aim to find the way to put the program planned into practice. From the meeting consensus, the two programs were combined into one which was the "PGHLE: HT". The Health Education Unit and the HT/H Clinic were responsible for implementing this program. This stage, the researcher was the facilitator and coordinator.

4. Implementing the plan accordingly with the standard of HES of the Health Education Unit.

The implementation of the plan according to the structure standards was composed of: planning the "PGHLE: HT" with the HT/H Clinic, providing and developing materials, establishing visions and missions of the hospital health education, and revising work structure. For the process standards, the activities were composed of: developing the self-care manual for hypertensive patients, health behavior surveillance, supervising, evaluating, and developing the guidelines for further research. The researcher and health educator acted as facilitators and coordinators.

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5. Implementing the plan accordingly with the standard of HES of the HT/H Clinic

The implementation of the plan accordingly with the structure standards were composed of: planning the "PGHLE: HT" with the HEd Unit, assigning a professional nurse to be responsible for carrying on a health education program, getting supportive materials from the HEd Unit and other concerned units, and organizing the environments conducive to learning. Regarding the process standards, the following activities were performed: implementing the "PGHLE: HT" by inviting other concerned professional staff to join the activities, supervising, and evaluating the program. For the outcome standards, the activities included collecting data concerning patients' hypertension control behaviors and patients' service satisfaction. For this stage, the researcher and the professional nurse acted as facilitators and coordinators.

6. Reflection of the implementation of the standards of HES of the HEd unit and the HT/H Clinic

The meeting was held among the health personnel and the researcher with the aim to reflect the outcome of the activities implemented and the evaluation of the program in accordance with the standards of HES of the HEd Unit and the HT/H Clinic. Throughout this stage, the health personnel acted as the facilitator and the researcher acted as the coordinator and observer.

7. Sustainable developmental guideline

The meeting was held between health personnel and the researcher to summarize the outcome of the program implemented of the HEd Unit and the HT/H Clinic and to look for the ways to make this program sustainable; including how to expand this type of the program to other clinics of the OPD Nursing Unit. For this stage, the health personnel acted as the facilitator and coordinator, while the researcher acted as the consultant.

From the seven stages of the developmental process to develop the standards of HES, the evidence showed that the health personnel and the researcher had implemented the program through every stage of participatory learning, especially the stages two through seven. At each meeting, this participatory learning process helped the health personnel to express their power by getting involved through the experiential learning cycle, which composed of experience, reflection/discussion, concept, application/

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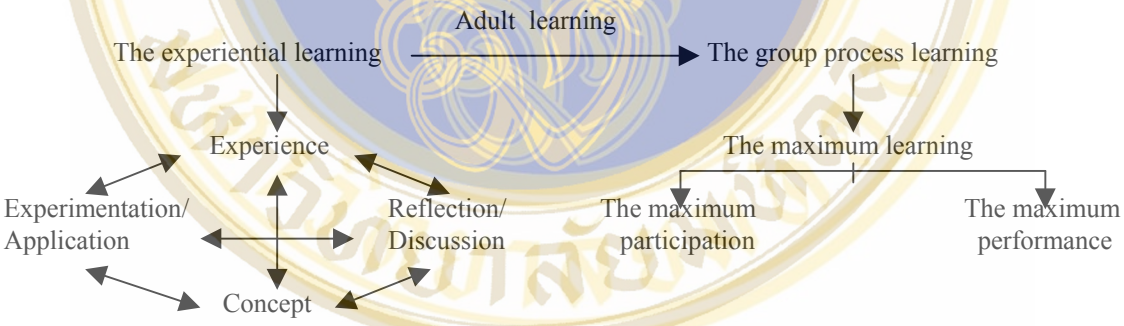
/experimentation, including the group process and adult learning; for example, all activities of the ETP, the establishing of visions and missions of health education and program planning and evaluation. They, in addition, interacted with other team members through ice-breaking activities, etc. It was consistent with the suggestion by Tissana Kaemanee (1994), group discussion helped the members to sharing experiences and do the difficult works or the new works with confidence. According to the people generally restricted in their powers and were different, it was necessary to depend on the others to works or do something. Regarding the teamwork skills, the members had opportunity to analyze the alternatives and select the effective ways to implement the program. Finally, the facilitator and coordinator roles of the researcher will be transferred to the health personnel later, after this project. Considerably, the participatory learning process of this research, it was combined of experimental learning, group process, and adults learning as follows:



When the health personnel understand and gain experiences regarding the empowerment process, they should be able to apply the empowerment principles with the hypertension patients and ultimately should be able to empower those patients. The outcome of this empowerment will result in helping patients to perceive their self-efficiency and allow them to be responsible for changing their own health behaviors for controlling hypertension effectively.

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This result was consistent with the studied of Yuvadee Rodjarkpai (2002: 150) who applied participatory learning process through every step of the quality improvement model for 5 community hospitals health education programme in Chantaburi Province, for instance in self assessment, which used the participants' experiances as the beginning point; the AIC process was implemented to reflected the realities; and the Benchmarking processes was used to make a concrete conceptualization according to hospital's experiences. Finally, each hospital could apply and adapt the health education program to be suitable for them.

In implementing the heath education activities in accordance with standards of HES, besides the participatory learning process, the activities have followed every step of the action research cycle: as planning, acting, observing, and reflecting. Starting from organizing the ETP, and then other activities, included the following: planning the activities accordingly with the standards of HES, implementing health education activities of the HEd Unit and of the HT/H Clinic, and reflecting by evaluating the program outcome. The evidence displayed that the activities implemented according with the action research cycle were effective in modifying the health education services effectively and in relation to the situation of problems and obstacles. If the program implemented has followed this action research cycle continuously, the result will be the continuous development of health education activities in accordance with the standards of HES.

Regarding action research cycle was similar to experiential learning cycle of participatory learning, as Roberts (2000) recommended that action research is the connecting of cycles of experiential learning focused on a particular situation. The learning outcomes of each cycle provide input to the next. To the extent that action researching and experiential learning are different it is that whereas experiential learning is conceived as the process by which experience is transformed into knowledge as a basis for personal adaptation to a changed situation, action researching is about taking action for intended change in a situation and learning about the nature of the change. Thus action research and experiential learning can be interpreted as a single phenomenon described from different perspectives.

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The second objective: To study the effects according to the standards of health education services, in the HEd Unit and the HT/H Clinic.

From this research, It was found that the implementating accordingly with standards of HES divided into 2 levels, firstly the implementation of structure and process standards for hypertensive patients of the HEd Unit who were the technical supporting units, and secondly, the implementation according to HES for hypertensive patients of the HT/H Clinic who were the implementing units. This level composed of structure, process, and outcome standards. The effects of the implementation accordingly with the standards of HES of the two units were summarized in Figure 10.

Therefore, the implementing according to standards of HES was accomplished not only health educators of the Health Education Unit but also the cooperation and collaboration from other unit in hospital, especially professional nurses of the Nursing Unit whose number was very large when compare with other heath personnel and who work closely with the patients, including the collaboration from other disciplinary groups. For example, a pharmacists, a nutritionist, a rehabilitation expert, a psychologist, a social worker because every disciplinary group is responsible for providing patient education, in accordance with the hospital quality improvement plan which patient/customer-centered concept is emphasized. Additionally, the important role of health educators should be persuaded/motivated/ health personnel from concerned units to cooperate in providing health education services and coordinated/facilitated the learning process from each other, for the sustainable development of the standards of HES.

The third objective: To study the change of standards of health education services behaviors among health personnel, after attending the empowerment training program: self-esteem; self-efficacy, skills, and satisfaction on performing standards of health education services.

The results of the study showed that after participatory in the empowerment program, health personnel's behaviors had been significantly increased (Table 8), which supported Hypothesis 1. Because the ETP developed, based on participatory learning: - experiential learning, group process, and adults learning, and they could be apply their learned experience from the ETP to the "PGHLE: HT" program, including the meeting,

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both formal and informal among them. After 3 assessments have been carried out, before the ETP, before and after the "PGHLE: HT" program, it was found that the mean score of self-esteem was significantly increased ($p<0.001$). This finding was similar to the concepts developed by Coopersmith (1988: 217-21) stated that people who had high self-esteem could solve the problem well, satisfy their life, feel proud of themselves', make good relationship with others, reduce stress and nature. They were also confident in their ability to accomplish a task.

After the ETP the health personnel had put the concepts learned to the practical situation. During the first period it was found that the professional nurses felt that they lacked confidence to implement the standards of HES, both process and structure standards, because they lacked direct experience and lacked skills for being supporter and facilitator of learning process. Later, they have asked to observe and participate in the real situation and evaluated their own practices as well as the feedback from the researcher and the HT/H Clinic head nurses.

From the activities organized for them, the professional nurses had gained more self-esteem and perceived self-efficacy but still lacked skills to perform the activities. After they have chance to practice they felt more self-confidence and could be able to perform standards of HES. This experience helped them to be proud that they could accomplish the job like other persons., which was congruent with the principles developed by Bandura (1997: 79-115) that the factors that determine and affect individual's self-efficacy are from 4 source: 1) mastery experience, which Bandura believes that it is the most important factor, therefore, in order to develop individual's self-efficacy, he / she should gain adequate skills and could utilize those skills; 2) vicarious experience or modeling; 3) verbal persuasion; and 4) physical and emotional arousal: if an individual can be able to lower or stop emotional arousal, his / her self-efficacy and behaviors that reflect the ability will be better

The result of this study was similar to the study carried out by Warapa Janchote (1997: iii) who studied the effectiveness of empowerment training on developing attitudes, self-esteem, self-efficacy of nursing student. It was found that after the program, the experimental group had significantly higher levels of attitudes toward nursing

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professional, self-esteem, and self-efficacy when compare to before the program and the comparison group. The same finding was found by Nitaya Pensirinapa (1995: iv) that empowerment education program was effective in raising student leaders' self-esteem, positive attitudes toward smoking, participation on antismoking program in school, self-efficacy, and changing smoking behavior. These behaviors were significantly higher among the experimental group when compared with the comparison group. Korman (1970: 32 cited in Greenhaus & Badin, 1974: 722-26) found there was a significant relationship between task specific self-esteem and task performance, especially among those who had high task specific self-esteem, their task performance was high and resulted in job satisfaction.

It was also found that after the health personnel had exposed to the ETP according to the standards of HES, their overall job satisfaction was higher especially the professional nurses, their job satisfaction was significantly higher (Table 8). For specific areas of job satisfaction regarding professional work environment, autonomy, within/between professional relationship, and role enactment, the mean score of these areas were significantly increased ($p<0.5$) except for the work worth. The significantly increased job satisfaction among professional nurses was due to their participation in planning the program / project of health education and having a chance to develop health education skill. This finding was congruent with the study of Pacharee Saisadudee (2001), which was found that job participating positively related to performance. The autonomy in implementing health education activity helped professional nurses made reasonable decisions in related to health education activities. As the principle developed by Herzberg (1976) that job satisfaction of personnel will be high if they had more autonomy and more power to make decisions related their jobs. Suree Chanthalamolee (2002: 3) also stated that organizing health education activities was an autonomy task for decision making, using intellectual abilities creatively in developing knowledge, ability and cooperation with the aim to help care receivers take a good self-care. The Department of Nursing (2000: 3) had assigned one of principle roles of nurses of the OPD, which all nurses should be aware and must do, as the autonomy of nurses in promoting patients' knowledge, and ability of self-care. Organizing health education activities had helped

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nurses gained team work skills and had a good relationship with peers, which was similar to Slavitt et al. (1978), who stated that an opportunity to have a relationship, both formal and informal, with peers within or outside one's own professional, during the work, will result in one's job satisfaction. Regarding the role enactment by working in the areas that suit to one's knowledge and ability including a chance to exchange ideas with colleagues and hold professional skills, will affect one's job satisfaction (Gilmer, 1971). The finding of non-significantly difference of mean score of role enactment may be due to professional nurses' former opinions that their job was beneficial for their professional, for the hospital and for themselves. Therefore no significant difference was found.

The finding of this study were congruent with that of Supa Pengpis (1993), who found that participatory empowerment program in developing health education in postpartum ward was effective in helping nurses gained skills in team work / participation and their satisfaction about health education work had significantly increased. Also other study carried out by Jureerata Kongtong (1995) revealed that after using the Accident and Emergency Nursing Standard, the average score of nursing activities was significantly higher than before using the Standard but no significant difference of job satisfaction between before and after the program was not found. This finding was similar to the study carried out by Aroonrat Rodchua (1999), which was found that there was no significant difference between job satisfaction before and after the use of Nursing Standard on post-operated cataract patients.

The fourth objective: To study the change of hypertensive patients' behaviors with regards to: the knowledge on hypertension; perception of susceptibility and severity of hypertension; self-efficacy of performing hypertension control behaviors; hypertension control behaviors; and satisfaction of health education and health care services.

After health personnel had participated in the ETP according to the standards of HES and had utilized the experiences gained throughout the "PGHLE: HT" with 50 samples of HT patients in the experimental group. While 50 cases of the comparison group received individual health education from the regular service system. Furthermore, at first meeting for collecting data, the comparison group received individual health education and materials as needed from the health team, but group activities have not set.

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For the experimental group, in the "PGHLE" program, the health personnel /health personnel played the roles as facilitator and coordinator for learning. Through these activities, HT patients had exchanged their experience, reflected their thinking, discussed, understood, conceptualized, and utilized the lessons they learned in the real situation and resulted in changing their behaviors in controlling hypertension appropriately, as related to following aspects:

1. Knowledge on hypertension: Before the program it was found that the knowledge level of both the experimental and the comparison group, before the program, was at the low level (Table 10). This may be due to the education level of high percentage of the patients who finished from primary school level and the same duration of being sick with hypertension. No significant difference was found between the two means.

After the program it was found that the mean score of the experimental group was significant higher than before the program and of the comparison group (Table 11). The finding supported the hypothesis 2. This finding was due to the experimental group learned from many means, e.g. opportunity to learn from exchanging experiences from group process and other material e.g. printed materials and audio materials. Learning will be enhanced if learners exposed to concrete experience but exposing to abstract experience, the learning will be less (Edgar Dale, 1969). In this study, the comparison group did not receive direct experience from group process but they received individual health education.

This finding was similar to the study carried out by Wanpen Krobtong (2000) who found that after the HT patients had participated with empowerment activities, their knowledge was significantly higher than before the program and than the comparison group. This study carried out by Doungjai Srion (2000) also showed that after the experimentation, HT patients who participated in a health education program had significantly higher knowledge level than before the program and than the comparison group.

2. Perception of hypertension: Regarding overall perception of HT, it was found that before the program, the mean score of the experimental and comparison group had almost the same level (Table 12). This finding may be due to they had exposed to the

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close persons who were sick and had complications on some died from HT and they also received the information about HT from the same sources e.g. medical / health personnel, printed materials distributed by hospitals, radio, television, and campaign, but statistically significant difference was found between the means.

After the program, the mean score of the overall perception, perceived susceptibility, and perceived severity, of the experimental group was significantly higher than before the program and than the comparison group (Table 13-15). The finding supported the hypothesis 2. This finding may be due to the patients were sick with the same illness, had experienced with the same situation from HT, had exchanged experiences and talked with their peers, so they were recognized by the group members because they paid attention to the things that close to themselves and were similar to their own problems.

This result was similar to the result of the studies carried out by Doungjai Srion (2000) and Pensri Hongspanich (1993), who studied the effectiveness of a group health counseling program which was found that the experimental group perceived about HT, perceived susceptibility, and perceived severity, significantly higher than before the program and than of the comparison group.

3. **Self-efficacy to perform HT control behaviors**: Before the program, it was found that within the experimental group and the comparison group, the mean score was at the moderate and high level as the same (Table 16), but no significant difference was found between the means. This finding may due to the exposing to the normal system of the service provided and the patients realized their own potentials to do their self-care behaviors.

After the program, the mean score of the experimental group was significantly higher than before the program and higher than the mean score of the comparison group (Table 17). The finding supported hypothesis 2. Because the patients in the experimental group had discussed with their group members, perceived the direct experience from the model and practiced skills, through these activities, they gained more confidence and realized that they could perform the tasks. If they could achieve their tasks they could solve their own problems, which helped them assess their ability to do the tasks after trying, and accomplished with the tasks performed. Among the comparison group, they have exposed

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to the regular services of the hospital and also they may get information from other sources in the hospital or from the patients who came to the same clinic as well, but the perception gained may not be adequate. They neither did receive adequate encouragement from their peers nor from the health team that could raise their self-efficacy.

This finding was congruent with the result of the studies carried out by Praneet Singthong (1998) and Yuphin Hongwachin (1999), who studied the effectiveness of health education program on HT patients' behaviors. It was found that self-efficacy of the experimental group at the end of the program was significantly higher than before the program and than the comparison group. The same finding was found in the study carried out by Chutarat Sathirapanya (2001), who studied the effectiveness of empowerment program and the finding revealed that self-efficacy of the patients with cerebrovascular disease and their relatives was significantly higher than before the program and than the comparison group.

4. Hypertension control behaviors: Before the program, it was found that the mean score of overall behaviors of the experimental and comparison group was almost at the moderate level (Table 18). No significant difference was found between the means. After the experimentation, the mean score of the experimental group was significantly higher than before the program and than the comparison group (Table 19). The finding supported hypothesis 2. The specific behavior was presented as follows:

4.1 Dietary behaviors: Before the program, no significant difference was found between the means. This finding may due to the value of Thai people that preferred the spicy food and stricted on the type of food that they liked rather than the nutritious values and their health status.

After the program, it was found that the dietary behavior's mean score of the experimental group was significantly higher than before the program and than the comparison group (Table 20). When the statistical comparison was made between the proportion of patients who decreased the quantity of fish sauce added to their food, of the experimental and the comparison group, significant difference was found between the proportion (Table 21-22). During the group process organized, the patients had evaluated

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themselves regarding problems / obstacles to control HT elated to undesirable dietary behavior, which helped them perceived their own responsibility to change their behavior in accordance with their health status. The patient's also learned about dietary behavior from nutritionists, who participated in the program, regarding dietary menu for HT, food exchanges list, examples of dietary record and analysis chart, method to assess body mass index (BMI), etc. This process affected on self-efficacy, decision making, trial, including comparing the BMI value with the previous one, before participatory in the group activity or visiting the clinic. The patients had assessed their status and realized their self-confidence. Besides, the physicians had admired and encouraged the patients who could control their body weight effectively which led them to more control their dietary behaviors. The researcher and health team also provided the gradual encouragement.

This study result was congruent with the studies carried out by Promjit Congsuvivatwong (1996), Praneet Singthong (1998) and Doungjai Srion (2000), who studied with the hypentensive patients and found that after the end of the program, the mean score of dietary behaviors of the experimental group was significant better than of the mean score before the program and than the comparison group.

4.2 Physical exercise behaviors: Before the program, no significant difference was found between the means. Because the high percentage of the sample worked as housewives and they may think that they had already performed physical exercise. They also perceived that physical exercise was concerned only with jogging and aerobic dance, which were not suitable for their ages and their physical status.

After the program, the mean score of the experimental group was significantly higher when compared with before the program and the comparison group (Table 23). Through the group process the experimental group perceived correctly about physical exercise that suitable with their illness and they had planned their exercise with some considered precautions and tried to do it. This process helped them perceived their self-efficacy and assessed their ability to perform the task, and reached the conclusions that it was not difficult to perform. After the accomplishment of the performance they had recorded their performance in the record booklet provided in order to assess the progress. Besides, they had perceived the benefits of performance from the released joint-pain,

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being able to go up and down the stairs, and better sleep, these outcomes encouraged them to continue their practices. When they joined the group meeting they were proud to tell about their accomplishment of practicing physical exercise.

This study result was similar to the result of studied carried out by Promjit Congsuvivatwong (1996), Praneet Singthong (1998) and Doungjai Srion (2000) who found that after the program, the mean score of physical exercise behaviors of the experimental group was significantly higher than before the program and than the comparison group.

4.3 Stress management behaviors: Before the program, no significant difference was found between the means. This finding may be due to the high percentage of the patient that everybody could not be able to avoid stress and we have to accept it.

After the program, it was found that the mean score of stress management behaviors the experimental group was higher than before the mean score measured before the program and than the comparison group but no significant was found (Table 24). During the group process, patients told the group members about their own coping behaviors especially stress caused by their children / grandchildren including the ways to solve those problems. The group members discussed the ways to solve the problems and exchanged their opinions about effective stress management methods, especially the positive methods. But no significant difference was found between the mean scores of the before and after the program, neither within the experimental group nor the comparison group. This finding was not congruent with the result of the studies carried out by Praneet Singthong (1998) and Doungjai Srion (2000).

4.4 Medicine taking behaviors: Before the program, no significant was found between the means. Most of them followed the physician's order but might not do it because of forgetting or leaving home for some reasons, and forget to bring medicine.

After the program, the mean score of medicine taking of the experimental group was significantly higher when compared with before the program and the comparison group (Table 25). This finding was due to the activities organized. During the group process, the group members had discussed about the effective experience for preventing forgetting to take a medicine e.g. putting the medicine in the small pack for each day,

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remembering to take the package of medicine whenever leaving home, place the package in place that easy to see i.e. on the dining-table, writing reminded words on the refrigerator, toilet room's door, etc.; getting reminding from family members, etc. The pharmacist who participated in the program had also recommended appropriate ways to take medicine, especially diuretic and other anti-hypertension drugs, including the negative outcomes from discontinued medicine taking. The finding was congruent with the study of Doungjai Srion (2000).

4.5 Appointment keeping behaviors: When the difference analysis of proportion of decreased number of patients who did not keep the appointment between the experimental and the comparison group was made, it was found that there was a significant difference between the proportions (Table 26-27). These results might be due to the telephone reminding made for the experimental group by the researcher and health team and the need for participating in the group activities of the patients. Therefore the patients got the medicine continuously.

5. Service satisfaction: Service Satisfaction was derived from the satisfaction scores regarding services that patients received from the HT/H Clinic, 6 aspects: convenience, information received, coordination of services, courtesy or providers' manner, quality of care, and cost. Before the program, it was found that high percentage of the experimental and the comparison group had the mean score at the moderate level. No significant difference was found between the means. This finding was due to the patients received the services from the same service system, and they had the same socio-demographic characteristics.

After the program, the service satisfaction mean score of the experimental group, of all aspects of services, was significant higher when compared with before the program and the comparison group (Table 28-35). This finding was due to the learning experiences provided for patients and the involvement of the health team, especially the significant higher mean score of satisfaction on information received. The patients could be able to give suggestions regarding the things that should be improved directly to the clinic's head nurse. This activity created the good relationship between patients and the health team. For the comparison group who received the services at the Clinic, this satisfaction may be

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increased in regard with courtesy and quality of care, but no significant difference was found since at present, the clinic has being improved its quality of care.

The result of the study was similar to the result of the study carried out by Chorthipya Boromthanaratna (1999) which was found that empowerment management model was effective in helping the experimental group of sub-district health centers' heads gained more potential leadership in relating to empowerment ability, effective leaders, job performance quality including service satisfaction among health care receivers who utilized the sub-district health centers services. It was consistent with the study of Juramanee Kunnawuti (1999), after using the nursing standard, service satisfaction among diabetic patients was significantly higher than before using the nursing standard.

6. The change of blood pressure (BP) level and body mass index (BMI):

When the comparison of SBP and DBP level between the experimental group and comparison group was made, no significant difference was found. Regarding the BMI, significant difference was found between the experimental and the comparison group (Table 36), which was congruent with the result of the study carried out by Pensri Hongspanich (1993), whereby no significant difference was found between the proportion of patients whose BP level had decreased between the experimental and the comparison group. For the proportion of the patients whose body weight was over the standard, significant decreased body weight was found among the experimental group when compared with the comparison group.

Within the experimental group, significant difference was found regarding SBP, DBP and BMI, before and after the program. But no significant difference was found among the comparison group (Table 37). This result was due to the experimental group's ability to control HT especially the dietary control of consuming high-salt food, high-fat food and high-sugar food, appropriate physical exercise, medicine taking, regular appointment keeping, including reminding received from the researcher and the health team. These resulted in the decreased level of blood pressure and BMI of the experimental group. The result of the study was similar to the studies carried out by Praneet Singhthong (1998) and Laddwal Chanwithitkul (1996), who found that after the program, the

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experimental group who had exposed to health education program changed their self-care behaviors and could control BP to a normal level.

The above findings revealed that the empowerment training program through participatory learning: experimental learning and group learning process, including adults learning, which based on action research cycle was effective in changing health personnel's behaviors regarding self-esteem, self-efficacy, health education service skills according to standards of HES, and job satisfaction.

When the health personnel applied health education service skills according to standards of HES of the HEd Unit and the HT/H Clinic through empowerment process, that emphasized on participatory learning and adults learning in organizing activities for hypertensive patients, who have been involved in the "PGHLE: HT" at least 5 times. Specific objectives and principle issues have been set for each group process accordingly with the groups' problems in order to implementation guidelines, but the group's activities could be flexible and suitable for the group's needs (Appendix D). Through these activities HT patients had exchanged their experience, reflected their thinking, discussed, understood, conceptualized, and utilized the lessons they learned in the real situation and resulted in changing their behaviors in controlling HT appropriately: regarding knowledge on HT, perceived susceptibility and perceived severity of HT, self-efficacy to perform HT control behaviors, HT control behaviors, health education and health care service satisfaction.

Among the comparison group, group activities have not set, so they did not receive direct experience from group process but they received individual health education from the regular services system, from health team at first meeting for collecting data including materials as needed, from the patients who came to the same clinic as well, or from the health information corner of the HT/H Clinic, which was established of this project. Although, they may get information from other sources in the hospital or outside, but the perception gained may not be adequate. They neither did receive adequate encouragement from their peers nor from the health team that could raise their self-efficacy to perform HT control behaviors and HT control behaviors.

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CHAPTER VI

CONCLUSION AND RECOMMENDATIONS

This study was an action research which aimed to study the developmental process and effects according to the standards of health education services, through the empowerment training program emphasized on participatory learning and adult learning among health personnel, on patient' hypertension control behaviors. The study was carried out with the cooperation between the Health Education Unit and the Hypertension/Hearth Clinic, Rajavithi Hospital.

The sample of the study was the group of health personnel, which composed of health educator and professional nurses of the Nursing Unit of the OPD and HT/H Clinics, including experimental and comparison group of hypertensive patients. The qualitative approaches was used: indepth interview with health personnel, self-evaluation in accordance with health education standard of Health Education Unit and HT/ H Clinic, focus group discussion with hypertensive patients, and participant observation. Quantitative approach was used to measure the behavioral changes of the sample group by using 4 sets of questionnaire:- 1) questionnaire for health educator; 2) questionnaire for nurses; 3) questionnaire for health personnel on the outcome of the ETP; and 4) questionnaire for hypertensive patients. The data were analyzed by using SPSS program. Frequency, percentage, mathematics means, and standard deviation were computed for the general data and scriptive statistics was employed for the chenges of behaviors of health personnel and health educator. The behavioral changes of professional nurses was analyzed by computing Repeated Measure Analysis of Varience (RMANOVA) and for analyzing the behavioral changes among hypertensive patients, Student' s t-test, Paired Samples t-test, Z-test and RMANOVA were used. The results of the study were as follows:

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CONCLUSION

1. The developmental process according to the standards of HES in the Health Education Unit and the Ht/H Clinic consisted of 7 stages; situation analysis, the empowerment training program, planning a program according to the standards of HES, implementing the program planned accordingly with the standards of HES of the Health Education Unit and the HT/H Clinic, reflection implementing the program according to the standards of HES of the Health Education Unit and the HT/H Clinic, and sustainable developmental guidelines.

2. The effects according to the standards of HES of the Health Education Unit and the HT/H Clinic

2.1 Health Education Unit: Structure standard composed of establish health behavior development plan "Providing Group Health Learning Experience = PGHLE" for hypertensive patients with the cooperation with the Nursing Unit of the OPD; providing and developing materials; vision, mission, and the change of work structure. Process standards consisted of: self-care manual of HT; health behavior surveillance; supervision and evaluation.

2.2 Hypertension/Heart Clinic: structure standard composed of establish health behavior development plan "PGHLE" for hypertensive patients with the cooperation with the Health Education Unit; the professional nurses were assigned to be responsible for health education activities; provided the necessary media and material; and organizing supportive environment. Process standards consisted of implementing the "PGHLE: HT" program; supervision and evaluation. Outcome standard combined of knowledge; perception of susceptibility and severity; self-efficacy of HT control behaviors; HT control behaviors; satisfaction of health personnel and hypertensive patients.

3. Standards of HES behavioral changes of health personnel

3.1 Health educator: At the beginning of the program 2 health educators had participated in the work shop , later and only one health educator involved in the program. This person was male, aged 42 years, received Master Degree in Health Education and had work as a health educator for 19 years. After 3 assessments of the outcomes of the ETP had been carried out, before the training, before the program of

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"PGHLE: HT" begins, and after implementation of the program 7 months, it was found all 4 behaviors had been changed regarding, self-esteem, self-efficacy, health service skills and job satisfaction in accordance with standards of whereby the score of these behaviors had increased in almost every aspect expect the service skills in accordance with the process standard which the maximum score was the same for all 3 measurements.

3.2 Professional nurses: There were 16 nurses had participated in the program and later on one more nurse had been assigned to join the project. All 17 nurses were females age mean of 5 years old and 94 percent finished bachelor Degree and 5-9 percent finished Master Degree. About 47 percent were the clinic heads and the rest were clinic nurses. The average year of working as a nurse was 10 years. After 3 assessments had been done as health educator, it was found that the changes had been found for all 4 behaviors related to self-esteem, self-efficacy, health service skills in accordance with process and structure standards and job satisfaction, whereby significantly different mean score of every aspect was found ($p<0.05$), except job satisfaction regarding work worth.

4. Behavioral changes of hypertensive patients

4.1 Comparison of mean scores regarding knowledge, perception, perceived susceptibility & severity of HT, self-efficacy, HT control behaviors (dietary behaviors, physical exercise, stress management, and medicine taking behaviors) between the experimental and comparison group, was computed by using Student' s t-test, and within group by using paired samples t-test, at the level of confidence of 95 % . It was found that the mean score of every dimension after the experimentation of experimental group were statistical significance better than the comparison group, and within the experimental group were similar significance, except for stress management behaviors.

4.2 Comparison of the proportion of hypertension patients who added fish sauce in the food sight before eating, and numbers of patients who did not keep the appointment, that had decreased, between the experimental and the comparison group, was computed by using Z-test. It was found that the difference was statistically significant.

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4.3 Comparison of measures of service satisfaction, satisfaction related to convenience, information received, service coordination, providers' courtesy, quality of care, and cost, between the experimental group and the comparison group was made by computing Student ' s t-test, and within group by using paired samples t-test, at the level of confidence of 95 %. It was found that the mean score of every dimension after the experimentation of experimental group were statistical significance better than the comparison group, and within the experimental group were similar significance.

4.4 Comparison of mean score of SBP, DBP, and BMI between / within the experimental and the comparison group was computed by using RMANOVA at the level of confidence of 95 %. After the experimentation, it was found that no significant difference of mean level between group of SBP and DBP but significant difference of mean level of BMI was found. Within group it was found that there was a significant difference of the mean levels of SBP, DBP, and BMI among the experimental group. But no significant difference was found among the comparison group.

RECOMMENDATIONS

1. Recommendations based on the findings

1.1 The empowerment training program through participatory learning which composed of experience learning and group process, including adult learning should be widely used for developmental process every 7 stage according to the standards of health education services. With this strategy, every level of personnel can be able to participate in thinking, making decisions, action and evaluation. Through this process the personnel will learn and exchange their learning experience at the horizontal level not the top-down, which will lead to high quality of health education services. If the health personnel have exposed to empowerment process, they could be able to apply their learned experience with other situations and hypertensive patients or other target groups in order to help them got more will/power, realized their self efficacy and be responsible for changing with performing hypertension control behaviors or their own behaviors.

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1.2 The implementing according to the standards of health education services was divided into 2 levels, firstly the structure and process standards for hypertensive patients of the Health Education Unit who were the technical supporting units and secondly, the structure, process and outcome standards for hypertensive patients of the Hypertension/Heart Unit who were the implementing units. This separation could be changed from standards of HES to action in the real situation, with the collaboration of multidisciplinary team work. The only one of Health Education Unit could not carried out the standard of HES effectively.

1.3 Facilitator/ coordinator were key person in persuading/motivating all of health personnel to be continuously awareness in their roles according to the standard of HES. It is necessary for facilitator/ coordinator to be patient, supportive, and continued. The beginning of this research project the research acted as the facilitator/ coordinator, Finally, facilitator/ coordinator roles should be transferred to the health personnel for sustainable development of the standard of HES.

1.4 It was found that group process was effective in implementing health education activities, whereby higher level of self-efficacy and hypertension control behaviors of the hypertensive patients was found. Since hypertension is a chronic disease, most of the patients gained high level of knowledge and perception about hypertension but they may have different problems relating to practices, because of different reasons and experiences. The program which provided an opportunity for patients to exchange their experiences and ask questions with the patients who could practice effectively, patients will accept the practices or alternatives that group members presented during the process.

2. Recommendations for the research methodology

2.1 This study used qualitative and quantitative methods to collect data. In qualitative research, a good rapport between health personnel and researcher is more important. It helps to recognize health personnel perceptions according to health education service, which will lead to successfully development of the standards of HES. Thus, those who would study the similar one, must be aware of trust, sincerity, and the good relationship are useful for making a good rapport at first and a long term.

2.2 The evidence displayed that the activities implemented according with the action research cycle were effective in modifying the health education services

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effectively and in relation to the situation of problems and obstacles. If the program implemented has followed this action research cycle continuously, the result will be the continuous development of health education activities in accordance with the standards of HES.

2.3 The impact of this study, hypertensive patients' behavior, was a quasi experimental design so it is difficult to control the confound variables along with information contamination between the two study groups, In addition, there was a competition in the comparison group because they didn't understand the real objective of this study. Therefore, the further study, which will be the quasi experimental study, must be avoiding the contamination by selecting a difference clinic. Moreover, the learning effect of study samples because they were periodically measured with the same questionnaire and reflected their practices during group process. Some of the change behaviors of hypertensive patients may be the effect of questionnaire.

2.4 Group discussion for hypertensive patients or other patients with chronic diseases should be organized with the cooperation of multidiscipline health team e.g. nurses, nutritionists, pharmacists, health educators, and physicians, in order to provide an opportunity for patients to ask questions with experts which will lead to service satisfaction and help to organize the effective and continuous health education program. Additionally, direct telephone to patients was effective in motivating patients to be aware and try to modify their own behaviors. Patients will feel that health team recognized and encouraged their behavioral modification.

3. Suggestions for further researches

3.1 The standards of health education services implemented in the HT/H Clinic should be applied in 9 clinics of the Internal Medicine Department and in 16 clinics of the Outpatient Department, in order to utilize the lessons learned in developing health education program in the Outpatient Department.

3.2 The empowerment program through participatory learning and adult learning should be trained multidiscipline health team who have been developed the standards of health education services, including evaluating the outcomes among them, and impacts on behavioral changes among patients/ receivers, both quantitative and qualitative.

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3.3 In implementing group health education activities for patients, relatives or care takers should be promoted/ supported to be involving in the learning process, especially, patients with chronic diseases, since patients ' relatives or care takers play a very significant roles in developing health behaviors of patients, including the impact study of learning process on health status and quality of life of relatives/ care takers, should also be done.

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APPENDIX A

QUESTIONNAIRE

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APPENDIX A

Guideline of the in-depth interview health personnel

1. What do you feel when you have been assigned to be responsible for health education activities in the clinic?
2. What have you done about health education activities in your clinic?
3. How did you feel about organizing health education activities?
4. What do you think about patients' feeling about health education activities that you have organized?
5. How and what should be done to develop health education activities?
6. What kinds of support that you think the Health Education Unit; HT/H Clinic should provide for your health education work? Why?
7. What do you think about the work of the Health Education Unit?
8. What do you think about health education activities provided by professional nurses of the HT/H Clinic?
9. What do you think the Hospital Director should support health education activities and how?

Guideline for focus group discussion with hypertensive patients

1. How did you know you had hypertension?
2. How did you feel when you know that you had hypertension?
3. How did you believe about medical treatment?
4. Do you think hypertension can be cured?
   If hypertension can not be cured, what are the reasons?
5. How did you take care of yourself? What are the reasons?
6. What are the kinds of problems and obstacles in taking care of yourself?
   How did you solve the problems?
7. What are your incorrect behaviors, which you think they should be changed?
   How are you going to change them?
8. What kinds of support did you family provide you?
   What do you think your family should help you or care for you?
9. What do you think the physician, nurses, and health care providers at the HT/H Clinic should do for the patients?

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APPENDIX A

QUESTIONNAIRE SET 1

This set of questionnaire is for **Health Educator** regarding implementation according to standards of Health Education Services (HES) of non-communicable diseases: a case study of HT (NCD: HT). There are 4 parts as follows:

Part 1: General information
Part 2: Self-esteem
Part 3: Self-efficacy in implementing according to standards of HES of NCD: HT
Skills according to standards of HES of NCD: HT
Part 4: Job satisfaction of implementing according to standards of HES of NCD: HT

PART 1: General Information

Instruction: Please check ✓ in the ( ) provided or fill out the blank with information that is true about yourself.

1. Sex ( ) 1. Male ( ) 2. Female
2. Your age ……..……years
3. Your highest education ( ) 1. Bachelor degree or equivalent
( ) 2 Master degree
Major area ……...
( ) 3. Other (specify) …….
4. Your present position ……
5. Your work experience……..……years

PART 2: Self-esteem

Instruction: Kindly read each of the following statements, and check ✓ in one of 5 choices provided that mostly matches with your feeling/opinion. The meaning of each choice is provided as follows:

Strongly agree:	that statement matches with all of your opinion
Agree:	that statement matches with large portion of your opinion
Uncertain:	that statement may or may not match with your opinion
Disagree:	that statement does not match with large portion of your opinion
Strongly disagree:	that statement does not match with your opinion at all

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PART 2: (continued) **Self-esteem**

Statement		Level of self-esteem				
		Strongly agree	**Agree**	**Uncertain**	**Disagree**	**Strongly disagree**
1.	Overall, you satisfy with yourself.					
2.	Sometime, you think that you do not have any good thing.					
3.	You think that you are valuable person.					
4.	You think that you can't work as good as other person.					
5.	You feel very little proud of yourself.					
6.	Sometime you feel that you are not useful at all.					
7.	You feel that you are as valuable as other person.					
8.	You need to add more self-esteem for yourself.					
9.	Totally, everything you've done was failed.					
10.	You always have the good feeling about yourself.					
11.	Your colleagues always recognize and honor yourself.					
12.	You are the person that every person associated with you, he/she will be happy and no stress.					
13.	Your colleagues accepted your working ability.					
14.	Your supervisor accepted your knowledge and your working ability.					
15.	You are respected person for other persons.					
16.	Most of people accepted your opinions/views.					

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PART 3: Standards of Health Education Services (HES) of NCD: A case study of HT divided into 2 parts as follows:

3.1 Self-efficacy in implementing according to standards of HES of NCD: HT (Level of ability)

Instruction: Kindly read each of the following statements, and check ✓ in one of the choices provided that reflects most of your ability to perform.
Each choice has the following meaning:

Highest:	You have highest willingness and attention to do
High:	You have high willingness and attention to do
Moderate:	You have moderate willingness and attention to do
Low:	You have low willingness and attention to do
Lowest:	You have lowest willingness and attention to do

3.2 Skills according to standards of HES of NCD: HT (Level of practice)

Instruction: Kindly read each of the following statements, and check ✓ in one of the choices provided that reflects the level of your practices.
Each level has the following meaning:

Could:	You could perform the task indicated
Uncertain:	You are not sure about performing the task indicated
Couldn't:	You could not perform the task indicated

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PART 3: Self-efficacy and skills in implementing according to standards of HES of NCD: HT

Statement	Level of self-efficacy						Level of practice		
	Highest	High	Moderate	Low	Lowest		Could	Uncertain	Could not
A. Health education service in accordance with Process Standards									
1. You plan health education service of NCD: HT effectively, e.g. the plan was developed from the participation of health team, the plan has covered health promotion, prevention, curation, and rehabilitation, and the plan can be put in the real situation.									
2. You've informed health education service plan on NCD: HT to all staff of a Health Education Unit.									
3. You've informed and coordinated the plan with other concerned units.									
4. You can develop the manual for health behavior surveillance of HT									
5. You can disseminate information regarding NCD: HT through various media effectively.									
6. You can supervise and follow up health service activities on NCD: HT accordingly with your plan, continuous and covered.									
7. You make use of the results from supervision to develop your health education services.									
8. You can evaluate health education services of NCD: HT performed systematically, e.g. activities have been evaluated as planned, responsible persons have been assigned, instruments and indicators have been developed, etc.									
9. The results of evaluation have been used in developing health education services.									
10. You can organize a health behavior surveillance systemically e.g. implementing surveillance activities as planned, responsible person have been assigned, appropriate instruments have been developed.									
11. You make use of the results from health behavior surveillance of NCD: HT for developing health education service.									

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PART 3: (continued) **Self-efficacy and skills in implementing according to standards of HES of NCD: HT**

Statement	Level of self-efficacy						Level of practice		
	Highest	High	Moderate	Low	Lowest		Could	Uncertain	Could not
A. (continued) **HES in accordance with Process Standards**									
12. You have developed health information system of HT systematically, e.g. the information was accurate, suitable for the needs of the target group, up-to-date, ready to be used, etc.									
13. You utilized health behavior information for planning health education program, activities and program evaluation.									
14. You carried out the research project related to health education services on HT.									
15. You make use of the results of researches in developing health education services.									
B. Development of Structure Standards									
1. You've involved in improving organizational structure of the Health Education Unit in order to make it clear, appropriate, and conducive to providing services on NCD: HT.									
2. You helped other personnel in the hospital understand the roles of Health Education Unit and health team in developing health behaviors of NCD: HT.									
3. You have skills in implementing health education services.									
4. You take responsibility for providing health education services, in accordance with assigned roles and duties.									
5. You've developed yourself in order to improve health education services of NCD: HT patients for continuous high quality.									
6. You've involved in defining vision, missions, philosophy, scopes goals and objectives of health education services of the health education services of the Health Education Unit in accordance with the policy/plan of the Hospital.									

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PART 3 (continued) **Self-efficacy and skills in implementing according to standards of HES of NCD: HT**

Statement	Level of self-efficacy						Level of practice		
	Highest	High	Moderate	Low	Lowest		Could	Uncertain	Could not
B. (continued) **Development of Structure Standards** 7. You have planed the program budget and utilized the budget for organizing health education activities for NCD: HT patients.									
8. You've developed health education materials necessary for health education activities for NCD: HT patients by analyzing needs for producing materials, pretesting materials, improving, evaluating, and developing materials continuously.									
9. You've managed the necessary media and materials for health education services of NCD: HT by providing adequate necessary media and materials, maintaining the materials to be ready to use, systematic storage, providing services for various units in the hospital, etc.									
10. You've organized the environment that inducives to health education services e.g. a room for health education activity is available, providing convenience and safety for NCD: HT patients, availability of necessary media and materials e.g. radio, television, videotape, a corner for health education materials, etc.									
11. You've persuaded health personnel from concerned units to cooperate in providing health education services.									
12. You've behaved yourself as a good role-model in regards to high quality health education services.									

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PART 4: Job satisfaction of health educator in implementing according to standards of HES

Instruction: Kindly read each of the following statements, and check ✓ in one of 5 choices provided that mostly reflects your feeling of satisfaction. Each choice has the meaning as follows:

Highest: Your level of satisfaction is highest
High: Your level of satisfaction is high
Moderate: Your level of satisfaction is moderate
Low: Your level of satisfaction is low
Lowest: Your level of satisfaction is lowest

Statement	Level of satisfaction				
	Highest	High	Moderate	Low	Lowest
A. Professional environment					
1. Involving in program planing/project of health education services.					
2. You have been accepted by the administrator.					
3. Opportunity for developing health education skills is available.					
4. Organization structure is appropriate and supportive to health education services.					
5. You have been accepted by the other units.					
6. You've got opportunities to learn and develop your work regularly.					
7. You've got opportunities for career development.					
B. Autonomy					
1. You are free to make decisions regarding health education services.					
2. You could modify health education services suitable for patients' needs.					
3. Providing standards of health education services promoted you to utilize your knowledge and ability to work freely.					
4. You could make reasonable decisions freely.					

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PART 4: (continued) **Job satisfaction of health educator in implementing according to standards of HES**

Statement	Level of satisfaction				
	Highest	High	Moderate	Low	Lowest
C. Work worth					
1. Your work is useful for the hospital.					
2. Your work is useful for your profession.					
3. Your work is useful for yourself and you feel that it is accomplished.					
4. Providing standards of health education services help enhancing your knowledge and your responsible work.					
D. Within/between professional relationship					
1. You have good relationship with your colleague in providing health education services.					
2. You have got support from your colleague in making decision about health education services.					
3. The physicians in your Clinic/Unit accepted more about your knowledge and ability.					
4. Teamwork and collaboration among different levels of colleague were good.					
5. Your work achievement has been praised by your colleague.					
6. You have a good relationship with your supervision/administrators in providing health education services.					
E. Role enactment					
1. You have enough time for providing health education services.					
2. You have enough time to pay attention to and participate in carrying out a research project.					
3. You have a chance to exchange opinions with your colleague and made use of the opinions in your work.					

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APPENDIX A

QUESTIONNAIRE SET 2

This set of questionnaire is for **Professional Nurses** in relating to implementing according to standards of Health Education Services (HES) of hypertensive (HT) patients. There are 4 parts of the questionnaire as follows:

Part 1: General information
Part 2: Self-esteem
Part 3: Self-efficacy in implementing according to standards of HES of HT patients
Skills according to standards of HES of HT patients
Part 4: Job satisfaction of implementing according to standards of HES of HT patients

PART 1: General Information

Instruction: Please check ✓ in the ( ) provided or fill out the blank with information that is true about yourself.

1. Sex ( ) 1. Male ( ) 2. Female
2. Your age ……..……years
3. Your highest education ( ) 1. Bachelor degree or equivalent
( ) 2 Master degree
Major area ……...
( ) 3. Other (specify) …….
4. Your present position ……
5. Your work experience in the clinic…….……years

PART 2: Self-esteem

Instruction: Kindly read each of the following statements, and check ✓ in one of 5 choices provided that mostly matches with your feeling/opinion. The meaning of each choice is provided as follows:

Strongly agree: that statement matches with all of your opinion
Agree: that statement matches with large portion of your opinion
Uncertain: that statement may or may not match with your opinion
Disagree: that statement does not match with large portion of your opinion
Strongly disagree: that statement does not match with your opinion at all

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PART 2: (continued) **Self-esteem**

Statement		Level of self-esteem				
		Strongly agree	**Agree**	**Uncertain**	**Disagree**	**Strongly disagree**
1.	Overall, you satisfy with yourself.					
2.	Sometime, you think that you do not have any good thing.					
3.	You think that you are valuable person.					
4.	You think that you can't work as good as other person.					
5.	You feel very little proud of yourself.					
6.	Sometime you feel that you are not useful at all.					
7.	You feel that you are as valuable as other person.					
8.	You need to add more self-esteem for yourself.					
9.	Totally, everything you've done was failed.					
10.	You always have the good feeling about yourself.					
11.	Your colleagues always recognize and honor yourself.					
12.	You are the person that every person associated with you, he/she will be happy and no stress.					
13.	Your colleagues accepted your working ability.					
14.	Your supervisor accepted your knowledge and your working ability.					
15.	You are respected person for other persons.					
16.	Most of people accepted your opinions/views.					

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PART 3: Standards of Health Education Services (HES) of Hypertensive patients / patients in clinic divided into 2 parts as follows:

3.1 Self-efficacy in implementing according to standards of HES of HT patients / patients in clinic
(Level of ability)

Instruction: Kindly read each of the following statements, and check ✓ in one of the choices provided that reflects most of your ability to perform.
Each choice has the following meaning:

Highest:	You have highest willingness and attention to do
High:	You have high willingness and attention to do
Moderate:	You have moderate willingness and attention to do
Low:	You have low willingness and attention to do
Lowest:	You have lowest willingness and attention to do

3.2 Skills according to standards of HES of HT patients / patients in clinic
(Level of practice)

Instruction: Kindly read each of the following statements, and check ✓ in one of the choices provided that reflects the level of your practices.
Each level has the following meaning:

Could:	You could perform the task indicated
Uncertain:	You are not sure about performing the task indicated
Couldn't:	You could not perform the task indicated

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PART 3: Self-efficacy and skills in implementing according to standards of HES of Hypertensive (HT))patients/ patients in the clinic

Statement	Level of self-efficacy						Level of practice		
	Highest	High	Moderate	Low	Lowest		Could	Uncertain	Could not
A. Health education service in accordance with Process Standards									
1. You plan health education service for hypertensive patients/ patients in the clinic effectively, e.g. the plan was developed from the participation of health team, the plan has covered health promotion, prevention, curation, and rehabilitation, and the plan can be put in the real situation.									
2. You've informed health education service plan to your colleague.									
3. You've informed and coordinated health education service plan with other concerned units.									
4. You organized health education activities in accordance with the health education plan set.									
5. You can disseminate information regarding HT/diseases in the clinic through various media effectively.									
6. You give suggestion and follow up health education program organized for hypertensive patients/patients in the clinic continuously and coveragely, in accordance with the plan set.									
7. You make use of the results from the follow-up of health education program in developing health education activities for hypertensive patients/patients in the clinic.									
8. You evaluate health education activities e.g. defining indicators of changed behaviors of hypertensive patients/patients in clinic, assigning the responsible persons, etc.									
9. You make use of the results of evaluation in developing health education activities for hypertensive patients/patients in clinic.									

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PART 3: (continued) **Self-efficacy and skills in implementing according to standards of HES of Hypertensive (HT))patients/ patients in the clinic**

Statement	Level of self-efficacy						Level of practice		
	Highest	High	Moderate	Low	Lowest		Could	Uncertain	Could not
B. Development of Structure Standards									
1. You have skills in implementing health education activities.									
2. You take responsibility in accordance with roles and responsibilities set.									
3. You've developed yourself in order to develop health education activities of HT patients/patients in clinic for continuous high quality.									
4. You've participated in defining vision, mission, philosophy, scope, goals, and objectives, of HT/H clinic or your clinic that related to implementing health education activities for HT patients/patients in clinic.									
5. You develop the plan including requesting budget to implement health education activities for HT patients/patients in clinic.									
6. You could select necessary media and materials for organizing health education activities of HT patients/patients in clinic effectively.									
7. You've provided necessary media and materials for organizing health education activities of HT patients/patients in clinic, in regard to adequacy, maintenance to be ready to use, and systematic storage.									
8. You've established the environments conducive to health education services e.g. the available room for organizing health education activities, providing convenience/ safety for HT patients/patients in clinic, available materials and facility i.e. radio, television, and health information corner.									
9. You've persuaded other personnel from concerned units to involve in implementing health education activities for HT patients/patients in clinic.									
10. You act as a good role model in implementing quality health education activity.									

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PART 4: Job satisfaction of professional nurses in implementing according to standards of HES

Instruction: Kindly read each of the following statements, and check ✓ in one of 5 choices provided that mostly reflects your feeling of satisfaction. Each choice has the meaning as follows:

Highest: Your level of satisfaction is highest
High: Your level of satisfaction is high
Moderate Your level of satisfaction is moderate
Low: Your level of satisfaction is low
Lowest: Your level of satisfaction is lowest

Statement	Level of satisfaction				
	Highest	High	Moderate	Low	Lowest
A. Professional environment					
1. Involving in program planing/project of health education services.					
2. You have been accepted by the administrator.					
3. Opportunity for developing health education skills is available.					
4. Organization structure is appropriate and supportive to health education services.					
5. You have been accepted by the other units.					
6. You've got opportunities to learn and develop your work regularly.					
7. You've got opportunities for career development.					
B. Autonomy					
1. You are free to make decisions regarding health education services.					
2. You could modify health education services suitable for patients' needs.					
3. Providing standards of health education services promoted you to utilize your knowledge and ability to work freely.					
4. You could make reasonable decisions freely.					

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PART 4: (continued) **Job satisfaction of professional nurses in implementing according to standards of HES**

Statement	Level of satisfaction				
	Highest	High	Moderate	Low	Lowest
C. Work worth					
1. Your work is useful for the hospital.					
2. Your work is useful for your profession.					
3. Your work is useful for yourself and you feel that it is accomplished.					
4. Providing standards of health education services help enhancing your knowledge and your responsible work.					
D. Within/between professional relationship					
1. You have good relationship with your colleague in providing health education services.					
2. You have got support from your colleague in making decision about health education services.					
3. The physicians in your Clinic/Unit accepted more about your knowledge and ability.					
4. Teamwork and collaboration among different levels of colleague were good.					
5. Your work achievement has been praised by your colleague.					
6. You have a good relationship with your supervision/administrators in providing health education services.					
E. Role enactment					
1. You have enough time for providing health education services.					
2. You have enough time to pay attention to and participate in carrying out a research project.					
3. You have a chance to exchange opinions with your colleague and made use of the opinions in your work.					

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APPENDIX A

QUESTIONNAIRE SET 3

This set of questionnaire was aimed to evaluate the empowerment training program in organizing the workshop on " Empowerment of health personnel in standards of health education services to support Health Promoting Hospital, Rajavithi Hospital ".

Statement	Highest %	High %	Moderate %	Low %	Lowest %
1. Every activity organized was useful for your health education services.	17.65	64.70	17.65	-	-
2. The time allotment for each activity was appropriate.	5.88	52.95	35.29	5.88	-
3. Every resource person was appropriate.	23.53	58.82	17.65	-	-
4. The time allotment for the whole program was appropriate.	5.88	52.95	29.41	11.76	-
5. You've got a chance to exchange opinion/ experience among the participants.	-	58.82	41.18	-	-
6. You've participated in all activities organized.	5.88	70.59	23.53	-	-
7. Being participated in the activities organized helped you discover your own ability.	-	52.94	47.06	-	-
8. Being participated in the activities organized helped you know and understand others.	-	58.82	41.18	-	-
9. You've understood more about the roles of health education services in the clinic.	17.65	58.82	23.53	-	-
10. You could apply experience learned in implementing health education services in the clinic.	11.76	41.18	47.06	-	-
11. You are confident to organize health education services to develop health behavior of patients in the clinic.	5.88	41.18	52.94	-	-
12. You could be able to coordinate, persuade, and encourage concerned health personnel to participate in organizing health education services in the clinic.	5.88	29.41	64.71	-	-
13. You are ready to organize health education services to develop health behavior in the clinic.	-	29.41	58.83	11.76	-

Suggestion: 1. Example of a precise health education model at OPD should be presented.

2. Time allotment for this workshop should be 3 more days in order to study more details.
3. Some resource persons spent too much time for making a summary.

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APPENDIX A

QUESTIONNAIRE SET 4

This set of questionnaire is the interview schedule for hypertensive patients. There are 6 parts as follows:

Part 1: General Information
Part 2: Knowledge regarding Hypertension (HT)
Part 3: Perception about Hypertension
Part 4: Self-efficacy regarding Hypertension Control Behavior
Part 5: Hypertension Control Behavior
Part 6: Patients' Satisfaction about Health Care Service System

PART 1: General information

Patient's name …….. ……. HN…….
Address number …….. Street …… District ……...
Province …… Tel ……...

1. Sex ( ) 1. Male ( ) 2. Female
2. Age ……..……years
3. You've been sick with HT for ……. years.
4. How did you know that you have HT?
   ( ) 1. Observe symptoms and went to see a doctor
   ( ) 2. A doctor diagnosed while went to see a doctor with other illness
   ( ) 3. From annual medical check-up
   ( ) 4. Others
5. Level of blood pressure, later measurement (Information from 2 sources)
   ( ) 1. From OPD Card …… mmHg.
   ( ) 2. From the patient …… mmHg.
6. Your body weight …… kgs
7. Height …….. centimeter
8. Marital status
   ( ) 1. Single ( ) 2. Married
   ( ) 3. Widowed/ Divorced/ Separated
   ( ) 4. Others (specify) ……
9. Educational level
   ( ) 1. Did not attend school ( ) 2. Primary school
   ( ) 3. Secondary school ( ) 4. Vocational collage
   ( ) 5. University ( ) 6. Other (specify) ……

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10. Occupation

( ) 1. House work/ housewife ( ) 2. Trader
( ) 3. Labor ( ) 4. Government officer
( ) 5. Private enterprise ( ) 6. Farmer/ Agriculturist
( ) 7. Do not work ( ) 8. Retired
( ) 9. Other (specify) …….

11. How did you pay for medical service?

( ) 1. Patient/ family
( ) 2. Gold card
( ) 3. Government/ Private enterprise
( ) 4. Other (specify) ……..

PART 2: Knowledge regarding hypertension

Instruction: Please check ✓ in the ( ) according to the patient's answer (can be answered more than 1 answer)

1. What are the causes of hypertension?

( ) 1.1 Consuming sodium chloride or salt
( ) 1.2 Consuming high fat and high cholesterol food
( ) 1.3 Obesity
( ) 1.4 Stress
( ) 1.5 Sedentary activity
( ) 1.6 Smoking
( ) 1.7 Alcohol drinking
( ) 1.8 Heredity
( ) 1.9 Age more than 40 years
( ) 1.10 Prevalence for male is higher than female
( ) Don't know 1.12 ( ) Other (specify) ……

2. What are the symptoms of hypertension?

( ) 2.1 headache, dizziness ( ) 2.6 noise damage
( ) 2.2 fainting ( ) 2.7 beri beri
( ) 2.3 bleeding per nose ( ) 2.8 back pain
( ) 2.4 poor vision ( ) 2.9 Don't know
( ) 2.5 palpitations ( ) 2.10 Other …….

3. What are complications of hypertension?

( ) 3.1 heart failure ( ) 3.5 blurred vision
( ) 3.2 thickening/ rupture of brain's vessels ( ) 3.6 Don't know
( ) 3.3 paralysis ( ) 3.7 Other……
( ) 3.4 chronic kidney failure

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4. What kind of self-care behavior that the hypertensive patients should practice?
   ( ) 4.1 Taking medicine as per dose and time
   ( ) 4.2 Limited consumption of salt, high fat food , carbohydrate and sugar
   ( ) 4.3 Control body weight
   ( ) 4.4 Regular physical exercise
   ( ) 4.5 Stress management
   ( ) 4.6 Keeping appointment
   ( ) 4.7 Smoking nonuse
   ( ) 4.8 Alcohol nonuse
   ( ) 4.9 Others ……
5. What kind of practice that makes the blood pressure level arisen?
   ( ) 5.1 pulling the heaving things
   ( ) 5.2 use a lot of strength or holding the heavy objects, carrying on the shoulder
   ( ) 5.3 Don't know
   ( ) 5.4 Others ……..
6. Which level of blood pressure that describes "hypertension"?
   ( ) 6.1 higher than 140/90 mmHg
   ( ) 6.2 higher than 150/100 mmHg
   ( ) 6.3 higher than 160/100 mmHg
   ( ) 6.4 Don't know
   ( ) 6.5 Others ……..

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PART 3: Perception about hypertension

Instruction: Please check ✓ on one of the choices provided accordingly with the patient's choice, for each statement

Statement	Level of perception				
	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Perceived susceptibility of complication					
1. Hypertensive patients always have a chance to get complications					
2. Patients who have been sick with hypertension for a long period of time might get cerebrovascular diseases.					
3. Those who have hypertension have more chance to have heart diseases than the normal ones.					
4. Those who have been sick with hypertension for a long period of time might get blurred vision or blindness.					
5. Those who have been sick with hypertension for a long period of time might get kidney failure.					
Perceived severity of Hypertension					
1. Hypertension can be cured.					
2. Even though hypertensive patients may not have symptoms e.g. headache, dizziness, but the disease can affect on heart, brain, kidney, eyes, etc.					
3. For those hypertensive patients who have narrow blood vessel of the brain may get paralysis.					
4. For those hypertensive patients who have ruptured blood vessel of the brain may lead to death.					
5. For those patients who have been sick with hypertension for a long period of time will lead to heart failure and death.					

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PART 4: Self-efficacy in performing hypertension control behaviors

Instruction: Please check ✓ on one of the choices provided accordingly with the patient's choice, for each statement.

Statement	Level of self-efficacy				
	Certainly can do	Can do	Uncertain	Can't do	Certainly can't do
1. You can limit consuming high fat diet e.g. fried food, food cooked with coconut milk, egg, etc.					
2. You can limit consuming high fat dessert e.g. fried dessert, dessert fixed with coconut milk, cake, etc.					
3. You can consume protein diet from fish, meat, or beans, etc.					
4. You can be able to drink 1 glass of milk every day.					
5. You can consume vegetables and fruits every day.					
6. You can limit consuming high salt food, fermented food, preserved food, etc.					
7. You can stop drinking coffee, soda beverage, tonic beverage, etc.					
8. You can practice physical activity at least 3 times a week and 15-30 minutes per time.					
9. You can practice physical activity until getting sweated and heart beat raised.					
10. You can practice at least one type of sports or physical activity regularly.					
11. Whenever you get problem, you can consult your closed friend/persons e.g. couple, child/grandchild, relatives, friends, etc.					
12. When you have stress, you can manage it by appropriate methods e.g. meditation, praying or hobby.					
13. You can manage stress effectively without using tranquilized drugs.					
14. You can take anti-hypertensive drugs regularly in accordance with prescribed doses and time.					
15. You can keep every appointment.					
16. You can practice self-care regularly regarding dietary behaviors, physical activity, stress management, medicine taking, and appointment keeping.					

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PART 5: Hypertension control behaviors

Instruction: Please check ✓ in one of the choices provided accordingly with the patient's answer.

Eating / consumption behaviors

Kinds of food	Frequency of consumption				
	Every day	3-4 times/ week	1-2 times/ week	1-2 times/ month	Never
1. <u>Fat containing food</u>					
- Fried Food e.g. fried pork, fried fish, fried chicken, fried fish-cake	……	……	……	……	……
- Food cooked with coconut milk e.g. curry, green curry, panang beef/pork, Tom-Kha Kai, Tapo, Tom-Kati Saibau, Toachien Lone (fermented soy bean cooked with coconut milk).	……	……	……	……	……
- Food cooked with meat, animal's skin, e.g. rice topped with roasted duck, chicken, pork with some part of fat, fried chicken's skin,	……	……	……	……	……
- Variety of egg dishes e.g. fried egg, boiled or half-boiled egg, etc.	……	……	……	……	……
- Fried sweet meats e.g. fried Chinese-Donut, fried banana, fried taro, fried sweet potato, fried durian, etc.	……	……	……	……	……
- Thai dessert cooked with coconut milk e.g. banana, sticky rice, etc.	……	……	……	……	……
- Bread, sandwiches, cake, donut etc.	……	……	……	……	……
- Other ……	……	……	……	……	……
2. <u>Protein food</u>					
- Fish	……	……	……	……	……
- Meat, pork, beef, duck, chicken	……	……	……	……	……
- Beans and bean products tao foo, milk, sweet meats cook with beans, etc.	……	……	……	……	……
- Drink 1 cup of milk	……	……	……	……	……
- Other ……	……	……	……	……	……
3. <u>Dietary fiber</u>					
- Green leaves e.g. gourd, spinach, Chinese-cabbage, morning glory, etc.	……	……	……	……	……
- Fruit with low sugar e.g. orange, papaya, banana, pine apple, guava, apple, watermelon, etc.	……	……	……	……	……
- High sugar fruits e.g. longan, durian, lamud, rope mango, jack fruit, etc.	……	……	……	……	……

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(continued) **Eating/consumption behaviors**

Kinds of food	Frequency of consumption				
	Every day	3-4 times/ week	1-2 times/ week	1-2 times/ month	Never
4. <u>Food containing sodium chloride</u>					
- High salty food e.g. salted fish, salted egg, salted crab, salted vegetables, salted bean curd, shrimp, pork/beef, etc.	……..	……..	……..	……..	……..
- Sweet and salty food e.g. pork/beef, fish, vegetables, etc.	……..	……..	……..	……..	……..
- Fermented food e.g. vegetables, fish, shell fish, crab, eggs, Nam-boodoo (special sauce of southern region)	……..	……..	……..	……..	……..
- Other ……	……..	……..	……..	……..	……..
5. <u>Half-cooked food and canned food</u>					
- Noodles, rice-soup	……..	……..	……..	……..	……..
- Fish, vegetables	……..	……..	……..	……..	……..
- Other ……	……..	……..	……..	……..	……..
6. <u>Beverages</u>					
- Water 6-8 glasses	……..	……..	……..	……..	……..
- Tea & coffee	……..	……..	……..	……..	……..
- Sweet beverage	……..	……..	……..	……..	……..
- Soft drink	……..	……..	……..	……..	……..
- Fruit juice e.g. orange juice, grape fruit juice, guava juice.	……..	……..	……..	……..	……..
- Tonic beverage e.g. Red Bull, Lipo, M100	……..	……..	……..	……..	……..
- Ovaltine, Milo	……..	……..	……..	……..	……..
- Other ……	……..	……..	……..	……..	……..
7. Consumption of "Supplementary Food" e.g. chicken soup, sea weeds, swallow's nest, vitamins.	……..	……..	……..	……..	……..
8. Frequency of adding fish sauce or soy bean sauce before eating noodles, rice, etc.	……..	……..	……..	……..	……..
9. <u>Kind of oil used in cooking</u>					
( ) 1. Vegetable oil (specify the brand name)	……..	……..	……..	……..	……..
( ) 2. Pork oil (or lard)	……..	……..	……..	……..	……..
( ) 3. Coconut oil	……..	……..	……..	……..	……..
( ) 4. Palm oil	……..	……..	……..	……..	……..
( ) 5. Other ……	……..	……..	……..	……..	……..

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Physical activity behaviors

1. Do you play any sports or practice physical activity regularly?

( ) 1. Yes ( ) 2. No

If **yes**, what kind of sports/physical activity?

( ) 3. Running ( ) 9. Static bicycling
( ) 4. Aerobic dance ( ) 10. Gardening
( ) 5. Swimming ( ) 11. Badminton
( ) 6. Bicycling ( ) 12. Walking
( ) 7. Fast walking ( ) 13. Fast arm-moving
( ) 8. Chinese boxing dance (Tai-keg) ( ) 14. Other ……..

2. With in one month, have you ever practiced the following activities, if yes how often and how long for each time did you practice?

Type of physical activity	Frequency/week			Duration (Min/time)		
	Every day	3-5 times/ week	1-2 times/ week	More than 30 min.	21-30 min.	<20 min.
2.1 Vigorous activity 1) Running 2) Aerobic Dance 3) Swimming 4) Fast bicycling 5) Other ……						
2.2 Moderate activity 1) Fast walking 2) Chinese boxing dance (Tai-Keg) 3) Static bicycling 4) Gardening 5) Badminton 6) Other						
2.3 Mild activity 1) Walking 2) Fast arm-moving 3) Other						

3. Every time you perform physical activity, did you warm-up for 5-10 minutes before starting and cool down for 5-10 minutes after finishing?

( ) 1. Yes ( ) 2. No

4. After physical activity, which sign did you mostly experienced? (can answer more than 1 choice)

( ) 1. Nothing ( ) 2. tired ( ) 3. sweated ( ) 4. Rapid breathing ( ) 5. Rapid heart beat

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Stress management behaviors

1. Whenever you have stress or emotional problem, what are the first 3 methods you mostly to cope with? Please fill in the blanks provided by putting the number of those 3 number of the list provided.

1. Keep calm	12. Watching TV/movies
2. Praying	13. Listening to music
3. Meditation	14. Shopping
4. Sleep	15. Going to night club
5. Talk with couple	16. Going to get services e.g. message parlour sex commercial workers
6. Talk with child/grandchild	17. Smoking
7. Go to see friends	18. Alcoholic drinking e.g. liquor, beer, wine
8. Playing sports	19. Destroying your belongings
9. Gardening	20. Using tranquilized drugs
10. Rearing animal	21. Other (specify) …….
11. Reading	

Answer Rank NO. 1 …… NO. 2 …… NO. 3……

2. How many hours do you sleep at night?

( ) 1. More than 6 hours	( ) 3. Less than 4 hours
( ) 2. 4 - 6 hours	( ) 4. Other

3. During the day time, how many hours do you sleep?

( ) 1. More than 1 hours	( ) 3. Less than 15 min.
( ) 2. 15 min. – 1 hours	( ) 4. Never take a nap
	( ) 5. Other ……...

Smoking behaviors

1. Do you smoke?

( ) 1. No ( ) 2. Yes

If **yes**, how often?

( ) 3. Once in a while ( ) 4. Often

( ) 5. Regularly

2. How many cigarettes do you smoke per day? ……. years
3. How many years have you smoked? …… years

Alcohol drinking behaviors

Do you drink alcoholic beverage e.g. liquor, beer, wine, traditional herbal alcohol?

( ) 1. Yes ( ) 2. No

If **yes**, how many times/month and how much per time?

…….. time/month, ……..……. glass/time

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Medicine taking behaviors

1. How do you take your hypertensive control medicine?
   ( ) 1. According to dose and time as prescribed
   ( ) 2. According to dose prescribed but uncertain time
   ( ) 3. Is not strict to the prescribed dose and time
   ( ) 4. Stop taking if you feel good
   ( ) 5. Stop taking if having side effects after taking
   ( ) 6. Taking medicine accordingly with prescribed doses and time alternatively with herbal medicine
   ( ) 7. Other
2. During last week, how often did you do not take your medicine accordingly with your doctor's prescription, e.g. missed taking, took over doses, forgot to take?
   ( ) 1. More than 3 times, because ……..
   ( ) 2. 1-3 times, because …….
   ( ) 3. Took it as prescribed
3. What did you do when you forgot to take medicine?
   ( ) 1. Take it right away
   ( ) 2. Skip that dose
   ( ) 3. Take double doses for the next time
   ( ) 4. Other (specify) ……...

Appointment keeping behavior

1. During the last 2-3 months, how often did you do not keep your appointment?
   ( ) 1. Never kept any appointment, because ……
   ( ) 2. 1-2 times, because ……..
   ( ) 3. Never missed, …… time/month
   ( ) 4. Other (specify) ……
3. In case that you did not keep your appointment and you did not have enough medicines to take, what did you do?
   ( ) 1. Bought the medicine from the drug store/pharmaceutical organization
   ( ) 2. Stopped taking medicine until the next visit
   ( ) 3. Waited until having abnormal symptoms
   ( ) 4. Other (specify) ……...

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PART 6: Patients' satisfaction towards health care services, especially from the HT/H Clinic

Instruction: Please check ✓ in one of the choices provided accordingly with the patient's satisfaction.

Statement	Level of satisfaction				
	Highest	High	Moderate	Low	Lowest
Convenience					
1. This hospital is located in the city, it is convenient to get to.					
2. The services were arranged orderly without going back and forth.					
3. Rapid service of the record room (OPD Card)					
4. Adequacy of seats while waiting					
5. Services were provided as first come first serve basis					
6. The speed of providing services of the check-up room					
7. The speed of providing services of the drug room					
8. Availability of television/video tape for disseminating information about hypertension					
9. Availability of health related information corner e.g. manual and pamphlets relating to hypertension					
10. Room for organizing health education activities was privacy, convenient, and safe.					
Information received					
1. While waiting, you've received information about hypertension from videotape or printed materials					
2. Doctors paid attention to the information about your illness that you reported to them.					
3. The results of your medical treatments received from doctors.					
4. Suggestion about self-care behaviors that you've received from the doctors					
5. Explanation about medicine taking that you've received from the pharmacist.					
6. Suggestion about self-care behaviors that you've received from the nurses					
7. Answers of the questions that you have asked health staff					
8. Participating in group's activities with patients to exchange learning experiences regarding self-care behaviors for controlling hypertension.					

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PART 6: (continued) **Patients' satisfaction towards health care services, especially from the HT/H Clinic**

Statement	Level of satisfaction				
	Highest	High	Moderate	Low	Lowest
Information Received (continued) 9. You could be able to apply knowledge and experiences learned from the group into your own situation.					
10. You could be able to apply knowledge and experiences learned from the group and transfer them to other patients.					
Coordination of Services 1. The clinic has an effective appointment setting system for a continuous treatment.					
2. Patients' history and results of the treatment have been prepared and be ready for each appointment.					
3. The transferring system of the patients is effective e.g. sending the patients to get x-ray, etc.					
4. The services were convenient, quick, and with simple steps.					
5. During the group process, the group coordinator could be able to facilitate and provide learning experiences for the group members effectively.					
6. The group coordinator could be able to facilitate for members' learning in accordance with the members' needs e.g. coordinating with pharmacists regarding drugs aspect, coordinating with nutritionists regarding nutrition.					
7. The group activities for patients/relatives should be continuously organized.					
Providers' courtesy 1. Doctors' manners					
2. Nurses' manners					
3. Other health staff's manners					
4. Health staff showed their enthusiasm for providing for you services					
5. Health staff expressed their warm relationship friendliness, and lively manners.					
6. Health staff always provide you services attentively					

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PART 6: (continued) **Patients' satisfaction towards health care services, especially from the HT/H Clinic**

Statement	Level of satisfaction				
	Highest	High	Moderate	Low	Lowest
Quality of care					
1. Doctors' competence in performing medical check-up					
2. Nurses' competence in using medical equipment/ instruments					
3. Health staff used medical materials/ equipment/ instruments carefully to prevent dangers that might occur with you					
4. Readiness and modernity of medical equipment/ instruments					
5. The use of computer helped the health staff make the rapid service					
6. You've received quality medicines from this hospital					
7. The overall quality of the services received					
Cost of care					
1. Cost of drugs and care					
Satisfaction of being in the group					
1. Involvement i.e. you have an opportunity to express opinions or to tell your group members about your experiences					
2. Trust with the group members					
3. Group atmosphere, friendliness, no stress					
4. Appropriateness of time allotment of group activities					

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APPENDIX B

EMPOWERMENT TRAINING PROGRAM

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APPENDIX B

The "Empowerment Training Program on Health Personnel to Implement Standards of Health Education Services to Support Health Promoting Hospital Policy"

January 17-18, 2002, 8.30-16.00 Hours

Chalermprakiat Building, 11st Floor, Yothee Room, Rajavithi Hospital

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Agenda of the ETP

Thursday January 17, 2002

Morning Session	8.30 – 9.00 hrs.	Registration
	9.00 – 9.15 hrs.	Opening Ceremony • Director of Rajavithi Hospital
	9.15 – 9.25 hrs.	"New Dimensions of Health Education" of the Provincial Hospital Division
	9.25 – 9.45 hrs.	"Health Education to Support Health Promoting Hospital Policy" • Deputy Director, Nursing Division
	9.45 – 10.00 hrs.	Coffee/ Tea
	10.00 – 12.00 hrs.	"Empowerment of Health Team for Implementing Standards of Health Education Services" • Assoc.Prof. Dr.Suree Chanthamolee • Lecturer Pichet Charoenket • Miss Nuchrapee Suthikul
	12.00-13.00 hrs.	Lunch
Afternoon Session	13.00-14.00 hrs.	"Empowerment of Health Team for Implementing Standards of Health Education Services" (continued) • Assoc.Prof. Dr.Suree Chanthamolee • Lecturer Pichet Charoenket • Miss Nuchrapee Suthikul
	4.00-14.15 hrs.	Coffee/ Tea
	14.15-16.00 hrs.	"Empowerment of Health Team for Implementing Standards of Health Education Services" (continued) • Assoc.Prof. Dr.Suree Chanthamolee • Lecturer Pichet Charoenket • Miss Nuchrapee Suthikul

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Agenda of the ETP (continued)

Friday January 18, 2002

Morning Session	8.45 – 9.00 hrs.	"New Dimensions of Health Education" of the Provincial Hospital Devision
	9.00 – 10.30 hrs.	Panel Discussion "Empowerment Health personnel for Developing Health Education Program" Panelists • Dr.Maiyadhaj Samsen Director of Quality Development Center, Rajavithi Hospital • Lecturer Pichet Charoenket Faculty of Public Health, BoorapaUniversity Modurator • Assoc.Prof. Dr.Suree Chanthamolee Faculty of Public Health, Mahidol University
	10.30-10.45 hrs.	Coffee/ Tea
	10.45-12.00 hrs.	Lecture: "Health Education Planing and Evaluation" • Assoc.Prof. Dr.Nirat Imamee Faculty of Public Health, Mahidol University
	12.00-13.00 hrs.	Lunch
Afternoon Session	13.00-14.30 hrs.	Group work on "Working together to Develop Standards of Health Education Program: A Case Study on Hypertension" Resource Persons • Assoc.Prof. Dr.Nirat Imamee • Assoc.Prof. Dr.Suree Chanthamolee • Miss Nuchrapee Suthikul
	14.30-15.00 hrs.	Coffee/ Tea
	15.00-15.30 hrs.	Group work Presentation on "Standard Health Education Program: A Case Study on Hypertension" Resource Persons • Assoc.Prof. Dr.Nirat Imamee • Assoc.Prof. Dr.Suree Chanthamolee • Miss Nuchrapee Suthikul
	15.30-16.00 hrs	Open Discussion / Conclusion and Closed Ceremony

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APPENDIX B

EMPOWERMENT TRAINING PROGRAM

"Empowerment Training Program (ETP) for Health Personnel in Standards of Health Education Services to Support Health Promoting Hospital Policy"

17 – 18 January, 2002.

Chalermprakiat Building, 11st Floor, Yothee Room, Rajavithi Hospital

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Activities Morning Session: January 17, 2002, 10.00– 12.00 p.m. (120 min)

1. Introduction of the ETP / resource persons **5 min**

2. *Activity 1* "Ice breaking" **30 min**

Objectives:

1. To help participants know and understand each other.
2. To set the agreement between the participants and the resource person. regarding the ETP procedures and mutual expectation.
3. To promote team work.

Activities:

1. Have the first participant introduced herself/himself by telling the first name and a phrase after the name. The second participant has to start with the first word/phrase that harmonized with the last word of the first participant. The third person will do the same pattern, until the last participant.

The resource person made the conclusion that: this activity helped persons think and expressed the good thing about themselves. If everybody thinks and speaks wisely these actions will contribute to wise action and job's achievement. In case that some member may not be able to think about the word/phrase other members could help by giving recommendations. This mutual help could develop group's power.

2. Have each participant wrote his/her expectation from the ETP on the heart-like paper. Compiling the papers on the desk. Ask each member picked up one piece of paper each and read to the group.

The resource person concluded that: each member of the group has different expectation. In order to achieve those expectations the cooperation among all group

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members in sharing thought, decision making, action, being responsibility and evaluation is needed.

3. Have one group member called the name of the member who sit next and ask the group members clap their hands. All members do the same pattern. After finishing the first round, continued for the second and the third round with higher speeds.

4. Show the pictures to the audience. Ask the group made the interpresentation of each picture.

The resource person concluded that: while clapping the hands, each member did with different speed, and each member interpreted the pictures differently. These two activities revealed the individual differences in perception and practices. Therefore, each member should accept these differences and adjust himself or herself in order to learn together with happy atmosphere.

3. *Activity 2* "Life tide of health education" **30 min**

Objectives:

1. To exchange experiences related to health education.
2. To find the way to develop quality health education.

Activities:

1. Have each participant told the group about experiences related to health education of each clinic, including strengths, weaknesses and problems/obstacles.
2. Identify the opportunities to develop high quality health education program.
3. Conclusion made by the participants and the resource person.

4. *Activity 3* "T O S O - Developing power by a miracle stone" **55 min**

Objectives:

1. To develop knowledge based on the exchange of experiences.
2. To help participants reflected their opinions, feelings, and attitudes towards problems or issue concerned.
3. To practice listening skills and acceptance skills towards others' opinions

Activities:

1. Have participant sat in a circle with one miracle stone on the central desk
2. Set the issues to be discussed:-

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3. Have the participant who was ready and wanted to discuss on the issue set hold the stone in her/his hand while telling about experiences. Other members have to be good listeners, have no right to speak or ask questions. After finishing the speech, placed the stone on the central desk and the next speaker will continue the same pattern.

4. Assign the group's observer to observe the activities, collect the information presented by the group members, give the opinions about group's atmosphere, make the conclusions and make the presentation to the big group.

5. After all members had told the group, the resource person added more information and concepts about "Empowerment"

***Note*: -** Questions or giving more information could be done after all members presented their opinions.

- TOSO –*Telling Ours Story Ourselves* was a method done by Indians in the United States of America and Canada. This name is used synonymous with Secret Circle, Talking Circle, Hearing Circle, and Story Circle.

Activities Afternoon Session: January 17, 2002, 1.00-2.30 p.m. and 2.45–4.00 p.m.

(165 min)

5. *Activity 4* "Are you a chicken or an eagle?" 30 min

Objectives:

1. To help participants understand the concepts of empowerment.
2. To help participants applied the methods of empowerment effectively with the target group.

Activities:

1. Have participants listened to the tape on "Are you a chicken or eagle?"
2. Have each participant selected which one he/she would like to be a chicken or an eagle and given the reasons.
3. Have small groups discussed "Why can't a chicken fly? And why can an eagle fly?"
4. *Resource person concluded that*: everybody has potential to develop like an eagle therefore it is health personnel's responsibility to motivate/promote the target group perceived their own self-efficacy.

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6. *Activity 5* Developing a vision "A desirable health education" 60 min

Objectives:

1. Participants could develop a vision and mission of health education program.

2. Promoting a team work.

Activities:

1. Distributing a blank card to each participant and asking the participants to write on the card a desirable health education.

2. Compiling the cards and having participants sorted the cards.

3. Using the keywords derived from the groups of cards to develop the vision of health education.

4. Dividing the participants into 4 groups and have each group developed missions in order to reach the stated vision, by identifying 4 issues: self-development, health care providers, health care receivers, and work system.

5. The research team (the researcher, research assistants, and resource person) complied the ideas and presented to the plenary session and revision was followed.

7. *Activity 6* "Safeguarding an egg to develop psychological support and team power" 45 min

Objectives:

1. To help participants understand and realize the importance of team work.

2. To help participants be aware of the significance of planning, leadership, and involvement of group members that affected the achievement of the group.

3. To train participants skills in solving problems and working together by using the existing limited resources.

4. To help participants gained ability to think critically.

Activities:

1. Have participants divided into 2 groups. Each group received a box containing 1 egg, 10 wood sticks, 20 elastic bands, 10 straws and 1 pack of plasticence.

2. Each group has been asked to use the materials provided to protect the egg from breaking if the egg had been thrown at the 3-meter point from the ground.

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3. Assigning 1 member to act as a group's observer, to observe group's activities regarding leadership, members' rules, planning, work atmosphere, etc.

4. The observer threw the egg down to the ground and checked whether or not it was broken.

5. Ask participants to express the lessons learned from the activity organized and the observers added some points from their observation. The resource person made the conclusions.

8. Participants made the conclusion regarding the lessons learned from the whole day. The next day's activities were introduced by the resource person. **30 min**

Activities Morning Session: January 18, 2002, 9.00-10.30 a.m. and 10.45–12.00 a.m. (165 min)

9. ***Activity 7*** **Panel discussion "Personnel empowerment for health education development" 90 min**

Panelist: Dr.Maiyadhaj Samsen
Head, Quality Improvement Center, Rajavithee Hospital

Topics:

1. How does health education help develop quality of hospital services?
2. When a personnel has empowered what will future health education be?

Panelist: Mr.Pichit Charoenkes
Faculty of Public Health, Boorapa University

Topics:

1. Techniques of self-empowerment.
2. How to develop health education through empowerment of the target population?

Moderator: Assoc. Prof. Dr.Suree Chanthamolee
Faculty of Public Health, Mahidol University

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10. ***Activity 8*** **Lecture on "Planning and evaluation according to standards of Health Education Service " 75 min**

By Assoc. Prof. Dr.Nirat Imamee

Faculty of Public Health, Mahidol University

Activities Afternoon Session: January 18, 2002, 1.00-2.30 p.m. and 2.45–4.00 p.m.

(165 min)

11. ***Activity 9*** **"Sharing thought, action and presentation" 90 min**

Objectives:

1. To help participants be able to plan and evaluate health education program
2. To promote team work

Activities:

1. Have the participants divided into 2 groups. Ask each group develop a health education program according to standards of Health Education Services, for hypertensive patients. Each group was asked to develop a project composing of the following aspects: Title of the project; objectives; target group; strategies, activities, responsible persons, sites and media/materials.
2. Each group's representative presented the project developed **30 min**
3. Criticism was made by the group members
4. Conclusions and recommendations were made by the resource person **15 min**

12. Open discussion was followed regarding applying empowerment principles for a target group. **15 min**

13. Conclusion of the ETP **5 min**

14. Closing the ETP **10 min**

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APPENDIX C

VISION & MISSION

OF HEALTH EDUCATION SERVICES

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APPENDIX C

Vision, Mission, and Strategies/ Activities in implementing a health education program, the outcome from the Empowerment Training Program and have been revised by the experts and dissertation committee members:

Vision of Health Education:

"Development of Health Behavior and Environment
in Order to Develop Learning Leading to Good Health
of Individual, Family and Community"

Mission of Health Education:

" Participation for Developing Health Behaviors and Environment
through Collaboration and Teamwork
to Develop Learning Leading to Health Behaviors
in Accordance with National Health Commandments "

Strategies/ Activities: compose of

1. **Self-Development and Being a Good Health Role-Model**
   - Promoting a value of a healthy lifestyles by practicing 10 health commandments regularly for being a good role-model.
   - Promoting a value of self-development and life-long learning.

2. **Promoting/ Supporting a Teamwork**
   - Shared thoughts, decision making, action, and responsibility health education activity.
   - Participatory learning as a holistic health team and care receivers with consideration of medical and public health dimension including other aspects: mental, social, cultural, traditional, economics, political and environmental dimensions.

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3. **Developing Environment Conducive to Learning**
   - Organizing physical environment e.g. buildings, worksite, materials, by practicing 5 S activities regularly, with the aim to provide care receivers with convenience and safety.
   - Creating social environment i.e. good interpersonal relationship among health team and care receivers. Group learning experience should provided in order to develop social for developing health behaviors.

4. **Developing Health Behaviors and Lifestyles**
   - Development of health behavior related to health promotion, prevention, curation, and rehabilitation of care receivers regularly.
   - Organizing health behavior surveillance program for care receivers regularly.

5. **Developing Quality of Care Continuously**
   - Organizing quality of care according to standards of Health Education Services; Structure, Process and Outcome continuously.
   - Development of Technology and Innovation of Health Education Services continuously.

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APPENDIX D

GUIDELINES FOR "PGHLE: HT" PROGRAM

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APPENDIX D

Implementing Guidelines for " PGHLE: HT " Program

Step 1: Developing Relationship: The activities organized were: personal introduction was made by the health team members (nurses/ pharmacists/ nutritionists/ researcher / research assistance), clarifying the objective of the "Group Learning Experience for Hypertensive Patients", having patients evaluated themselves regarding behaviors that have not been done as they should be, organizing individual health education activities, disseminating health materials in accordance with individual problems, including collecting data prior to the program, and setting the date for the next appointment. Since health education activities have not been organized in the regular system, therefore, for the comparison group, individual health education was carried out by the health team members including distribution of materials, but group activities have not set.

Step 2: Group Process 1: It was aimed that after of the group process the participants should be able to 1) identify the risk factors of hypertension; 2) identify the severity and susceptibility of getting complication; 3) indicate problems and needs for modifying behaviors for controlling hypertension; and 4) explain ability and benefits of performing hypertensive behaviors.

The activities were as follows:

1. Developing relationship by having group members and health team members introduce her/himself and clarification of program's objectives was followed.

2. Expression of experiences and opinions were made by the group members by having the researcher acted as a facilitator. The researcher motivated the group members interacted with each other by using the following questions: 1) How do you feel after being informed that you get hypertension; 2) What are the causes of hypertension; 3) Can hypertension be cured? 4) What are your hypertension control behaviors? Why did do you that?

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3. Having the group members summarized the things that have been discussed and the health team added some points and the presentation of the flip chart was also included.

4. Distributing the physical exercise record booklet, materials regarding warming-up, self planning for physical exercise, manual of physical exercise for promoting mental health of the eElderly; manual and poster about Tai-Geg and Ram Maiplong, and other materials in accordance with individual's needs.

Step 3: Group Process 2 The process was aimed to help the group members gained the following abilities: 1) identify the type of physical exercise selected and explain how to record the behavior in the record booklet; 2) state procedures to control dietary and stress management; 3) state problems/obstacles regarding control of hypertension and solutions; 4) state abilities and benefits of performing hypertension control behaviors.

The activities were as follows:

1. Have the group members told the group about their experiences regarding physical exercise and how to make the record in the booklet. The discussion was followed regarding appropriate methods of physical exercise and stress management for the elderly.

2. Have the group members explained about methods for dietary control and suggestions for special foods for hypertension and methods for assess body weights were made by the nutritionists/nurses. Discussion and questions were open for the group members.

3. Have the group members expressed their needs for family supports.

4. Motivation was made by the group members/health team by admiring and providing encouragement for the group members who performed correct performance. For those who could not practice correctly, the group members and health team have motivated them to try again.

5. Distributed material related to food i.e. manual of dietary flag, suggested practices of food consumption for health of Thai People, food for hypertensive patients, table of food exchange list, and other materials needed by individual.

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Step 4: Group Process 3: The principal objectives of the group meeting were to help group members be able to: 1) indicated procedures that an individual can select to practice for controlling hypertension; 2) explain abilities/ benefits/ obstacles/ solutions of performing hypertensive control behaviors; and 3) express the things that they wanted the clinic to be improved.

Procedures of Group Process 3

1. Have the group members told the group about selecting the behaviors for controlling hypertension to be followed, including assess the incorrect behaviors and solutions.
2. Have the group members expressed their expectations that needed to be improved by the clinic, the head nurse of the clinic was also invited to participate in the session.
3. Have the group members explain about how to take the medicine for controlling hypertension. Have the pharmacist and nurses explained the correct way to take medicine. Questions were open for the group members. Distribution of related materials were made, i.e. Things should know about medicine to lower blood pressure, The use of diuretic, Five commandments before taking medicine.
4. Reinforcement and encouragement were made by the group members and the health team.
5. Recommendation for post-test interviews were made in the next meeting.

Step 5: Post-test interviews were carried out with the experimental and the comparison group by the health team.

Note: The implementation of group activities might be flexible in order to fit with the group since this project was emphasized on participatory learning, which compose of experiential learning, group process, and adult learning whereby experiential learning and client-centered were the central emphases. The health teams acted only as the learning facilitators, who tried to link and related issues, encourage the group members to interact within the group and coordinate activities.

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APPENDIX E

PATIENTS' RIGHT

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APPENDIX E

Patients' Right for Involving in the Research Project

My name is Nuchrapee Suthikul, a professional nurse of the nursing department, Rajavithi Hospital, a doctoral student, majoring in Health Education, Faculty of Public Health, Mahidol University, is carrying out a research project on "Organizing a Standard Health Education Program for Hypertensive Patients". The project was aimed to improve health education service system of the Hypertension/Heart Clinic and Health Education Unit, which will result on desirable hypertension control behaviors. During the research process, I'd like to meet with the patients 5 times, every 1-2 months. The following activities will be organized during each meeting:

1. Patients will be asked to fill out the questionnaire regarding knowledge, perception and behaviors for controlling hypertension level, including patients' satisfaction with the services. It will take about 30-45 minutes for the first and the fifth meeting.

2. Patients will be asked to participate in the group activities in order to exchange learning experience regarding hypertension control behaviors and to help each other to solve the problems with the aim to be able to control blood pressure effectively. Patients will be required to participate in the group activities 3 times, every 1-2 months.

I'd like to invite you join our program whereby you have a right to join or not to join the program and your decision will not affect the services you will receive. During the research process, you can quit participating at any stage of the process, which will not affect upon the treatment you will receive. All of your information will be kept confidentially and will be presented as a general profile of the data. If you agree to join our program, kindly contact me at the Special Clinic of the Internal medicine Department, Rajavithee Hospital on Monday and Friday, 7.30-15.00 hours or at telephone number 0-2275-8167, Extension 1, everyday, 8.00-20.00 hours.

Thank you for your cooperation

Nucharapee Suthikul

Researcher

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APPENDIX F

MEETING AGENDA

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AGENDA OF THE MEETING OF PARTICIPANTS ON
" EMPOWERMENT OF HEALTH PERSONNEL TO IMPLEMENT STANDARD OF HEALTH EDUCATION SERVICES TO SUPPORT HEALTH PROMOTING HOSPITAL POLICY" PROGRAM
Friday February 1, 2002, 13.30 Hours
AT THE MEETING ROOM OF THE ACADEIC GROUP, FLOOR 3, OPD, RAJAVITHI HOSPITAL

1. Information to be informed

1.1 Agenda for Pre-survey HA from the Quality Development and Certification Team

1.2 A plan for implementing the indicators of nursing quality of the OPD, Nursing Unit

1.3 Results of the "Empowerment Training Program"

2. Issues to be considered

2.1 Vision/ Missions of Health Education after the training program

2.2 Practice guidelines in Accordance With the Standard No.4 of Nursing Standard of the OPD Nursing Unit, which was stated that: 1) Nurses organize the activities to promote self-care of patients with communicable and non-communicable diseases to get adequate useful self-care information.

3. Other issues

AGENDA OF THE MEETING OF HEALTH PERSONNEL PARTICIPATED IN THE PROGRAM ON
" PROVIDING GROUP HEALTH LEARNING EXPERIENCES FOR PATIENTS AND THEIR RELATIVES, RAJVITHI HOSPITAL"
Thursday March 28, 2002, 13.30 Hours
AT THE MEETING ROOM OF THE ACADEIC GROUP, FLOOR 3, OPD, RAJAVITHI HOSPITAL

1. Information to be informed

1.1 Decision making on the approval of program on "Organizing group health learning experiences for patients and their relatives" in order to support OPD nursing standards.

1.2 Results of the program on implementing the plan on health indicators, OPD, Nursing Unit.

2. Issues to be considered

2.1 Abnormal symptoms surveillance record.

2.2 Guideline for the analysis of data concerning health behaviors of the target groups.

2.3 Education form of the program on "Providing Groups Health Learning Experiences for Patients and Their Relatives"

2.3.1 In case of acute disease, the evaluation may be carried on regarding knowledge, perception, attitudes, self-care practice, and service satisfaction.

2.3.2 In case of chronic disease, the evaluation may be carried on regarding knowledge, perception, attitudes, values, self-care practice, social support, and service satisfaction.

3. Other Issues

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AGENDA OF THE MEETING OF HEALTH PERSONNEL PARTICIPATED IN THE PROGRAM ON "" PROVIDING GROUP HEALTH LEARNING EXPERIENCES FOR PATIENTS AND THEIR RELATIVES, RAJVITHI HOSPITAL"

Thursday August 8, 2002, 13.30 Hours

AT THE MEETING ROOM OF THE ACADEIC GROUP, FLOOR 3, OPD, RAJAVITHI HOSPITAL

1. Information to be informed

1.1 Agenda for pre-survey HA from the hospital quality development and certification team and the results of implementing the program on quality indicators of the OPD, Nursing Unit.

1.2 Results of the program on "Providing Group Health Learning Experiences = PGHLE= for Patients and Their Relatives", A case study of hypertensive patients of the Hypertension/Heart Clinic.

1.3 Problems, obstacles and solution for implementing program on "PGHLE: HT".

1.4 Assigning a nurse from the Chemotherapy Room to be responsible for the program on "PGHLE: HT".

2. Issues to be considered

2.1 Guidelines for bringing the program on "PGHLE for Patients and Their Relatives" into practice in all physical checkup rooms.

2.2 Developing an evaluation form to evaluate the care receivers before the program on "PGHLE"

2.3 Organizing a "Health Information Service Corner" of each physical checkup room and assigning the responsible person.

2.4 Developing materials to support the program on "PGHLE" .

3. Others Issues

AGENDA OF THE MEETING OF HEALTH TEAM OF THE PROGRAM ON PERSONNEL PARTICIPATED IN THE PROGRAM ON "PGHLE FOR HYPERTENSIVE PATIENTS AND THEIR RELATIVES, RAJVITHI HOSPITAL"

Thursday September 10, 2002, 13.30 Hours

AT THE MEETING ROOM OF THE ACADEIC GROUP, FLOOR 3, OPD, RAJAVITHI HOSPITAL

1. Information to be informed

1.1 Summary of the program's results on "PGHLE: HT", with the aim to support the Nursing Care Standard No.4 of the OPD Unit.

1.2 The results of the program on "Indicators of Outpatient Nursing Unit's Quality".

2. Issues to be considered

2.1 Guidelines for putting the program on "PGHLE: HT" into practice in every physical checkup room.

2.2 Reviewing the evaluation form to assess the care takers before starting the program on "PGHLE for patients and their Relatives".

3. Others Issues

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BIOGRAPHY

NAME Miss. Nuchrapee Suthikul

DATE OF BIRTH 19 November 1960

PLACE OF BIRTH Krabi, Thailand

INSTITUTIONS ATTENDED Bangkok College of Nursing, 1979-1983
Diploma in Nursing and Midwifery
Ramkhamhaeng University, 1985-1989
Bachelor of Art (Political Science)
Mahidol University, 1991-1992
Bachelor of Science (Health Education)
Mahidol University, 1994-1997
Master of Science (Public Health)
Major in Health Education
Mahidol University, 1998-2002
Doctor of Public Health (Health Education)

POSITION & OFFICE 1983-1994 Nursing Unit, Rajavithi Hospital
Registered Nurse
1994-1997 Social Medicine Unit, Rajavithi Hospital
Registered Nurse
1997-Present Nursing Unit, Rajavithi Hospital
Registered Nurse

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SUPPLEMENTARY
THE PICTURE OF ETP & PGHLE: HT

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The Pictures of Empowerment Training Program

Meeting for preparing and organizing the Empowerment Training Program

Opening ceremony the ETP by Director of Rajavithi Hospital

Ice breaking

Health personnel created the vision of health education services

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Safeguarding an egg develop
Psychological support and team power

Lecture on planning and evaluation
according to standards of Health
Education Services

Panel discussion
"Health personnel empowerment
for health education development"

Each group of health personnel developed a health education program
A case study of hypertensive patients

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Meeting after the ETP for planning a program according to Standards of Health Education Services (HES)

Meeting with Health Education Unit team for implementing the program planned according to standards of HES

Meeting with health educator and health medical technician for production of materials

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Meeting with Hypertension/Heart Clinic team for implementing the program planned according to standards of HES

Meeting with health personnel during the implementation of the program In order to follow up and revise the program according to standards of HES of Health Education Unit and HT/H Clinic

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The Pictures of Providing Group Health Learning Experience for Hypertensive Patients (PGHLE: HT)

1st Meeting for collection data and individual health education

Group discussion among hypertensive patients

Group discussion between health personnel and hypertensive patients

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Professional nurses were trained as facilitating role of "PGHLE: HT"

Professional nurses acted as facilitator and coordinator of
"PGHLE: HT" program

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Nutritionists participated in “PGHLE: HT” program

Pharmacists participated in “PGHLE: HT” program

Head nurses of HT/H Clinic participated in
“PGHLE: HT” program

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Health information corner of HT/H Clinic

Meeting at the end of program for evaluation according to standards of HES of Health Education Unit and HT/H Clinic

Gynaecology Clinic team had come to observe "PGHLE: HT" program

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