FACTORS RELATED TO THE NEEDS FOR HOME CARE OF PATIENTS WITH ESSENTIAL HYPERTENSION

NONGNUCH PETCHROUNG

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Essential hypertension is an important public health problem in Thailand. Patients have to confront hypertension all of their lives. Home care should apply an appropriate strategy for essential hypertensive patients. The Neuman System Model (Neuman, 1995) was employed in this study as a guideline. This descriptive study of factors related to the needs for home care of patients with essential hypertension aims to identify the needs for home care and factors related to the needs for home care of patients. Data were gathered from three hundred subjects among essential hypertensive patients who were followed up at the hypertension clinic, Siriraj Hospital, Faculty of Medicine Siriraj Hospital, Mahidol University, using an interview questionnaire constructed according to the Neuman System Model. Pearson's product moment correlation coefficient and a Chi-square test were used to test the significance of the relationships.

The results of the study revealed that the subjects have a high level of overall needs. When considering specific needs, it revealed that the subjects have a high level of physiological, psychological and spiritual needs, and a moderate level of socio-cultural and developmental needs. The physiological needs of subjects included the need to be instructed about the action and side effects of antihypertensive drugs. The psychological needs were mainly the need to be instructed about the danger of stress affecting hypertension. Socio-cultural needs comprised the need to receive attention from caregivers. The need to be instructed about rehabilitation made up the developmental needs. Spiritual needs were the needs to be helped to maintain hope and willpower in their lives. Factors related to the needs for home care found that internal environmental factors such as gender were statistically associated with developmental needs for home care at the .05 level of significance. Age was negatively associated with socio-cultural needs for home care at the .05 level of significance. The ability to perform activities of daily living was positively associated with socio-cultural needs for home care at the .05 level of statistical significance. It was negatively associated with developmental needs for home care at the .05 level of statistical significance. External environmental factors such as family income were negatively associated with socio-cultural needs for home care at the .01 level of statistical significance. Health insurance was statistically associated with socio-cultural needs for home care at the .05 level of significance. Overall needs for home care were not related to internal and external environmental factors.

This study suggests that home care service to patients should focus on informing patients about the action and side effects of antihypertensive drugs, information about the harmful effects of stress on hypertension and education about how to practice skills to manage stress should be included. Counseling patients when they experience stress, learning about community resources, and arranging teaching programs in order to rehabilitate patients and help them maintain hope and willpower in their lives should also be included. These home care services should focus on the patients who are young adults, females, who have a low ability to perform the activities of daily living, a low family income and no health insurance.

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นงนุช เพ็ชรร่วง : ปัจจัยที่มีความสัมพันธ์กับความต้องการการรักษาพยาบาลที่บ้านของผู้ป่วยโรคความดันโลหิตสูงชนิดไม่ทราบสาเหตุ (FACTORS RELATED TO THE NEEDS FOR HOME CARE OF PATIENTS WITH ESSENTIAL HYPERTENSION) คณะกรรมการควบคุมวิทยานิพนธ์ : ชื่นชม เจริญยุทธ, พบ.ด. (ประชากรและการพัฒนา), จริยาวัตร คมพยัคฆ์, ส.ด. (การพยาบาลสาธารณสุข), รุจา ภู่ไพบูลย์ D.N.S. (Family Health Care Nursing) 125 หน้า. ISBN 974-664-490-4

โรคความดันโลหิตสูงชนิดไม่ทราบสาเหตุเป็นปัญหาสาธารณสุขที่สำคัญของประเทศไทย ผู้ป่วยต้องเผชิญกับภาวะความดันโลหิตสูงไปตลอดชีวิต การรักษาพยาบาลที่บ้านน่าจะเป็นกลยุทธที่เหมาะสมที่จะใช้กับผู้ป่วยเหล่านี้ การศึกษาปัจจัยที่มีความสัมพันธ์กับความต้องการการรักษาพยาบาลที่บ้านของผู้ป่วยโรคความดันโลหิตสูงชนิดไม่ทราบสาเหตุ โดยประยุกต์แนวคิดแบบจำลองระบบของนิวแมนเป็นแนวทางในการศึกษา เป็นการวิจัยเชิงบรรยาย มีวัตถุประสงค์เพื่อศึกษาความต้องการการรักษาพยาบาลที่บ้าน และปัจจัยที่มีความสัมพันธ์กับความต้องการดังกล่าว กลุ่มตัวอย่างเป็นผู้ป่วยโรคความดันโลหิตสูงชนิดไม่ทราบสาเหตุ จำนวน 300 คน ซึ่งมารับการตรวจรักษาที่คลินิกโรคความดันโลหิตสูง โรงพยาบาลศิริราช คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล เก็บรวบรวมข้อมูลโดยใช้แบบสัมภาษณ์ที่ผู้วิจัยสร้างขึ้นตามแนวคิดแบบจำลองระบบของนิวแมน วิเคราะห์ข้อมูลโดยใช้ค่าสัมประสิทธิ์สหสัมพันธ์ของเพียร์สันและทดสอบค่าไคสแควร์

ผลการวิจัยพบว่า กลุ่มตัวอย่างมีความต้องการการรักษาพยาบาลที่บ้านโดยรวมอยู่ในระดับมาก เมื่อพิจารณาความต้องการในรายด้านพบว่า กลุ่มตัวอย่างมีความต้องการการพยาบาลด้านร่างกาย จิตใจ และจิตวิญญาณในระดับมาก ส่วนความต้องการด้านสังคม-วัฒนธรรม และพัฒนาการมีในระดับปานกลาง โดยมีความต้องการด้านร่างกายในเรื่อง คำแนะนำเกี่ยวกับการออกฤทธิ์และผลข้างเคียงของยาลดความดันโลหิต ด้านจิตใจ มีความต้องการคำแนะนำเกี่ยวกับอันตรายของความเครียดต่อภาวะความดันโลหิตสูง ด้านสังคม-วัฒนธรรม มีความต้องการเกี่ยวกับการเอาใจใส่ของผู้ให้การดูแลเกี่ยวกับการเจ็บป่วย ด้านพัฒนาการ มีความต้องการเกี่ยวกับคำแนะนำในการทำงานที่เหมาะสมกับสภาพความเจ็บป่วย และด้านจิตวิญญาณ มีความต้องการในเรื่อง การช่วยให้มีชีวิตอยู่อย่างมีความหวังและมีกำลังใจ สำหรับปัจจัยที่พบว่ามีความสัมพันธ์กับความต้องการการรักษาพยาบาลที่บ้าน พบว่า ปัจจัยด้านสิ่งแวดล้อมภายใน ได้แก่ เพศ มีความสัมพันธ์กับความต้องการด้านพัฒนาการอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 อายุ มีความสัมพันธ์ทางลบกับความต้องการด้านสังคม-วัฒนธรรมอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 และความสามารถในการช่วยเหลือตัวเอง มีความสัมพันธ์ทางบวกกับความต้องการด้านสังคม-วัฒนธรรม และมีความสัมพันธ์ทางลบกับความต้องการด้านพัฒนาการอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 ส่วนปัจจัยด้านสิ่งแวดล้อมภายนอก ได้แก่ รายได้ของครอบครัว มีความสัมพันธ์ทางลบกับความต้องการด้านสังคม-วัฒนธรรม อย่างมีนัยสำคัญทางสถิติที่ระดับ .01 การประกันสุขภาพ มีความสัมพันธ์กับความต้องการด้านสังคม-วัฒนธรรม อย่างมีนัยสำคัญทางสถิติที่ระดับ .05 และความต้องการการรักษาพยาบาลที่บ้านโดยรวม ไม่พบความสัมพันธ์กับปัจจัยด้านสิ่งแวดล้อมทั้งภายใน และภายนอก

ผลที่ได้จากการศึกษา ได้ข้อเสนอแนะว่าในการให้บริการดูแลผู้ป่วยโรคความดันโลหิตสูงชนิดไม่ทราบสาเหตุควรมุ่งเน้นในเรื่องคำแนะนำเกี่ยวกับการออกฤทธิ์และผลข้างเคียงของยาลดความดันโลหิต อันตรายของความเครียดที่มีผลต่อภาวะความดันโลหิตสูง การสอนและฝึกทักษะการจัดการกับความเครียด การให้คำปรึกษาเมื่อมีความเครียด การหาแหล่งประโยชน์ทางสังคมให้แก่ผู้ป่วยเพื่อช่วยสนับสนุนและให้กำลังใจแก่ผู้ป่วย การจัดโปรแกรมการสอนเพื่อฟื้นฟูสุขภาพร่างกายและการช่วยเหลือผู้ป่วยให้มีชีวิตอยู่อย่างมีความหวังและกำลังใจ โดยเฉพาะในกลุ่มผู้ป่วยที่มีอายุน้อย เพศหญิง ความสามารถในการปฏิบัติกิจวัตรประจำวันน้อย มีรายได้ของครอบครัวน้อย และไม่มีประกันสุขภาพ

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CHAPTER I

INTRODUCTION

Background and Significance of the Study

Nowadays, medical science has been developing quickly, but hypertension, which is a non-communicable disease, is still an important public health problem that cannot be controlled. According to a report of the WHO there were approximately 691 million hypertensive patients all over the world in 1998. Statistics from 1996 showed that 29 percent of deaths all over the world were from hypertension which was more than 2 times the cancer death rate, and it is expected that it will increase to 36.3 percent in 2020 (Ministry of Public Health, 1998: 1). In Thailand, hypertension is considered a major public health problem. The morbidity rate of hypertension, which increased from 118.43 to 158 per 100,000 of the population had been reported by a Ministry of Public Health from 1995 to 1997. The mortality rate has increased too: it was 5.2 per 100,000 population in 1995 and 5.3 in 1996 (Bureau of Health Policy, 1999: 2-3).

Essential hypertension exists in 90-95 percent of hypertensive patients (Anderson and Baununs, 1981: 77). Patients who have essential hypertension cannot be cured. For them, more serious complications may develop and the long-term nature effects of the disease can only worsen. Complications of hypertension are coronary artery disease, cerebrovascular disease, renal failure, and retinal vascular change (Timmis & Nathan, 1993: 260-261). In developed and developing countries, patients' death from coronary artery disease is approximately 50 percent, stroke 30 percent, and renal failure 15 percent

(Roisommut, S., 1993: 309). Indications of hypertensive complications in patients are a failure to follow through with their prescribed regimens such as an inability to control their diet and a lack of exercise, and a misunderstanding of the therapeutic regimen including patterns of drug adjustments by patients who are feeling well (Hill & McCombs, 1981: 331-333).

Hypertension is a chronic non-curable illness, which increases other care concerns. The cost of therapy may be a barrier and should be an important consideration in controlling blood pressure. Home health services are seen by governments as financially advantageous when compared with institutional care. Medicare patients cost the U.S. government an average of $350 per day for hospital stays. By contrast, the cost for home health care services averages $39 per visit. The cost can be illustrated even more graphically through consideration of a single procedure, such as intravenous feeding. Performed in the home, the procedure averages $ 35,000 per year, compared with an annual cost of $ 74,000 when done in a hospital setting (Martinson & Widmer, 1982; Wesley, 1984 cited in Rice, 1992: 7-8). Furthermore, home care services can minimize the amount of time spent in a hospital and patients receive continuous care (Tanasukarn, C., 1998: 1). Home care can create good relationships within the family, and the patients could get ample love, care and support from other family members (Haddad, 1992: 42). Moreover, home care can reduce the severity of disease and reduce the rate of hospital re-admission.

Thailand has a policy under the Seventh National Economic and Social Development Plan (1992-1996) that emphasizes the improvement of people's quality of

life with a strong emphasis on referral systems and developing home care systems (Committee of Public Health Planning, 1982: 50). Home care service is the delivery of specialized care services in the home-care setting that emphasizes the continuity of care (Keating & Kelman,1988: 3). Thus, home care services must meet the health care needs of patients they serve. Haynes, et al. (1976: 1265-1268) taught patients how to measure their own blood pressure. In addition, patients were asked to chart their home blood pressure and pill taking and taught how to tailor their medication to their daily habits and schedules. They found that hypertensive patients are cooperative when it comes to their treatment and this can lead to a reduction in their blood pressure.

There are many advantages of home cares, which are previously presented. Thus, home care should apply an appropriate strategy for essential hypertensive patients who are confronted with chronic illnesses. Hypertensives feel unwell and depressed when their blood pressure is elevated. Patients are serviced by home care will have good-self care practices and better health which can prevent complications. This benefits the patients, their families, and the country. For this reason, home care services are the services that best meet the needs of the patients.

In this study, the researcher aimed to study factors related to the needs for home care of patients with essential hypertension. The expected outcome is a better knowledge of the needs for home care that will be useful for making more appropriate home care plans for patients.

Conceptual Framework

This study is modified from the Neuman System Model (Neuman, 1995). Upon the Neuman conceptualization, it pointed out the client is an open system that interacts and has a total interface with the environment. Eventually, if any person cannot adapt himself or herself to adjust to the environment, then stress will occur and result in an imbalance of the system. The presence of a balanced system is based upon the responsive competence of a person, or in other words, his / her ability to cope with stresses appropriately. This model is applicable to and most appropriate for assessing factors related to the needs of patients with essential hypertension. Most of the time, essential hypertensive patients cannot avoid interaction with parties in their environment, such as family members and other people in society. Therefore, the researcher has evaluated the needs of patients with essential hypertension by using Neuman's model. The knowledge about the needs for home care of patients will help nurse increase strength of basic structure of patients. The needs were categorized as stressor according to five system variables: physiological, psychological,socio-cultural, developmental and spiritual.

Physiological needs consist of the needs for care at home on control of dietary intake, medication, monitoring of blood pressure, observing of symptoms, activities of daily living, preventing of complications, and exercise.

Psychological needs consist of the needs for care at home on anxiety about the disease and its medical costs, fear of complications, and psychological support.

Socio-cultural needs consist of the needs for care at home on emotional support, appraisal support, informational support, and instrumental support.

Developmental needs consist of the needs for care at home on work obligations and the adaptation of the spouse to situation.

Spiritual needs consist of the needs for care at home on self-esteem, peace of mind, and utilization of spiritual resources.

Under the essence of Neuman's System Model, a crucial consideration of the researcher is focused on the needs for home care. So far, this model identifies the factors associated with the needs were classified into 2 types: internal environmental factors and external environmental factors.

Internal Environmental Factors: The internal environmental factors of essential hypertensive patients affecting the characteristic needs for home care are gender, age, educational level, occupation and ability to perform activities of daily living.

Gender is a factor to classify the physical differences of human beings. It also has an effect on patients' ability to cope with problems and their adjustment to express their unhappiness in ways accepted by society, as their attitude toward illness (Anderson & Norris, 1972: 352-365). The gender factor is controlled by society's assigned roles. In other words, males are usually the family leader and income earner to support the family while females are usually responsible for meeting family demands (Supab, S., 1994: 6-7). Therefore, when a male is ill, it affects the family, and he may have received care from family members to fight some obstacles more than a female would.

Age is a factor that separates human beings in terms of thinking, experience and behavior. A study by Baikaw, S. (1985:13) revealed that seniors could adjust to illnesses better than younger people since the older people could understand the treatment plan and

take better care of their health than the young people could. Therefore, age is a variable factor, believed to be related to the need for home care.

Educational levels lead to different needs. Education helps patients to learn and understand data relevant to their illness. Highly educated people have a better chance to acquire useful methods for their health care (Suwan, P., 1983: 182). Additional support for this notion is provided when expressions of the information needs of poorly educated patients were contrasted to identically coded statements made by patients with more education (Dodge, 1969: 503).

Occupation is a factor that affects patients' response to basic human needs. The professionals are more concerned with the issue of technical competence among physicians and are better able to choose physicians whom they judge to have this quality (Hulka, Zyzanski, Cassel and Thompson, 1971: 670). Therefore, occupation is a variable factor that believed to be related to home care needs.

Ability to perform activities of daily living: The differences in patient's ability to perform activities of daily living has an effect on the different requirements for nursing care. Similarly, a study by Oberts (1990) showed that chronic illness of children who are dependent on other people then they want a time for take care.

External environmental factors: The external environmental factors of essential hypertensive patients affecting the characteristic needs for home care are marital status, family income, number of family members, convenience in traveling to receive health care services and health insurance.

Marital status is an indicator for social support or support from a spouse. The presence of a spouse was significantly correlated with lower depression scores. The presence of other relatives close by was not significant (Warheit, 1975:506). Social support contributed to a good quality of life. Therefore, marital status is a variable factor, believed to be related to home care needs.

Family income is a factor that affects life's response to basic human needs, especially when family members become ill. A family with high income is more concerned with the issue of technical competence among physicians, and is better able to choose physicians whom they judge to have this quality (Hulka, Zyzanski, Cassel & Thompson, 1971: 670).

The number of family members is a social environmental factor, which has an effect on patients' adjustment and health care. The difference in the number of family members affects the difference in assistance. This corresponds with a study by Thianthong, P. (1997: 50-51) who found that a patient from a family with a lot of members will receive more assistance and support than another patient in a family with fewer members because the family members can take turns caring for the patient.

The convenience in traveling to receive health care services is an important factor to receive health care services. Patients who reside near health care facilities will find it more convenient to receive health care services than other patients who live far from health care providers. Thus, the latter group will be more likely to use the services near their situation and take care of one another (Rattanakorn, N.,1993).

Health insurance is the best service to respond to basic human needs (Hunchangsith, A., 1989: 16). The study by Phleps (1975, 113) found that the rate at which people who are entitled to health insurance use health care services in hospitals is increasing annually more than the rate of people who are not entitled to health insurance.

There are several factors related to the needs of patients with essential hypertension. These are summarized in the research conceptual framework as shown in Figure 1.

Research Questions

1. What are the needs for home care of patients with essential hypertension?
2. Which environmental factors related to the needs for home care of patients with essential hypertension?

Purpose of the Study

1. To identify the characteristics for home care needs of patients with essential hypertension and the level of their needs.
2. To investigate internal and external environmental factors related to the needs for home care of patients with essential hypertension.

Hypothesis

1. Internal environmental factors (gender, age, educational level, occupation and ability to perform activities of daily living) are related to the needs for home care of patients with essential hypertension.

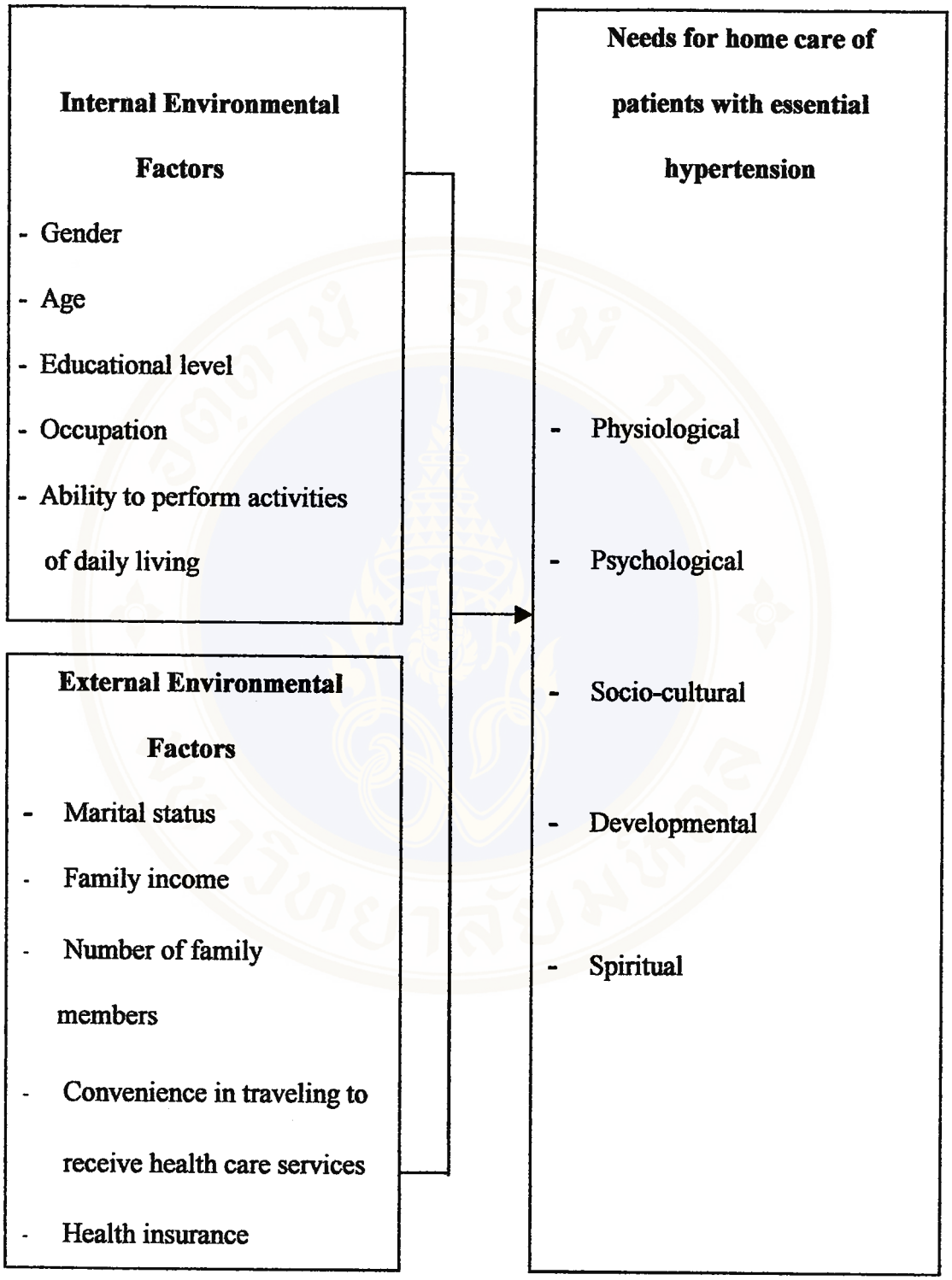

Figure 1 **Factors related to the needs for home care of patients with essential hypertension, adapted from the conceptual Neuman System Model (Neuman, 1995).**

2. External environmental factors (marital status, family income, number of family members, convenience in traveling to receive health care services, health insurance) are related to the needs for home care of patients with essential hypertension.

Scope of the Study

The research deals with the study of patients with essential hypertension who were followed up at the hypertension clinic, Division of Hypertension, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University. The subjects of this study were determined to have essential hypertension based on their medical history on the OPD card, and this was confirmed by examining the patients directly.

Expected Outcomes and Benefits

1. Knowledge about the characteristics and levels of need for home care will be useful for nurses and other health personnel for making appropriate home care plans for essential hypertensive patients.

2. The knowledge of the environmental factors related to the needs of patients with essential hypertension will help inform nurses and other involved health care personnel of the priority needs of each group that is served.

Definition of Terms

1. Hypertension refer to systolic blood pressure of 140 mmHg or greater and / or a diastolic blood pressure of 90 mmHg or greater. A classification of blood pressure levels in adults over the age of 18 is as follows (WHO, 1999: 162):

Category	Systolic (mmHg)	Diastolic (mmHg)
Optimal	<120	<80
Normal	<130	<85
High-normal	130-139	85-89
Grade1 hypertension (mild)	140-159	90-99
Subgroup: borderline	140-149	90-94
Grade2 hypertension (moderate)	160-179	100-109
Grade3 hypertension (severe)	≥180	≥110
Isolated systolic hypertension	≥140	<90
Subgroup: borderline	140-149	<90

In this study, the researcher classified blood pressure levels as normal, high normal, grade 1 hypertension, grade 2 hypertension, or grade 3 hypertension. The researcher recorded the blood pressure of patients from their last follow-up visit at the hypertension clinic.

2. Home care needs refer to the perception essential hypertensive patients have of what nursing care is necessary while they are staying at home and seeking nursing care in response to 5 needs: physiological needs, psychological needs, socio-cultural needs, developmental needs and spiritual needs. In this study, the researcher will assess home care needs by using a questionnaire which is constructed according to Neuman's system model (Neuman, 1995) as follows:

2.1 Physiological needs refer to essential care at home on control of dietary intake, medication, monitoring of blood pressure, observing of symptoms, activities of daily living, preventing of complications and exercise.

2.2 Psychological needs refer to essential care at home on anxiety about the disease and its medical costs, fear of complications and psychological support.

2.3 Socio-cultural needs refer to essential care at home on emotional support, appraisal support, informational support, and instrumental support.

2.4 Developmental needs refer to essential care at home on work obligations and the adaptation of the spouse to the situation.

2.5 Spiritual needs refer to essential care at home on self-esteem, peace of mind, and utilization of their spiritual resources.

3. Environmental factors refer to the internal and external environment that affects the needs of patients with essential hypertension.

3.1 Internal environmental factors refer to the internal environment which consists of all internal influences that interact to affect the needs of patient with essential hypertension. These factors were recorded by using a questionnaire. The following were the considered factors:

3.1.1 Age refer to the total years of age of essential hypertensive patients, counted from the date of birth up to the date of study.

3.1.2 Educational level refer to the highest level of education attained by essential hypertensive patients in any school. These levels are classified as no education,

primary education, secondary education, intermediate-professional certificate, advanced-professional certificate, and bachelor's degree or higher.

3.1.3 Occupation refer to the type of work that essential hypertensive patients carry out daily which is their source of income . They are classified as follows: government officials, state enterprise employee, private enterprise employee, business, agricultural worker, retired government officer, household worker, student or college student.

3.1.4 Ability to perform activities of daily living refer to their ability to perform personal activities in response to basic human needs. The interview questionnaire was modified from assessable criteria of social dependence. The researcher used the interview questionnaire from Singhakumfu, L. (1989) who modified it from Benolial, et al. (1980: 74-76).

3.2 External environmental factors refer to the external environment consisting of all external interacting influences that affect the needs of patient with essential hypertension. These factors were collected by the use of an interview questionnaire, which consists of the following items:

3.2.1 Marital status refer to the status of essential hypertensive patients as married, single, widowed/divorced/separated.

3.2.2 Family income refer to the average collective family income in cash per month of all members in the essential hypertensive patient's family measured in baht/month.

3.2.3 Number of family members refer to all persons who are living with the essential hypertensive patients in the same household, including the essential hypertensive patients themselves. However, these persons may or may not be blood relatives of the patients, so this could include parents, husband/wife, daughter/son and nephews/nieces, near relatives or even a housekeeper.

3.2.4 Convenience in traveling to receive health care services refer to the difficultly or ease in going to follow up at Siriraj Hospital.

3.2.5 Health insurance refer to the patients have assurance of coverage for medical costs such as life insurance, social security, civil servant medical benefit, etc.

CHAPTER II

LITERATURE REVIEW

This study aims to identify factors related to the needs for home care of patients with essential hypertension. This chapter will present a review of theory and literature describing the concept of interest. These are detailed in the following sequence:

1. Essential hypertension
2. Home care of patients with essential hypertension
3. The Neuman System Model
4. The needs for home care of patients with essential hypertension
5. Factors related to the needs for home care of patients with essential hypertension

1. Essential hypertension

Hypertension is a common disorder of the adult population in many parts of the world (Loggie, 1992: 1). It is considered a major health problem (WHO, 1985:53; Nissinen, et al. 1987: 129). Especially, primary (essential or idiopathic) hypertension exists in 90 percent of hypertensive patients as a sole entity (Lamb &Carlson, 1986: 133). The cause of essential hypertension is an interaction between the patient's life style and environmental factors (Kerr & Nichaman, 1986: 27). High blood pressure develops silently and without warning (a silent sickness or silent disease) (Marcinek, 1980: 928; Wistrand, 1987:1).

Hypertension is therefore defined as a systolic blood pressure of 140 mmHg or greater and / or a diastolic blood pressure of 90 mmHg or greater in subjects who are not

taking antihypertensive medication. A classification of blood pressure levels in adults over the age of 18 is as follows (WHO, 1999: 162):

Category	Systolic (mmHg)	Diastolic (mmHg)
Optimal	<120	<80
Normal	<130	<85
High-normal	130-139	85-89
Grade1 hypertension (mild)	140-159	90-99
Subgroup: borderline	140-149	90-94
Grade2 hypertension (moderate)	160-179	100-109
Grade3 hypertension (severe)	≥180	≥110
Isolated systolic hypertension	≥140	<90
Subgroup: borderline	140-149	<90

Classification of hypertension

The issues of risk and benefit having been examined, operational definitions of hypertension can be offered.

1. Classification of blood pressure. The levels of blood pressure are based on at least three sets of readings over several weeks. Hypertension is categorized by either systolic or diastolic gradation into one of four stages (National Institutes of Health, 1997: 11).

Category	Systolic (mmHg)	Diastolic (mmHg)
Normal	< 130	<85
High normal	130-139	85-89
Hypertension		
Stage 1 (mild)	140-159	90-99
Stage 2 (moderate)	160-179	100-109
Stage 3 (severe)	≥180	≥110

2. Classification of target organ damage. Categorized into 3 stages as follows: (Hanucharurkul, S., 1993: 132).

2.1 Stage 1 No damage found in the assessment of the target organ.

2.2 Stage 2 At least one sign of damage in the target organ as follows:

a. Left ventricular hypertrophy (found through physical examination, chest x-ray or electrocardiogram).

b. Generalized or focal narrowing of the retinal arteries.

c. Proteinuria and / or slight elevation of plasma creatinine concentration.

2.3 Stage 3 Degeneration of the target organ such as congestive heart failure, hypertensive encephalopathy, and hypertensive retinopathy grade 3 or grade 4.

3. Classification by cause

3.1 Essential hypertension or primary hypertension

The cause of more than 90 percent of hypertension is essential hypertension (Kaplan, 1994: 15). Essential hypertension occurs most often in persons aged 35-55 years Beland & Passor, 1981: 833). According to the follow-up data of untreated hypertensive

patients, several investigations have observed that mortality was approximately twice as high in men as in women (Edward, 1973: 276-277).

High blood pressure develops silently and without warning. The cause of essential hypertension is unknown. There are problems with controlling high blood pressure, and patients need effective nursing care (Wattanachai, K., 1989: 30).

3.2 Secondary hypertension

Secondary hypertension occurs in less than 10 percent of hypertensive patients as a sole entity. It occurs most often in people aged less than 30 or more than 30 years. The cause of secondary hypertension may be illnesses such as renal disease endocrine disorders, eg. toxigoiter. There can be drug induced hypertension, eg. by oral contraceptive agents or prolonged administration of corticosteroids. There can be other conditions that may induce hypertension such as pre-eclampsia, coarctation of the aorta, and atherosclerosis (Archanupab, S., 1988: 426).

Pathogenesis

The pathogenesis of essential hypertension is largely undefined, undoubtedly multifactorial and highly complex. The regulation of normal blood pressure is itself a complex process. Although blood pressure is a function of cardiac output and peripheral resistance, each of these two major variables is influenced by multiple factors. Cardiac output is affected by changes in extracellular fluid volume induced by alteration of sodium intake, renal function, and mineralocorticoid status. Changes in heart rate and contractility affect cardiac output more directly. Peripheral resistance is modulated in part

by the sympathetic nervous system with its vasoconstrictor and vasodilator components. Humoral influences on peripheral resistance are important and include angiotensin and catecholamines, which mediate vasoconstriction, and prostaglandins and kinins, which produce vasodilation. Finally, auto-regulation may have a major effect on peripheral resistance, and it also serves as a link between cardiac output and peripheral resistance (Epstein & Oster, 1984: 10).

Recently attention has been focused on the handling of sodium at the cellmembrane level, which is often abnormal in hypertension. Evidence exists for a circulatory inhibitor of the sodium pump (produced in response to subtle expansion of the extracellular fluid volume), which leads to increased intracellular sodium concentration. It has been suggested that this stimulates the sodium-calcium exchange in arteriolar smooth muscle, increasing the availability of calcium for vasoconstriction (Timmis & Nathan,1993: 258).

Symptoms

Essential hypertension in its early course is usually an asymptomatic disorder and is compatible with well-being for many years. Vague symtoms of non-specific headaches dizziness, fatigue, nose bleed, and pounding of the heart may be present in hypertensive patients (often only after the patients learns that he has the condition) but are no more frequent than in some groups of patients with normotension.

When hypertension is more severe, especially if it is the accelerated variety, throbbing suboccipital headaches, worse in the morning, and subsiding during the day, are common (Sokolow & Meilroy, 1997: 205-206; O'Brien & O'Malley, 1982: 11).

Factors related to essential hypertension

1. Heredity

One cause of hypertension may be the genetic make-up of the individual. Children affected has inherited from one parent that are associated with essential hypertension have high pressure 25 percent. If the parents have it, the opportunity of children having high blood pressure will increase to be 60 % (Paendin, S., 1992: 36). A study by Carlish found that patients with high blood pressure have a genetic defect in the body chemicals involved with the handing of sodium (Carlish, 1987: 129-130).

2. Obesity

Obesity is one of the strongest risk factors for essential hypertension (Timmis & Nathan, 1993: 259). People with obesity have a 5-10 fold greater risk of hypertension than non-obese people. The risk associated with obesity is likely to be due in part to blood pressure elevation, but reduced HDL cholesterol and increased insulin and glucose may also be involved (Stampfer, et al., 1991: 373).

3. Sodium chloride

The intake of sodium chloride, in excess of physiological requirements, is associated with high blood pressure (Roisommut, S., 1993: 298). By increasing daily intake sodium chloride 7-8 gm/day, patients may be elevated blood presure getter than whom take it 3 gm/day (Hongpanich, P., 1993: 21). Excessive sodium retention will retain fluid osmotically into the intravascular fluid space. This expansion of the intravascular fluid volume will lead to arterial over filling and mechanical elevation of arterial pressure (Chaisri, T., 1998: 17). Sources of dietary sodium are foods such as salt, fish sauce,

fermented whole soybeans, sodium benzoate, sodium propionate, shrimp paste, monosodium glutamate etc. Thus, hypertensive patients should reduce dietary sodium.

4. Stress

Stress affects the central nervous system and may contribute to the incidence of hypertension (Hanucharurkul, S., 1993: 137). The causes of stress include conflict, fear, exhaustion, anxiety, pain etc., and the emotions aroused by those situations.

5. Alcohol and caffeine

Taking 3 or more drinks of alcohol per day may result in elevated blood pressure, especially among elderly, and hypertensive patients (Torakee, A., 1994: 88). Regular alcohol consumption will reduce the effectiveness of hypertensive drugs and increase the risk of stroke (National Institute of Health, 1997: 21).

Caffeine in tea, coffee and chocolate is one of the risk factors for hypertension (Norton, 1995: 629). Caffeine stimulates the sympathetic nervous system, causing vasoconstriction that raises blood pressure. The consumption of more than 2-3 cups of coffee per day has been found to raise blood pressure 5-15 mmHg within 15 minutes and this level is maintained for about 2 hours (Wattanachai, K., 1989: 124).

6. Smoking

The nicotine contained in cigarettes stimulates the sympathetic nervous system to release catecholamine, which mediates vasoconstriction. Smoking may be a risk factor for hypertension (Norton, 1995: 629). Furthermore, nicotine contributes to arteriosclerosis. Hypertensive patients who smoke will have a higher risk of myocardial infarction, congestive heart failure, and cerebrovascular accidents than hypertensive patients who

don't smoke. Smoking reduces the efficiency of hypertensive drugs. Thus, hypertensive patients who smoke must be encouraged to quit (National Institutes of Health, 1997: 23; Torakee, A., 1994: 88).

7. Lack of exercise

People who do not exercise have a 35 percent greater risk factor of hypertension than people who exercise regularly (Torakee, A., 1994: 87). The benefits of exercise include the releasing of endorphins which makes people feel happy and increased high density lipoproteins (HDL) that prevent coronary artery disease.

Complications

The most prominent complications of hypertension are those affecting the heart, the brain, the kidneys, and the eyes (Timmis & Nathan, 1993: 260-261).

The heart: Hypertension is a major risk factor for coronary artery disease and predisposes people to myocardial ischaemia, infarction and sudden death. LV hypertrophy occurs, to compensate for the increase in afterload and in long-standing disease, irreversible deterioration in the systolic and diastolic function may develop, leading to heart failure.

The brain: Hypertension is an even more potent risk factor for cerebrovascular disease. The principal lesions are accelerated atherosclerosis in the larger cerebral vessels and mechanical dilatation of the small vessels and arterioles, resulting in microaneurysms. Strokes may result from thrombotic occlusion of atherosclerotic vessels or from intracerebral haemorrhage caused by vascular rupture. Although intracerebral

haemorrhage is potentially more devastating in its consequences, the rupture of a microaneurysm may be clinically silent, resulting in a typical lacunar infarct. Multiple lacunar infarcts, however, may combine to cause subtle defects of cerebral function, manifested by intellectual deterioration.

Hypertension also predisposes subjects to subarachnoid haemorrhage and transient ischemic attacks, which precede a major stroke in a significant proportion of cases. When hypertensive patients are compared with normotensive patients, it was found that the former group had a 7 fold greater risk of cerebrovascular haemorrhage than the latter group (Norton, 1995: 630).

The eye: Fundoscopy provides a unique opportunity to examine the retinal vascular changes due to hypertension, which presumably reflect similar changes in small vessels elsewhere in the central nervous system. Constriction is the normal retinal response to a rise in blood pressure, thereby raising resistance, which keeps the blood flow to tissues constant. In analogy with the changes in cerebral circulation, the appearance of haemorrages and exudates seems to reflect a break down in autoregulatory response (Epstein & Oster, 1984: 16-17).

The kidney: Hypertension is probably the most common cause of chronic renal failure. Nevertheless, because hypertension may also be the result of renal disease, the precise cause-and-effect relationship is often difficult to establish. Hypertension leads to vascular changes in the renal arterioles and glomerular tufts, which produces tubular dysfunction and a lower glomerular filtration rate. Proteinuria and haematuria occur and a vicious circle of worsening renal function and increasing hypertension may develop.

Therapy

Therapy is aimed at lowering the blood pressure to protect against end-organ damage (Timmis & Nathan, 1993: 256). The two major types of therapy for essential hypertension are nondrug therapy and drug therapy as follows:

1. Nondrug therapy

The use of nondrug therapies, preferably referred to as lifestyle modification, is the initial therapy for most patients. Such therapy may lower pressure to a level that is considered safe, particularly among the large number of patients with minimally elevated pressures (Kaplan, 1994: 171).

The following nondrug therapies should be practical for most hypertensives:

1.1 Weight reduction

Weight gain is often associated with an increase in blood pressure, and weight loss with a drop in pressure (Epstein & Oster, 1984: 55). The mean effect of a 1 Kg decrease in body weight was a decrease in the systolic and diastoiic pressure of 1.6 / 1.3 mmHg (Kaplan, 1994: 173-174). A weight control program for hypertensives should focus on restricting calories and increasing exercise. Weight reduction in all obese hypertensive patients assist in the reduction of multiple cardiovascular risk factors (Kirkendall, 1988: 227).

1.2 Diet

-Sodium restriction

A modest salt restriction may help lower the blood pressure. An average reduction in sodium intake of 100 mmol per day decreases the blood pressure 5.4/ 6.5

mmHg. Therefore, moderate sodium restriction should be useful for all persons, as a preventive measure in those who have normotension and, more certainly, as partial therapy in those who are hypertensives. The easiest way to accomplish such moderate sodium restriction is to substitute natural foods low in sodium and high in potassium for processed foods, which have sodium added and potassium removed (Willerson, et al., 1992: 7.72).

-Dietary fat

Restricting saturated fat or cholesterol is important. A blood cholesterol level of more than 250 mg/dl is a risk factor for arteriosclerosis and ischemic heart disease Kirkendall, 1988: 227). Reducing the total cholesterol by lowering LDL-C levels can diminish the incidence of congestive heart disease morbidity and mortality (Lipid Research Clinics Program, 1984: 351-374). Therefore, hypertensives should restrict their intake of animal fats from foods such as meat, egg yolks, milk and milk products. Additional fats to be avoided come from coconut and palm oil.

-Potassium supplementation

Some of the advantages of a lower sodium intake may be related to its tendency to increase the body's potassium content, both by a coincidental increase in dietary potassium intake and by a decrease in potassium wastage if diuretics are being used. Potassium deficiency has multiple effects that may increase blood pressure. Diuretic induced hypokalemia may be more of a danger than many suspect, especially for the development of ventricular arrhythimias, so hypertensive patients should be protected

from potassium depletion. Moreover, extra dietary potassium intake may help protect against vascular damage and stroke (Willerson, et al., 1992: 7.72).

1.3 Exercise

Regular isotonic exercises such as swimming, cycling, jogging, and aerobics can result in a 5 to 10 mmHg reduction in blood pressure, accompanied by, and probably related to, a decrease in sympathetic nervous activity. Isometric exercises, such as weight-lifting or heavy pushing, and pulling may be harmful to the hypertensive patient. This is because during an isometric contraction, blood pressure often rises to high levels by a reflex mechanism.

1.4 Stopping smoking

In recent years, the relationship between levels of plasma norepinephrine, which are elevated by smoking, has become clear. Prolonged smoking, therefore, will increase the risk of hypertension (LeMone & Burk, 1996: 1187). Thus, hypertensive patients should quit smoking.

1.5 Avoiding alcohol and caffeine

The study of Puddly et al. (1987: 647) found that the mean systolic and diastolic blood pressure were significantly lower during the last 2 weeks of the low-alcohol period than during the normal-alcohol period. Regression analysis suggested that a reduction in alcohol intake contributed to the fall in both systolic and diastolic blood pressure independently of changes in weight. Caffeine in coffee raises blood pressure. Avoiding drinking coffee and alcohol can lead to a reduction in blood pressure.

1.6 Relaxation

More recently, a variety of relaxation therapies including transcendental meditation, yoga, biofeedback, and psychotherapy have been shown to reduce the blood pressure of hypertensive patients at least transiently (Kaplan, 1994: 184).

2. Drug therapy

The addition of drugs, stepwise, in suffcient doses will enable one to achieve the intended therapy goal. The purely empirical basis for the use of antihypertensive drugs has been replaced by a stepped-care approach, which involves use of a diuretic or an adrenergic-blocking drug first, followed by a gradual addition of other drugs as needed.

Rather than always starting with the same drug and following a rigid step-care approach, a more scientific and rational approach has been recommended for selecting the initial drug based on the patient's individual needs and demographics. Some drugs that can be used for the treatment of hypertension are the following (Willerson, 1992: 7.76-7.95; Office of Food and Drug Committee, 1999: 2-6):

2.1 Diuretics

All diuretics initially lower the blood pressure by increasing urinary sodium excretion and by reducing plasma volume, extracellular fluid volume, and cardiac output. The drugs in this group are hydrochlorothiazine, furosemide, spironolactone, etc.

2.2 Vasodilators

Until recently, direct acting arteriolar vasodilators were mainly used as third drugs. The lower blood pressure is related to a fall in peripheral resistance. The drugs in this group are hydralazine, felodipine, etc.

2.3 Adrenoceptor blocking drugs

A number of adrenoceptor blocking drugs are available, including some that act controlly on vasomotor center activity, peripherally on neuronal catecholamine discharge or by blocking α-and / or β - adrenoceptors, and some that act at multiple sites. The drugs in this group are clonidine, propanolol, etc.

2.4 Renin-angiotensin inhibitors

These inhibit the enzyme that converts the inactive decapeptide angiotensin I to the active acta peptide angiotensin II. The drugs in this group are captopil, enalapril, etc.

2.5 Other drugs

Other forms of antihypertensive therapy are under investigation.One that has been widely studied is the serotonin S_2-receptor blocker, ketanserin. The reduction in HMG-CoA reductase activity noted in cultured skin fibroblasts may explain the fall in low density lipoprotein (LDL) cholesterol levels reported with its use.

Despite the importance of non-pharmacological methods to control hypertension, many patients will require treatment with antihypertensive drugs. Because this treatment must continue indefinitely, its acceptability in terms of dosage, frequency and side-effects must always be a major consideration. Indeed, poor compliance with the treatment regimen is the usual reason for inadequate control of blood pressure. From the wide range of drugs available, these five groups of agents come closest to fulfilling the combined requirements for efficacy and acceptability.

2. Home care of patients with essential hypertension

The terms home care and home health care have been used synonymously for treatment regimens which help clients have good health and self care. In this study, the researcher uses the term "home care."

Definitions of home care

Friedman defines home care as "the provision of care at home for a person who is sick or disabled to the extent that he or she is unable to function in the same manner as a normally healthy person in our society" (Humphrey, 1988: 309).

Home care is defined as the provision of health care services in the patient's home rather than in an institutional setting on a provider's office (Health and Public Policy Committee of the American College of Physicians, 1986: 454).

The National Association for Home Care defines home care as services to recovering, disabled or chronically ill persons providing for their treatment and / or effective functioning in the home environment. Generally, home care is appropriate whenever a person needs assistance that cannot be easily or effectively provided by only family members or friends on an ongoing basis for a short or long period of time (Humphrey, 1988: 308-309).

Fitzpatrick defined home care as services for treatment, nursing, helping or providing instruments that are necessary for the patients, which disabled and chronically ill people at home constitute. Home care focuses on health promotion, primary health care, rehabilitation and long-term care (Fitzpatrick, 1996: 6).

Although many sources discuss of home care which are previously presented. A definition of home care includes providing services to the patients, disabled people and family members. Home care services have a variety of aims: continuity of care in health promotion, maintenance of optimum health, self-care, rehabilitation which includes long-term care for chronically ill patients and hospice care. Nevertheless, the personnel who provide these various home care services must operate as a team in assessing and developing the home care plan according to the patient's need.

Advantages of home care

Home care can provide the company of one's family, fewer restrictions in a more familiar environment, greater personal choice and dignity, greater patient participation and a retention of usefulness. It can enable patients to maintain their activities, pets and religious and ethnic customs. Care, food, and schedules can be individually tailored to the patient, which can contribute to the patient's learning and motivation.

A host of financial advantages accrue to the patient who is cared for at home. The overall cost of home care is less than institutional care (Martinson & Widmer, 1989: 11). Besides, home care can minimize traveling time to the hospital, decrease the time that minimally ill patients stay at the hospital and vision of hospital is better (Wattanakit, P., 1993: 5-6; Imsomboon, J., 1994: 8).

Characteristics of home care

While the patient is in the hospital the discharge planning department primarily assesses and coordinates the patient's need for external referrals, including home care. As the coordinator of the patient's care, the home care nurse makes the initial evaluation visit, regularly reevaluates the patient's nursing needs, initates the plan of care and makes necessary revisions, initates appropriate preventive and rehabilitative nursing procedures, prepares clinical and progress notes, coordinates services, and informs the physician and other personnel of changes in the patient's condition and needs. Then the physician reviews and directs the plan of care as often as the severity of the patient's condition necessitates. An additional role for the home care nurse is as a supervisor to a home health aide. Written instructions for patient care are prepared by a registered nurse as appropriate (Rice, 1992: 9).

Home care is complex and the service covers activities such as medical care and supervision, nursing care and supervision, social work services, physical therapy, occupational therapy, provision for hospital inpatient services, nutritional guidance, laboratory and radiology services, speech therapy, inhalation therapy, medical technician services, appliance, equipment and sterile supply services, pharmaceutical services, transportation for the patient and equipment, and homemaker and health aide services (Humphrey, 1988: 309).

Therefore, the home care health team should operate according to the patient's individual diagnosis and needs. The effectiveness of home care will help patients maintain optimum health and a good quality of life.

Hypertension is a chronic disease. It is an important public health problem. The goals for home care are to control the blood pressure to protect the target organs from damage. The patients with essential hypertension will be able to (Bedrosian, 1989: 65):

1. Verbalize an understanding of the types of hypertension and the progression of the disease, its effect on the body, risk factors, signs and symptoms of complications in order to report to their home health nurse or physician.

2. Accurately take and record their blood pressure and pulse and know when changes in pressure are important to report to their physician.

3. Verbalize the importance of compliance with their prescribed diet and dietary restrictions.

4. Verbalize an understanding of the taxing effect excessive weight has on their cardiovascular system and / or demonstrate compliance with their prescribed weight reduction diet.

5. Demonstrate compliance with their prescribed medication therapy and identify possible side effects of their medication.

6. Demonstrate they are taking measures to minimize effects of postural hypertension associated with diuretic therapy and taking safety measures with regard to their ambulation and activities.

7. Verbalize an understanding of the importance of increasing foods and fluids high in potassium in their diet if they are taking a potassium-depleting diuretic.

8. Verbalize an understanding of the effects of a consistent progressive exercise program with balanced rest periods on lowering of their hypertension and its effect on improving tissue perfusion.

9. Verbalize prescribed measures to promote good bowel functioning and the effect of straining on blood pressure.

10. Demonstrate safety measures with ambulation and daily activities with relationship to visual disturbances.

11. Demonstrate modifications in their life-style to effectively decrease the level of stress and anxiety and verbalize an understanding of the effect of stress on their hypertensive condition.

Home care for hypertensive patients is designed to support them in their efforts to reach the goals, which are presented above. Home care nursing has 14 items as follows (Bedrosian, 1989: 66):

1. Asssess cardiovascular and neurological status and identify complications.

2. Assess vital signs and identify trends (e.g., hypo- or hypertension).

3. Observe/instruct patients in how to take and record their blood pressure and pulse and report significant changes to a physician.

4. Instruct patients about the types of hypertension, progress of the disease, its effects on the body, risk factors (e.g., obesity, inactivity, smoking, emotional stress, a diet high in saturated fats and cholesterol), the importance of compliance with the prescribed treatment regimen, and signs and symptoms of potential complications that need to be reported to the home health nurse or physician.

5. Assess and evaluate patients' nutritional status and instruct them about a prescribed well-balanced diet and dietary restrictions (e.g., sodium, calories, caffeine, alcohol, restricting saturated fat and cholesterol intake).

6. Instruct patients about a prescribed weight reduction diet and the taxing effect of excessive weight on the cardiovascular system.

7. Instruct the patients to take medications as ordered (e.g., antihypertensive, diuretics), instruct the patients about the medications' purpose and action, observe medications' side effects and toxicity, and evaluate the medications' effectiveness.

8. Observe and evaluate patients for dizziness or light-headedness while on diuretic therapy. Instruct them to rise slowly from a supine or sitting position to minimize the effects of postural hypotension, and educate them about safety factors connected with ambulation and daily activities.

9. Assess and instruct the patients about the importance of increasing their intake of foods and fluids high in potassium if taking a potassium-depleting diuretic.

10. Assess and evaluate patients' response to daily stressors. Instruct them to modify their life-style to avoid stressful activities and instruct them about the effect of stress on their hypertensive condition.

11. Observe and evaluate patients' ability to perform self-care activities. Instruct them in energy conservation techniques, regular progressive activity and an exercise program with balanced rest periods. Explain exercise's effect in lowering hypertension and improving tissue perfusion.

12. Assess patients' bowel elimination pattern. Educate them about the importance of avoiding straining because of its effect on blood pressure. Instruct them about prescribed means of treating or avoiding constipation (e.g., increasing dietary fiber and fluids, using stool softeners and laxatives, and increasing activities as allowed). Evaluate the effectiveness of the bowel regimen.

13. Assess and evaluate visual disturbances associated with vascular changes of retina. Instruct patients about safety measures regarding their ambulation and daily activities to reduce the risk of falls and injuries, and tell them to report to the physician if their vision worsens.

14. Assess the patients' coping responses, their level of anxiety, and stress factors. Refer patients to social services as ordered to provide information regarding needed community services (e.g., support groups to stop smoking, alcohol rehabilitation, weight control and stress management programs).

Home care provides realistic hope and an improved quality of life for people with essential hypertension. It is faced with the challenge of assisting the patients and family in developing a realistic plan of care focused on prevention, promotion, rehabilitation and treatment.

3. The Neuman System Model

The Neuman System Model, a conceptual framework for nursing, is considered a predominantly wellness-oriented or holistic approach. It is based on two major components: stress and the reaction to stress. That is, the client is an open system that has

interaction with and a total interface with the environment. Using this model and its system terminology, the client interacts with the environment by adjusting to it, or as a system, by adjusting the environment to fit it. The process of interaction and adjustment results in varying degrees of harmony, stability, or balance between the client and environment. Ideally, there is optimal client system stability (Neuman, 1995: 23). Each of the four sub-concepts of nursing is segmented from the entire diagram and will now be explained separately as client, environment, health and nursing (See Figure 2).

1. The client or client system may be identified as an individual, family, aggregate, community or social issue. The client as a system is a composite of five variables: physiological, psychological, socio-cultural, developmental, and spiritual. In the list below, the variables are described in some detail.

-Physiological refers to bodily structure and function.

-Psychological refers to mental processes and relationships.

-Socio-cultural refers to combined social and cultural function.

-Developmental refers to life developmental processes.

-Spiritual refers to spiritual belief influences.

Each client system has a unique innate basic energy structure that must be protected for life to continue. It is encircled by protective rings as follows: A flexible line of defense meets external environmental stressors; it acts as a buffer system to reduce the potential for reaction in the normal line of defense. The normal line of defense maintains the client's usual wellness condition or stable state. When an environmental stressor penetrates the normal line of defense, a reaction, variance from wellness, or illness

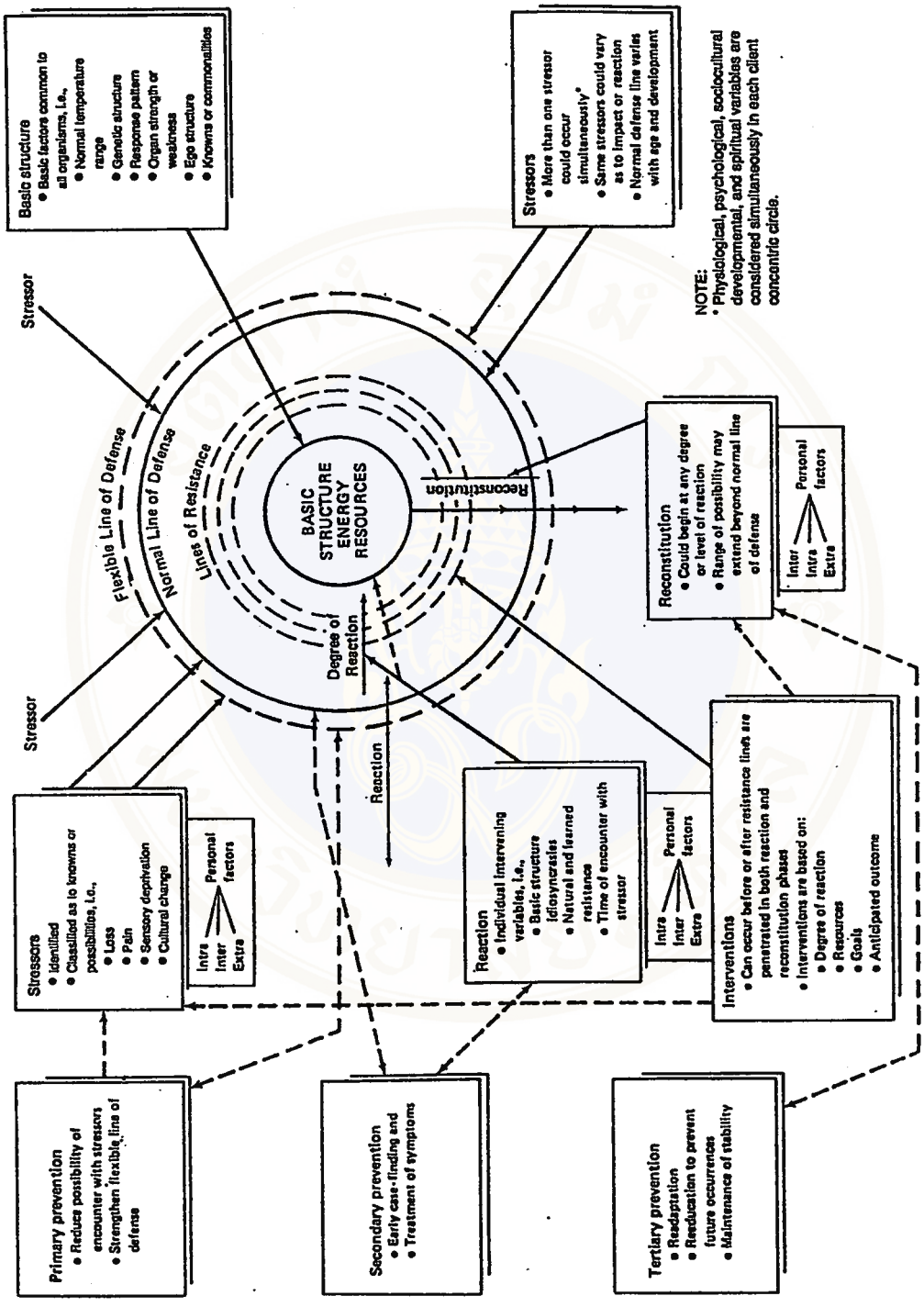

Figure 2 The Neuman Systems Model.
Original diagram copyright © 1970 by Betty Neuman.

symptoms occur activating the line of resistance, classified as internal and external resources, for reconstituting the system toward wellness.

2. The environment is pervasive and is broadly defined as all internal and external factors or influences surrounding the identified client or client system. The client may influence or be influenced by environmental forces, either positively or negatively, at any given point in time. A particular stressor with a negative outcome for a client at a particular point in time may not be noxious all the time. The adjustment of the system may alter the client's response pattern. The following environmental typology is now established for the Neuman System Model:

-The internal environment consists of all forces or interactive influences internal to or contained solely within the boundaries of the system. It correlates with the model's interpersonal factors or stressors.

-The external environment consists of all forces or interactive influences external to or existing outside the system. It correlates with either the model's interpersonal and extrapersonal factors or stressors.

-Created environment: intrapersonal, interpersonal, and extrapersonal in nature. Stressors are tension producing stimuli or forces occuring within either the internal or the external environmental boundaries of the client/client system. More than one stressor may be imposed upon the client at any given time. The client / client system may be affected by any of the following types of environmental stressors.

-Intrapersonal stressors: internal environment interaction forces occurring within the boundary of the client/client system, for example, conditioned responses or autoimmune responses.

-Interpersonal stressors: external environment interaction forces occurring outside the boundary of the client/client system at proximal range, between one or more people, for example, role expectations, or communication patterns.

-Extrapersonal stressors: external environment interaction forces occurring outside the boundary of the client/client system at distal range, between one or, for example, social policy or financial concerns.

Stressors have the potential for reaction with the client, can cause a reaction with defined systems, and can influence reconstitution following treatment of symptoms.

The provider should study the needs for home care of the patient in order to be useful in making an appropriate home care plan.

3. Health or wellness is viewed as being on a continuum. Health for the client is equated with optimal system stability, that is, the best possible wellness state at any given time. Levels of client wellness rise and fall, within a particular range, throughout the life span because of basic structural factors and the client system's satisfactory or unsatisfactory adjustments to the challenges of life to preserve and enhance the system's integrity. The wellness-illness continuum implies that energy flow is continuous between the client system and its environment.

4. Nursing is viewed as a unique profession that is concerned with all the variables affecting an individual's response to stressors. Nursing's major concern is in keeping the

client system stable during adjustment to stressors, while assisting the client's adjustment toward an optimal wellness level. A Neuman based nursing process format implements the model using its concepts and terminology for assessment, formulating a broad statement of the client's condition and setting specific goals for nursing intervention, using primary, secondary, and tertiary prevention intervention modalities. The intervention modality of primary prevention is used for wellness preservation by strengthening the flexible line of defense and protecting the normal line of defense through promoting system wellness and reducing risk factors. When a reaction to a stressor has occurred, the secondary prevention or intervention modality is used to achieve system stability through supporting the system's lines of resistance, using both internal and external resources, to help the client make progress toward a condition of optimal health. The tertiary prevention or intervention modality is used to maintain a desired state of wellness following treatment of symptoms. Home care covers all three prevention intervention modalities, so that patients will receive appropriate nursing care according to their condition. It improves the quality of life for the patients.

4.The needs for home care of patients with essential hypertension

Meeting needs is necessary for survival. People always have needs in their lives. When a need arises, the person will become imbalanced. People then find ways to satisfy their needs to get back to a state of balance (Chanaim, S., 1995:67)

Maslow identified 5 levels of hierarchical human needs as follows (Maslow, 1970: 35-47):

1. Physiological needs: they are located at the base of the hierarchy; among them are the needs for oxygen, food, fluids, sleep and procreation to assure the continuation of human existence.

2. Safety needs: the safety needs, which include both physiological and psychological safety requirements, are essential for a person' s sense of well-being. People not only need a safe physical environment, a shelter, but also the feeling of physiological safety.

3. Love and belonging needs: the understanding and acceptance of others in both giving and receiving love, and a feeling of belonging to others.

4. Esteem needs: is related to our assessment of our own adequacy, our performance and capacity in the various areas of our lives.

5. Need for self-actualization. It is the highest level of the hierarchy of needs. Maslow calls self-actualization, "being true to oneself". More precisely, it is the effort to fulfill one's potential, to do in life with joy what one both wants and is suited to do.

Henderson (1991: 67) developed Maslow's concepts and assessed the basic needs of human beings in terms of nursing in particular to establish a system, having 14 elements.

1. Breathe normally.

2. Eat and drink adequately.

3. Eliminate by all avenues of elimination.

4. Move and maintain desirable posture (while walking, sitting, lying, and changing from one mode to the other).

5. Sleep and rest.

6. Select suitable clothing, dressing, and undressing.

7. Maintain body temperature within a normal range by adjusting clothing and modifying or adjusting to the environment.

8. Keep the body clean and well-groomed and protect the integument.

9. Avoid dangers in the environment and avoid injuring others.

10. Communicate with others in expressing emotions, needs, fears, and ideas.

11. Worship according to one's faith.

12. Work at something that provides a sense of accomplishment.

13. Play, or participate in various forms of recreation.

14. Learn, or satisfy the curiosity that leads to "normal" development and health.

Johnson & Other (1980: 18-19) views man as a system and expands the definition of needs to apply to patients, aiming to let nurses understand the basic needs of human beings to maintain the biological and physical balance in a system. The basic needs of humans can be classed by priority.

1. Physiological needs. Includes activity (rest and exercise), correct body alignment and mechanical function, oxygen, nutrients, elimination of wastes, fluid and electrolyte balance, regulatory function, and sensory and motor functions.

2. Safety needs. Includes freedom from threat of injury mechanical, chemical, thermal, bacteriological, psychological, social, economic.

3. Need to belong. Includes security, love, affection, and companionship.

4. Need for recognition, esteem, and affection. Includes self-concept, self-identity, self-esteem, and recognition.

5. Need to create or to produce, to contribute.

6. Need for knowledge and understanding / comprehension.

7. Aesthetic needs, including harmony, beauty, and truth.

The needs of chronically ill patients were classified into twelve major categories (Hay & Anderson, 1963: 96).

1. Knowledge about their condition and/or treatment.

2. Learning and carrying out skills associated with daily living.

3. Financial assistance.

4. Ability to contribute to society and to be self-supporting.

5. Acceptance of their illness or disability and belonging to a group.

6. Medical and nursing care.

7. Suitable environmental conditions and equipment to help compensate for their disability.

8. Achievement, or attainment of personal goals.

9. Spiritual comfort.

10. Relief of fear and anxiety.

11. Encouragement and understanding.

12. Acceptance of their dependency needs.

Roden (1990: 42) mentioned that needs and demands are balanced by strengths and resources. The factors that influence the health balance are:

-Needs or Deficits: These factors include basic human needs that all people share, as well as those individual and personal needs perceived by the person as deficits.

-Demands or Stressors: These factors are made up of the demands placed on a person from a variety of sources and stressors in the environment.

-Strengths: A person's strengths include physical, intellectual, motor, and affective or emotional ability. The knowledge, attitude, and skills gained through previous experiences make a major contribution to a person's present strengths.

-Resources: These are the external resources to which a person has access. These may include material resources, access to health care, and the emotional support of other people.

Each of the component parts of these 4 factors contributes positively or negatively to a person's present health balance (see Figure 3).

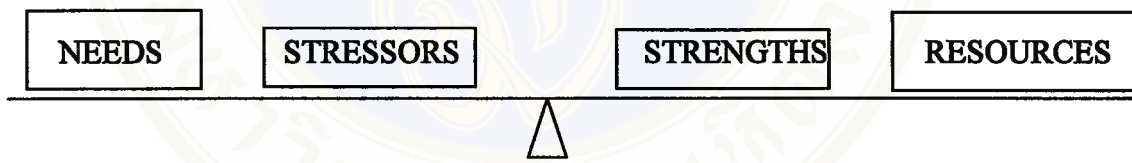

Figure 3 : The health balance

Russell, Hileman & Grant (1995: 336) mentioned that the stressors (needs) of the caregivers are intrapersonal, interpersonal, and extrapersonal. Moreover, the stressors can be readily categorized into the variables described by Neuman (1989): physiological, psychological, socio-cultural, developmental, and spiritual.

In conclusion, the needs are multidimensional, namely physiological needs, psychological needs, socio-cultural needs, developmental needs, and spiritual needs. The

caregiver's response to patient needs will help the patient maintain optimum health and rapidly recover from disease. The Neuman System Model considers patients as a system that must adjust to seek balance. Thus, in order to provide home care for patients staying at home, the providers should know the patient's needs.

1. Physiological needs: some hypertensive patients were not effectively treated because the patients neglected their antihypertensive drugs or forgot to take them (Youngjaiyooth, S., 1988 : 916). When patients feel well, they usually adjust their drugs by themselves. The study found one reason why patients did not take their antihypertensive drugs was because they were anxious about having problems with urination when they traveled (Worakulsawad, S., 1992: 12). Some patients took their medicine regularly, but their hypertension was not controlled because the medical regimen was not effective, because of the effects of their diet or because of other factors influencing their blood pressure (Hershey, et al., 1980: 1086-1087). In the study of Pongsanit, K. (1989: 71) it was found that hypertensive elderly patients engaged in medically inappropriate behavior such as drinking tea, coffee, soft drinks, alcohol, and beer. According to Worakulsawad, S. (1992: 11) the obstacles to patients' controlling their diet were a taste for unhealthy foods, and the misunderstanding that it was not necessary to control their diet while they were taking medication. Furthermore, the patients had little knowledge of unhealthy practices such as standing for a long time within 1 to 2 hours after taking their medication. This decreases the flow of blood to the brain. If patients suffer from constipation, the medicine is poorly absorbed (Pongsanit, K., 1989: 74). These problems showed that hypertensive patients had stressors, which were

obstacles to successful treatment in controlling their blood pressure. Therefore, patients need to have physiological happiness, and relief from complications or the ability to control their complications. They also need to be able to take care of their health effectively. If so, they can carry out health activities and lead a normal life. This agrees with a study by Wichitratana, R. (1990: d-e) which showed that patients had physiological needs. They needed food, fluids, oxygen, shelter, convenience, a safe physical environment, rest, exercise, excretion, and sexual activity. Furthermore, patients needed relief from complications and the ability to care for their complications by themselves. Maneewan, C. (1994: 240) who studied the problems and needs of chronically ill patients and home caregivers found that patients needed to recover from their disease, disability, and suffering. Additionally, they needed independence.

As well, the study of Boonyatarpa, M. (1993: 97-110) revealed that consumers need help with disease prevention such as instruction about recurrent diseases and preventing complications. Health promotion needs to include such things as teaching and advising clients about assessing symptoms, using continuity services, counseling patients about using medications, measuring their blood pressure, using appliance and supply services, and giving advice about services related to patients' daily living activities. Furthermore, the study by Lawang, W. (1999: 89) revealed that diabetes patients wanted to find solutions for the management of problems concerning the restrictions caused by health care practices. In this regard, the patients desired an easy and effective method of controlling their food intake without practicing a diet. The study indicated that having companions, in practicing exercise, who may be anyone from the patients' family or other

people. Diabetic Mellitus and hypertension are both chronic diseases. Thus, the needs of patients with either hypertension or diabetic mellitus are similar.

2. Psychological needs

Essential hypertension is a chronic disease. Patients cannot predict their life. They may misunderstand the therapeutic regimen, which increases their anxiety and fear. Furthermore, the cost of treatment is a factor that encourages anxiety. When elderly patients are sick with hypertension, the cost for their treatment increases by around 63 percent. Moreover, patients can't work while they have this illness and this alters their economic, social and psychological roles. These changes have a great impact on the patient's psychology, especially their feelings of security (Pantabtim, A., 1976: a). In the study by Maneewan, C. (1994: 240), it was found that 72 percent of patients needed to express their concern about their needy circumstances. In about 25 percent of the cases, patient felt anxiety about how they should behave and they feared how the disease would progress, which increased their anxiety and stress. As well, Wichitratana, R. (1990: d-e) found that patients had needs for perception their environment, independence, a dependence on other people, and safety. If these needs were not met, there might be psychological disruption in the patient. This corresponds to Boonyatarpa, M. (1993: 98), who found that patients needed psychological counseling. Therefore, patients sought supportive acceptance and understanding from family members, friends, and neighbors.

3. Socio-cultural needs include the need for acceptance from others and self-actualization (Barrett, Gessner & Phlep, 1975: 3-11). This agrees with a study of Hay & Anderson (1963: 96) who found that chronically ill patients with an illness or disability

needed a sense of acceptance by a group and a feeling of belonging to a group. Additionally, hypertensive patients need social support, which is an important source of benefit. The study by Maneewan, C. (1993: 40) showed that chronically ill patients have social, economic, and environmental problems. They need financial support and shelter. This corresponds with a study by Boontong, T. (1997: 35), which found that elderly people who had chronic illnesses, especially, hypertension, were facing the problems of a lack of income, insufficient housing, and being forced by neglect to live on their own. Some of the services that were required were health care facilities, health care expenditures and homes for the aged as well as recreation facilities. Furthermore, the study about consumer's needs concerning home health care found consumers needed conveniently available services, effective home health care services, availability of service from knowledge providers, and a voice in making decisions about the use of home health care, the network of home health care, and a referral system (Boonyatarpa, M., 1993: 102). Thus hypertensive patients can care for themselves and prevent complications by the provision of support including, socio-economic support, assistance with daily living activities and meeting the costs of treatment, and support from their family and society.

4. Developmental needs: Hypertension can cause other serious complications that cause damage to many organs of the body, including the heart, brain, kidneys, and eyes. Thus, patients have to depend on other people and this has an impact on the patient's role. Patients change from being a leader in the family to being just another family member, which causes them to feel a lack of power, position, and respect from other people. Furthermore, hypertensive patients will experience elevated blood pressure and a

heightened pulse when they have sexual intercourse (Nemec, Manfield & Kennedy, 1976: 274). Life events of this type all have an impact on the patient's life.

5. Spiritual needs are a benefit in coping with any problems of patients. Changhaim, S. (1991, 11-24) mentioned that spiritual needs can be classified under the follwing 5 items:

-Philosophy of life needs means the need to know the meaning of life in order to maintain the belief that life has meaning.

-Needs for psychological support and hope from others.

-The need for supreme happiness is the need to achieve one's goal in life. This results from meditation.

-The comprehensive need is spiritual calm under religious belief.

-The need for spiritual dependence is miraculous power that encourage the recovery from disease. This make people to increase power and confidence to cope with stressor.

The spiritual needs mentioned above correspond to the study by Lawang, W. (1999: 92) which found diabetes patients need spiritual calm based on their own religious beliefs. This was detected in a group of elderly patients. Most of them required their family members to take them to make merit and participate in different religious activities. Making merit at different peaceful places encouraged them to be more calm. Their anxiety decreased, particularly as they could meet other people of the same age. As for the needs of younger patients, it was found that they needed to have normal lives with the freedom to eat as usual and not take drugs everyday.

5. Factors related to the needs for home care of patients with essential hypertension

Neuman's system model mentioned that the needs of essential hypertensive patients are a result of stressors that make it difficult to maintain the balance of the body. The factors associated with the home care needs of patients consist of internal environmental factors and external environmental factors.

5.1 Internal environmental factors

-Gender is one way to classify the physical differences between human beings. It also has an effect on patients' ability to cope with their problems and their ability to release their unhappiness in ways accepted by society. As such, it affects their attitude toward illness (Anderson & Norris, 1972: 352-365). Gender differences are controlled by society (Kutner & Kutner, 1979: 62). It affects self care needs (Orem, 1991: 137). Females tend to take on the cultural role of caring in society. They have more ability to care for themselves than males do, especially when they are sick. Males usually don't perform the activities of daily living by themselves and depend on other family members more than females do (Neimi, et al., 1988: 1101-1107). The study by Walker, et al. (1988: 84) found females have higher health promotion scores in exercise, diet, and social interaction than males do. Additionally, females have healthier practice than males (Ferraro, 1980: 381; Fillenbaum, 1979: 48). The differences in gender make a difference in people's vulnerability to the risk factors of disease. Therefore, gender is a variable believed to be related to the home care needs of essential hypertensive patients.

-Age is a factor that separates human beings in terms of thinking, experience, and behavior. Senior adults' reactions to various stimuli differs from that of younger people's.

Senior adults have more experience in life and dealing with life's challenges than younger people (Satavetin, P., 1983: 105). The older people are, the less is required from them by family or society. Senior adults have fewer expectations from others and cope with problems or stress in life better than their younger peers (Mitthongtare, C., 1989: 69-70). Additionally, age is related to past experience, which affects people's present adaptation to problems. People of different ages will use different methods for coping with problems (Padilla & Grant, 1985: 54).

-Educational level lead to differences in needs. Highly educated patients are more likely to realize the cause of their problems and understand the situation. Patients' health and other aspects of their lives are shaped by their educational background and life experience. Education helps them learn and understand relevant data and illnesses. Therefore, highly educated people's education helps them seek information and take better care of their health than less educated people (Suwan, P.,1983: 182). This agrees with a study by Kasl & Cobb (1966: 250-251) which found that patients' educational level is significantly related to their cooperation with their treatment and health care. Educated people seek out more health care resources and benefit from them more than less educated people do (Muhlenkamp & Sayless, 1986: 366).

-Occupation is a factor that affects life in responding to basic human needs. The more highly skilled are more concerned with the issue of technical competence among physicians and are better able to choose physicians whom they judge to have this quality. This corresponds with a study by Santinak, C. (1987: 40) which found that differences in occupation led to differences in how ill women used private services. Additionally, the

group of patients that work in professional, academic, or business fields are more likely than people of other occupations to choose health-care services that have physicians. There is a trend for people of professional occupations to be less likely to use services from private hospitals than laborers, students, college students, or unemployed people. Polpeum, C., 1993: 72). Some occupations encourage people to learn more about health and self-care, especially health-related occupations. Therefore, occupation is a variable believed to be related to the home care needs of essential hypertensive patients.

-Ability to perform activities of daily living: Patients who can perform few activities of daily living become increasingly socially dependent. They have to learn to change their roles by such means as seeking instruction about their illness by cooperating with providers (Hirschfeld, 1985: 33), and increasing their ability to perform activities of daily living to respond to their own needs.Additionally, Taboonpong, N. et al. (1994: 10-11) who studied the background and problems of strokes, which are a complication of hypertension, found that patients' limits regarding self-care affected their social roles, and feelings of security in their life. This makes it important for patients to help themselves in the activities of daily living because it reduces complications and accidents, provides them psychological support, and enables them to cooperate in contributing to their family and society (Williams, 1994: 155-161). This corresponds with a study by Oberts (1990) which showed that children who had chronic illnesses and who were dependent on other people wanted a time to take care of themselves.

5.2 External environmental factors

-Marital status is an indicator for social support or support from a spouse. Married couples have a close relationship that affects the partners' emotions, feelings, thinking, beliefs and development. Having a spouse relates to feelings of safety warmth, security, and increased willpower. This corresponds with the study by Warheit (1975: 506) which said that the presence of a spouse significantly correlated with lower depression scores. The presence of other relatives nearby was not significant. Furthermore,the elderly who are married have better physical ability than the elderly who are single, widowed, divorced or separated (Hemathorn, J. & Silapasuwan, P.,1984: 67-68).

-Family income is a factor that affects life in responding to basic human needs. When family members become ill, money is significant for treatment, paying medical bills, and expenses for traveling to a hospital or other facilities to care for the patient. A family with a high income or high economic status will be less affected than a family with a low income or low economic status and has a better opportunity to search for any alternatives that would be good for the care of the patient. This corresponds with a study by Hulka, Zyzanski, Cassel & Thompson (1971: 670) which said that a family with high income is more concerned with the issue of technical competence among physicians and is better able to choose physicians whom they judge to have this quality. Furthermore, people who earn a high income could seek assistance better than those who earn a low income.

-The number of family members has an effect on patients' adjustment and health care. The family is important for supporting and encouraging people to cope with any

problems that they encounter throughout their life. Because the family is the smallest institution in society, family members are closely related (Wantayont, B., 1977: 67). When a member becomes ill, other members will take it as their role to share the patient's burden. This corresponds with a study by Phuphaibul, R. (1994: 6-7) who said family members have a duty to satisfy other members physiologically and emotionally by offering love, attention, and action as a shield to help solve any problems that affect the other members of their family. In addition, family members are related and connected by nature, for example, father, mother, children and kin, which binds them together in a network to accept and support one another. The difference in the number of family members has an effect on the difference in assistance given to the patient by other family members. This agrees with a study of Tienthong, P. (1997: 50-51) who found that a patient from a family with a lot of members will receive more assistance and support than another person in a family with fewer members because in the larger family, the family can more easily take turns caring for the patient, thus providing him with physiological and mental support. Family members can help patients with chronic diseases such as hypertension and diabetes by supportive behavior toward the patient.. Thus, the therapeutic regimen and recovery progresses faster for patients in large families than for patients in a non-supportive family (Suwan, P. & Suwan, S., 1993: 185). The number of family members may be related to home care needs.

-Convenience in traveling to receive health care services is one factor that determines how many people use medical services. Patients who live near a medical facility use medical services more than others (Ratanakorn, N., 1993). This corresponds

to a study of Anday and Anderson (1975) which found that the convenience or availability of public health services and the use of those services was closely related.

-Health insurance is important because people who are ill and have health insurance do not have to worry about the cost of treatment. Health insurance is a service that responds to the basic minimum needs of people (Hunchangsith, A., 1979: 16). This corresponds to Phleps (1975: 113) who found that people's use of medical services increases annually when those people are entitled to health insurance. People who are entitled to health insurance use medical services about 60 percent more than uninsured people. The expansion of full coverage health insurance causes the need for medical service to increase more than two folds. Thus, health insurance may be related to the need for home care.

From this literature review, one can conclude that essential hypertension patients have home care needs in 5 realms, namely the physiological, psychological, socio-cultural, developmental, and spiritual. A knowledge of all the environmental factors related to the needs of patients with essential hypertension will help inform the nurse and other health personnel as to how to provide appropriate practical health care.

CHAPTER III

METHODOLOGY

Research Design

This study was a descriptive research. The objective was to study factors related to the needs for home care of patients with essential hypertension.

Population and Sampling

Population

The population of this study were essential hypertensive patients who were followed up at the hypertension clinic, Division of Hypertension, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University. According to data from the computer center at Siriraj Hospital in 1999, this was reported as 871 patients. The researcher estimated the sample size as follows:

Sample

Sample size estimation: according to Yamanae (1973 cited in Kitpredaborisut, B. 1990: 63), the sample size can be calculated using this equation.

$$n = \frac{N}{1+N(e)^2}$$

When n = sample size

N = population of essential hypertensive patients

e = sample error; In the study, it's 0.05

According to the above calculation, the sample size should be at least 274 patients. For this study, the sample size is set at 300 patients.

Sample selection: a quota sampling method was used to select the subjects.

Setting

This study was conducted at the hypertension clinic, Siriraj hospital, Bangkok, Thailand. The subjects were selected from patient attending the hypertension clinic.

Instrumentation

Instruments

The instrument used for data collection was an interview questionnaire which consisted of 3 parts:

Part 1. Characteristics of the sample. This part was composed of 14 items, which included demographic and socio-economic characteristics.

Part 2. Patient's ability to perform activities of daily living assessment scale. The modified social dependency scale which Singhakhumfu, L. (1989)adapted from Benolial, et al. (1980:74-76) was used for measuring the patient's ability to live independently (Appendix C Part II).The ADL assessment scale consisted of 6 items related to the patient's feeding, dressing, walking, travelling, bathing, and excretion.

The 6 point rating scale was applied to each item. The scoring system was as follows:

1.Patients perform activities of daily living independently = 6 points

2.Patients have limitations in performing activities of

daily living, but do not need help = 5 points

3.Patients perform activities of daily living by using special instruments = 4 points

4.Patients perform activities of daily living, but some minimal help from others is needed for some steps of the activity = 3 points

5.Patients perform activities of daily living, but a helper is needed for all steps of the activity = 2 points

6.Patients cannot perform activities of daily living; the helper must perform all steps of the activity = 1 point

The possible ADL scores range from 6-36 points.

Criteria for grouping ADL.

Score	Level of Patient's ability to perform activities of daily living
30-36	High
13-29	Moderate
6-12	Low

Part 3. The for home care needs assessment scale.

This scale was constructed using Neuman's system model (Neuman, 1995) as a conceptual framework. It consists of 50 statements concerning home care needs which are classified into 5 dimensions:

Physiological needs	=	15 items	(items no. 1-15)
Psychological needs	=	10 items	(items no. 16-25)

Socio-cultural needs	=	13 items	(items no. 26-38)
Developmental needs	=	6 items	(items no. 39-44)
Spiritual needs	=	6 items	(items no. 45-50)

The 4 points rating scale was applied to each statement in order to specify the level of needs in the corresponding statement. The level of needs were classify as low, moderate, high, and very high. The scoring system was as follows:

Level of needs	**Score**
Very high	4
High	3
Moderate	2
Low	1

Criteria for classifying level of home care needs (Gatesing, W., 1999: 3).

Mean score	**Level of home care needs**
3.25-4.00	Very high
2.50-3.24	High
1.75-2.49	Moderate
1.00-1.74	Low

Validity and Reliability Test

1.Content validity

The five experts who participated in the validation of the interview questionnaire were:

One physician who is an expert in hypertension

Three nursing educators

One community health nurse

Corrections and revisions of the questionnaire were made according to suggestions and recommendations from the experts (The expert's names are listed in Appendix A).

2.Reliability

The revised questionnaire was tried out with 30 essential hypertensive patients and tested for reliability using the Cronbach Alpha Coefficient (Luecha, Y. et al., 1995: 127).

$$\alpha = \frac{n}{n-1}\left[1 - \frac{\sum Si^2}{St^2}\right]$$

When α = coefficient of consistency

n = number of items

ΣSi^2 = summation of score for each item

St^2 = the total variation of score

After applying the formula stated, the reliability of the needs for home care assessment scale was found to be 0.97

Data Collection

The data was collected by researcher using the interview questionnaire described earlier. The process for data collection was as follows:

1.Submit a letter of request from the Dean of Faculty of Graduate Studies to the committee on human rights concerning research involving humans for documentation of proof of ethical clearance, Faculty of Medicine Siriraj Hospital, Mahidol University.

2.Contact the Head of the Division of Hypertension and the Head of the Out-patient Department in order to give information concerning the objectives and details of this study.

3.The researcher studies the patient's records according to the criteria previously identified, after having been given permission to collect data.

4.While patients are waiting for meeting doctor at hypertension clinic, the researcher introduces herself, informs the patient of the objectives of this study and asks the patient to give his or her informed consent to participate in research. The consent form explains their rights to withdraw from the study at any time and gives assurance of confidentiality (The consent form is shown in Appendix B).

5.Approach the subject from the sample to be interviewed, and conduct the interview. The interviewing process for each subject lasted approximately 30 minutes.

The data.were collected during March-May of 2000

Protection of Human Subjects

. Before collecting data, the researcher provided the consents form (see appendix B)

to the subjects for protection of human subjects. All subjects were informed about the purpose of the study by reading to each subjects. Subjects had to sign consent form and they could obtain a copy the consent form if desired.

Data Analysis

The interview questionnaires, after being edited, verified, and scored according to the criteria previously identified, were coded for computerization. The data analysis included:

1.Frequency distributions and percentage distributions of characteristic data of the sample.

2.The arithmatic mean and standard deviation were used to analyze the data concerning the need for home care of patients with essential hypertension.

3.Pearson's product moment correlation was used to examine the relationship between the need for home care and the patient's age, ability to perform activities of daily living, family income, and the number of family members.

4.Chi-square test was used to examine the relationship between the need for home care and the patient's gender, occupation, marital status, educational level, convenience in traveling to receive health care services, and health insurance.

CHAPTER IV

RESULTS

This descriptive study aims to find out the factors related to the needs for home care of patients with essential hypertension. The subjects of 300 patients were followed up at the hypertension clinic, Division of Hypertension, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University. The results of this study are presented in the following order.

Part I Characteristics of the subjectss

1.1 Demographic Characteristics

1.2 Socio-economic Characteristics

Part II The Needs for Home Care of Patients with Essential Hypertension

2.1 Overall Needs

2.2 Physiological Needs

2.3 Psychological Needs

2.4 Socio-cultural Needs

2.5 Developmental Needs

2.6 Spiritual Needs

Part III Factors related to the Needs for Home Care of Patients with Essential Hypertension

Part I: Characteristics of the Subjects

1.1 Demographic Characteristics

The distribution of demographic characteristics of the sample are presented in table 1

Table 1 Demographic Characteristics.

Characteristics	Frequency (n = 300)	Percent
Gender		
Male	113	37.70
Female	187	62.30
Age (year)		
20-29	6	2.00
30-39	20	6.70
40-49	50	16.70
50-59	89	29.60
60 and higher	135	45.00
($\bar{x}$=56.80, S.D.=12.20, Range=25-94)		
Religion		
Buddhism	294	98.00
Islam	2	0.70
Christianity	4	1.30
Marital Status		
Married	186	62.00
Widowed / Divorced / Separated	75	25.00
Single	39	13.00
Educational Level		
No education	14	4.70
Primary school	136	45.30
Secondary school	55	18.30
Intermediate-professional certificate	10	3.40
Advanced-professional certificate	16	5.30
Bachelor degree or higher	69	23.00
Ability to perform activities of daily living		
High	286	95.30
Moderate	14	4.70
Low	0	0.00

Table 1 Demographic Characteristics (Continued)

Characteristics	Frequency (n = 300)	Percent
Duration of Hypertension (years)		
Less than 1	12	4.00
1-5	143	47.70
6-10	90	30.00
11-15	17	5.70
16-20	22	7.30
over 20	16	5.30
Blood Pressure (After treatment)		
Normal	107	35.70
High normal	40	13.30
Hypertension		
Grade I (mild)	109	36.30
Grade II (moderate)	31	10.30
Grade III (severe)	13	4.40
Regular Follow up (within 6 months)		
Yes	280	93.30
No	20	6.70

As shown in table 1, 62.30 % of the subjects were females, the other 37.70 % were males.

Age: The age of the subjects ranged from 25 to 94 years with an average of 56.80 years. The largest group of subjects were 60 years and older, which were 45 % of all the subjects, followed by the group of 40-59 years (46.30 %), Only 8.70 % were between 20 and 39 years old.

Religion: It was found that 98.00 % of the subjects were Buddhist. About 1.3 % of them were Christian and 0.70 % Muslim.

Marital Status: Sixty-two percent of the subjects were married, 25.00 % were widowed / divorced or separated, and only 13.00 % were single.

Educational Level: Fifty percent of the subjects had either completed primary school or had no education, while 23.00 % had a bachelor's degree or higher. 18.30 % had graduated from secondary school, and 8.70 % had gained intermediate-professional certificates or advanced- professional certificates.

Ability to Perform Activities of Daily Living: Most of the subjects (95.30 %) had a high level of ability to perform activities of daily living , while 4.70 % had a moderate level. None of them had a low level (The Ability to Perform Activities of Daily Living is shown in Appendix D).

Duration of Hypertension: It was found that the duration of hypertension of the subjects ranged from 6 months to 50 years, with an average of 8 years. More than half of the subjects had a duration of hypertension of less than 5 years (51.70 %). The largest group had a duration of hypertension of 1-5 years (47.70 %), and, thirty percent of them had a duration of hypertension of 6-10 years. Only 18.30 % had a duration of hypertension of more than 10 years.

Blood Pressure: The subjects' blood pressure after treatment was divided into three levels based on the WHO criteria (1999: 162). It was found that 49.00 % had normal or high normal blood pressure, while 51.00 % of the subjects were hypertenive.

Regular Follow up: Considering the follow-up activities of the subjects within 6 months period. It was found that most of the subjects, 93.30 % had regular follow-up, while 6.70 % did not.

1.2 Socio- economic Characteristics

The distribution of socio- economic characteristics is presented in table 2.

Table 2 Socio-economic Characteristics

Characteristics	Frequency (n = 300)	Percent
Occupation		
Household worker	128	42.70
Government worker	50	16.70
Private sector employee	44	14.60
Business	34	11.30
Retired Government Officer	27	9.00
State enterprise sector employee	8	2.70
Agricultural worker	8	2.70
Student or College student	1	0.30
Family Income (Baht / Month)		
0-5,000	43	14.30
5,001-10,000	54	18.00
10,001-15,000	33	11.00
15,001-20,000	29	9.70
20,001-25,000	22	7.30
25,001-30,000	30	10.00
over 30,000	89	29.70
($\bar{x}$ = 27,018.61, S.D. = 26,465.98, Range = 0-179,300)		
Adequacy of Income		
Adequate	202	67.30
Inadequate	98	32.70
No. of Family Members (Person)		
1-3	111	37.00
4-6	148	49.30
7-9	33	11.00
over 9	8	2.70
Having Health Insurance		
Yes	187	62.30
No	112	37.70
Payment of Medical Service		
From personal savings / Out of pocket	95	31.70
Civil servant medical benefit	176	58.67
Social welfare	18	6.00
Social security	10	3.33

Table 2 Socio-economic Characteristics (Continued)

Characteristics	Frequency (n = 300)	Percent
Convenience in Traveling to Receive Health Care Services		
Convenience	254	84.70
Inconvenience	46	15.30

As shown in table 2, it was found that 43.00 % of the subjects were household workers and college students, 38.40 % were government officials, retired government officers and state enterprise employees, while 25.90 % were business and private enterprise employees. Only 2.70 % were agricultural workers.

Family Income: The family income ranged from 0- 179,300 baht/ month with an average of 27,018.61 baht/ month. There was one subject who had no family income and stayed at a home for the aged. The members of subjects with income ranging over 30,000 baht/ month were 29.70 %. 18.00 % had a family income of 5,001-10,000 baht/ month. 20.70 % had a family income of 10,001-20,000 baht/ month. 17.30 % had a family income of 20,001-30,000 baht/ month, and only 14.30 % had a family income of 0-5,000 baht/ month.

Adequacy of income: It was found that 67.30 % of the subjects had adequate income for their household expenses; the rest, 32.70 %, said their family income was inadequate.

Number of Family Members: It was found that 49.30 % of the subjects had 4-6 members in their family, 37.00 % had 1-3 members, 11.00 % had 7-9 members, and there were only 2.70 % who had over 9 members.

Having Health Insurance: It was found that 62.30 % of the subjects had health insurance, while 37.70 % didn't have health insurance.

Payment of Medical Services: It was found that 58.67 % of the subjects paid for their medical services by having civil servant medical benefits, and 31.70 % had to pay by themselves. 6.00% were covered by social welfare, while 3.33 % paid by social security.

Convenience in Traveling to Receive Health Care Services. It was found that most of the subjects (84.70 %) were able to travel to health care facilities conveniently, while 15.30 % of the subjects found it was not convenient to travel to receive health care.

Part II: The needs for Home Care

2.1 Overall Needs

The study revealed the needs for home care of patients with essential hypertension. The patient needs assessment scale questionnaire was answered by patients. The results were reported under overall needs and five categories of needs: physiological, psychological, socio-cultural , developmental and spiritual needs.These are presented in table 3.

Table 3 Patient Needs for Home Care Classified by Level of Needs in each Dimension

Home Care Needs	$\bar{x}$	S.D.	Level of Needs
Overall	2.54	33.90	High
Physiological	2.76	10.32	High
Psychological	2.59	8.37	High
Socio-cultural	2.42	10.00	Moderate
Developmental	2.15	4.89	Moderate
Spiritual	2.52	5.52	High

Table 3 shows that the overall needs for home care of patients were at a high level. When consideration was given to each home care need, it revealed that physiological, psychological and spiritual needs were also found to be high , while the socio-cultural and developmental needs were moderate.

However, when the average scores regarding home care needs were compared, it can be seen that the physiological needs were found to have the highest mean score ($\bar{x}$ = 2.76), followed by psychological needs ($\bar{x}$ = 2.59), spiritual needs ($\bar{x}$ = 2.52), socio-cultural needs ($\bar{x}$ = 2.42), and developmental needs ($\bar{x}$ = 2.15).

2.2 Physiological Needs

Considering physiological needs, the mean score of all items were compared and presented in table 4.

Table 4 Physiological Needs of Patients with Essential Hypertension Classified by Level of Needs

Physiological Needs	$\bar{x}$	S.D.	Level of Needs
- Instruction about the actions and side effects of antihypertensive drugs	2.97	0.92	High
- Coordinate with physicians to adjust appropriate medication	2.86	0.96	High
- Instruction about the prescribed diet and dietary restrictions	2.84	0.94	High
- Instruction about how to change their position to minimize the effects of postural hypertension	2.83	0.95	High
- Instruction about the harmful effects of coughing, forced urination and constipation on hypertension	2.82	0.95	High
- Instruction about taking medication and following their prescribed treatment	2.80	0.96	High
- Instruction about risk factors of hypertension	2.80	0.88	High
- Instruction about the advantages of exercise	2.79	0.93	High
- Instruction about the causes of hypertension	2.78	0.91	High
- Instruction about appropriate types of exercise	2.77	0.91	High
- Instruction about means of avoiding coughing, strenuous urination and constipation	2.74	0.94	High
- Taking and recording their blood pressure and pulse	2.73	0.92	High
- Instruction about which signs , symptoms and complications to report to the physician	2.64	0.99	High
- Help and instruct them about creating a safe environment and changing daily activities to reduce the risk of accidents	2.56	0.97	High
- Demonstrate to family members how to take and record blood pressure and pulse and know what variations to report to a physician	2.52	1.04	High

From Table 4, when considering in detail the physiological needs, it was found that patients' mean scores ranged from 2.56 to 2.97, which indicated that all fifteen items of physiological needs were at the level of high home care needs. The highest mean score was the need for instruction about the actions and side effects of antihypertensive drugs, followed by the need to coordinate with the physician to adjust

appropriate medications ($\bar{x}$ = 2.96), instruct patients about prescribed diet and dietary restrictions ($\bar{x}$ = 2.84), instruction on how to change position to minimize effect of postural hypertension ($\bar{x}$ = 2.83),and instrcting them about the effects of coughing, forced urination and constipation ($\bar{x}$ = 2.82).

2.3 Psychological Needs

Considering psychological needs, the mean score of all the items were compared and presented in table 5.

Table 5 Psychological Needs of Patients with Essential Hypertension Classified by Level of Needs.

Psychological Needs	$\bar{x}$	S.D.	Level of Needs
- Instruction about the danger of stress affecting hypertension	2.79	0.94	High
- Education about stress factors	2.72	0.96	High
- Counseling and instruction to cope with and manage stress	2.72	0.97	High
- Assessing the causes of stress and anxiety	2.66	0.99	High
- Practicing skills to manage stress	2.64	1.03	High
- Coordination with family members to understand and support the psychological needs of patients	2.59	0.98	High
- Giving information about social services in the community to reduce stress	2.53	1.03	High
- Help with using benefit resources in community to prevent and reduce stress / psychological support	2.47	0.99	Moderate
- Nursing services to reduce stress and increase patients' willpower	2.47	0.94	Moderate
- Referral for treatment when patients cannot manage their stress and anxiety	2.34	1.01	Moderate

Table 5 found that mean scores ranged from 2.79 to 2.34 which indicated that seven items of psychological needs were high home care needs, needs to instruct about the danger effects of stress ($\bar{x}$ = 2.79), followed by education about stress factors ($\bar{x}$ = 2.72), counseling and instruct to cope and manage stress ($\bar{x}$ = 2.72), assess cause of stress in anxiety ($\bar{x}$ = 2.66), and practice skill to manage stress ($\bar{x}$ = 2.64). However, three items were level of moderate home care needs.

2.4 Socio-cultural Needs

Considering socio-cultural needs, the mean scores of all items were compared and presented in table 6.

Table 6 Socio-cultural Needs of Patients with Essential Hypertension Classified by Level of Needs

Socio-cultural Needs	$\bar{x}$	S.D.	Level of Needs
- Have a caregiver pay attention to their illness	2.72	0.98	High
- Hot line service for counseling when patients have health problems	2.67	1.05	High
- People to accompany patients to see the physician and follow up	2.66	1.14	High
- Give information about sources of health services	2.55	1.01	High
- Help with the cost of treatment	2.48	1.16	Moderate
- Help with buying drugs	2.46	1.07	Moderate
- Help with reimbursement for treatment costs	2.42	1.21	Moderate
- Help in using community resources such as welfare cards, elderly cards	2.41	1.15	Moderate
- Help with individual expenditures	2.25	1.09	Moderate
- Provide helper to help their duty	2.24	0.99	Moderate
- Continual assessment of signs and symptoms by nurses	2.24	1.10	Moderate
- Receive information about sources of financial support	2.21	1.06	Moderate
- Coordination with the government to raise their income	1.97	1.07	Moderate

As shown in table 6 the mean scores of socio-cultural needs ranged from 1.97 to 2.72, and the first four items of socio-cultural needs had a high level of home care needs. The highest score was found for the need for a caregiver to pay attention to their illness, followed by the need for a hot line service for counseling when patients have health problems ($\bar{x}$ = 2.67), help with buying drugs ($\bar{x}$ = 2.66), and information about sources of health services ($\bar{x}$ = 2.55) , while ten items had a moderate level of home care needs.

2.5 Developmental Needs

Considering developmental needs, the mean scores of all items were compared and presented in table 7.

Table 7 Developmental Needs of Patients with Essential Hypertension Classified by Level of Needs.

Developmental Needs	$\bar{x}$	S.D.	Level of Need
- Instruction about rehabilitation	2.50	1.01	High
- Instruction about work that is appropriate for their illness	2.40	1.05	Moderate
- Instruction about daily activities	2.19	1.06	Moderate
- Help with social adaptation	2.13	1.00	Moderate
- Instruction about changing roles in the patient's family	2.07	1.01	Moderate
- Counseling about sexual problems	1.63	0.96	Low

In Table 7 which considers the details of developmental needs, it was found that the six mean scores ranged from 1.63 to 2.50. This indicated that only one developmental need had a high level of home care, the need for instruction about rehabilitation ($\bar{x} = 2.50$).

Four items were moderate home care needs: the needs for instruction about work that is appropriate for their illness ($\bar{x} = 2.40$), the needs for instruction about appropriate daily activities ($\bar{x} = 2.19$), needs for help in social adaptation ($\bar{x} = 2.13$), and the need for instruction about changing roles in the family ($\bar{x} = 2.07$). Only one item under the developmental needs had a low level of home care needs.

2.6 Spiritual Needs

Considering spiritual needs, the mean scores of all items were compared and presented in table 8.

Table 8 Spiritual Needs of Patients with Essential Hypertension Classified by Level of Needs.

Spiritual Needs	$\bar{x}$	S.D.	Level of Needs
- Help in maintaining their hope and willpower	2.60	1.01	High
- Help in feeling they are making a valuable contribution to society	2.55	1.04	High
- Help for practicing according to goals of life	2.51	1.03	High
- Help in living in accordance with their beliefs and faith	2.50	1.02	High
- Help in living with meaning and dignity	2.48	1.01	Moderate
- Help with practicing religious activities	2.46	1.12	Moderate

Table 8 Spiritual needs: when considering the details of the needs, it can be seen that the mean scores for the six items ranged from 2.46 to 2.60, which indicates that four items of spiritual needs had a high level of home care needs: the need to help maintain hope and willpower in their lives ($\bar{x}$ = 2.60), the need to feel they are helping make a valuable contribution to society ($\bar{x}$ = 2.55), help in practicing their religious activities ($\bar{x}$ = 2.51), and help with living according to their beliefs and faith ($\bar{x}$ = 2.50). The last two items of spiritual needs had a moderate level of home care needs.

Part III: Environmental Factors Related to the Needs for Home Care

In analyzing the relationship between age, patient's ability to perform activities of daily living, family income, number of family members and needs for home care of patients with essential hypertension, Pearson coefficients were used. The results of the analysis were presented in table 9.

Table 9 Pearson Correlation Coefficients among Relating Factors and Needs for Home Care of Patients with Essential Hypertension Categorized in Overall and Specific Needs

Variable	Home Care Needs					
	Overall	Physiological	Psychological	Socio-cultural	Developmental	Spiritual
Age	-.107	-.066	-.110	-.138*	-.104	-.023
ADL	.086	.010	.059	.140*	-.134*	.047
Family income	-.008	.018	.049	-.194**	-.085	-.026
No. of family members	-.045	-.098	-.006	-.026	-.014	-.022

*P < .05, **P < .01

From table 9, there was no significant relationship between age, ability to perform activities of daily living (ADL), family income, and number of family members with overall needs for home care of patients with essential hypertension.

When considering specific needs, it was found that:

Age was negatively associated with socio-cultural needs of home care at .05 level of statistical significance. That is, the lower the age the higher the degree of socio-cultural needs of home care. Patient's ability to perform activities of daily living (ADL) was positively associated with socio-cultural needs of home care at .05 level of statistical significance. That is the higher the level of ADL, the higher the degree of socio-cultural needs of home care. When considering developmental needs of home care, it was found that ADL was negatively associated with developmental needs of home care at .05 level of statistical significance. That is, the lower of the level of ADL, the higher the degree of developmental needs of home care.

Family income was found to be negatively associated with socio-cultural needs of home care at .01 level of statistical significance. That is, the lower the level of family income, the higher the degree of socio-cultural needs of home care.

The number of family members was found to have no statistically significant relationship with physiological, psychological, socio-cultural, developmental, and spiritual needs of home care.

The relationship between gender, marital status, educational level, occupation, health insurance, and convenience in travelling to receive health care services and needs for home care of patients with essential hypertension were analyzed by using Chi-square test. The results are presented in Table 10-15.

Table 10 Relationship between Gender and Needs for Home Care of Patients with Essential Hypertension

Needs for Home Care	Gender		Total	χ^2	df	P-value
	Male	Female				
Overall						
Very high	12.4(14)	16.6(31)	15.0(45)	1.279	3	.734
High	36.3(41)	32.1(60)	33.7(101)			
Moderate	40.7(46)	41.7(78)	41.3(124)			
Low	10.6(12)	9.6(18)	10.0(30)			
Total	100.0(113)	100.0(187)	100.0(300)			
Physiological						
Very high	21.2(24)	25.7(48)	24.0(72)	1.087	3	.780
High	45.1(51)	40.1(75)	42.0(126)			
Moderate	26.6(30)	27.8(52)	27.3(82)			
Low	7.1(8)	6.4(12)	6.7(20)			
Total	100.0(113)	100.0(187)	100.0(300)			
Psychological						
Very high	20.4(23)	21.4(40)	21.0(63)	.453	3	.929
High	31.8(36)	34.8(65)	33.7(101)			
Moderate	31.0(35)	28.3(53)	29.3(88)			
Low	16.8(19)	15.5(29)	16.0(48)			
Total	100.0(113)	100.0(187)	100.0(300)			
Socio-cultural						
Very high	15.0(17)	15.0(28)	15.0(45)	3.007	3	.391
High	26.6(30)	30.5(57)	29.0(87)			
Moderate	43.4(49)	34.2(64)	37.7(113)			
Low	15.0(17)	20.3(38)	18.3(55)			
Total	100.0(113)	100.0(187)	100.0(300)			
Developmental						
Very high	10.6(12)	11.2(21)	11.0(33)	8.310	3	.040*
High	16.8(19)	23.5(44)	21.0(63)			
Moderate	47.8(54)	31.6(59)	37.7(113)			
Low	24.8(28)	33.7(63)	30.3(91)			
Total	100.0(113)	100.0(187)	100.0(300)			
Spiritual						
Very high	23.0(26)	18.7(35)	20.3(61)	1.321	3	.724
High	32.7(37)	31.0(58)	31.7(95)			
Moderate	26.6(30)	28.9(54)	28.0(84)			
Low	17.7(20)	21.4(40)	20.0(60)			
Total	100.0(113)	100.0(187)	100.0(300)			

* $P < .05$

Table 10 shows the relationship between gender and needs for home care. It was found that only developmental needs was proved to be significantly related to gender of the sample ($\chi^2 = 8.31$, $P<.05$). Females were likely to have higher developmental needs than males. For other aspects of home care needs, the Chi-square test shows no statistical significant relationship with gender.

Table 11 Relationship between Marital Status and Needs for Home Care of Patients with Essential Hypertension

Needs for Home Care	Marital Status		Total	χ^2	df	P-value
	Married	Single/Widowed/ Divorce/Separate				
Overall						
Very high	17.7(33)	10.5(12)	15.0(45)	5.517	3	.138
High	31.2(58)	37.7(43)	33.7(101)			
Moderate	43.0(80)	38.6(44)	41.3(124)			
Low	8.1(15)	13.2(15)	10.0(30)			
Total	100.0(186)	100.0(114)	100.0(300)			
Physiological						
Very high	25.2(47)	21.9(25)	24.0(72)	7.455	3	.059
High	41.4(77)	43.0(49)	42.0(126)			
Moderate	29.6(55)	23.7(27)	27.3(82)			
Low	3.8(7)	11.4(13)	6.7(20)			
Total	100.0(186)	100.0(114)	100.0(300)			
Psychological						
Very high	22.0(41)	19.3(22)	21.0(63)	3.764	3	.288
High	33.9(63)	33.3(38)	33.7(101)			
Moderate	31.2(58)	26.3(30)	29.3(88)			
Low	12.9(24)	21.1(24)	16.0(48)			
Total	100.0(186)	100.0(114)	100.0(300)			
Socio-cultural						
Very high	16.1(30)	13.1(15)	15.0(45)	1.711	3	.634
High	29.6(55)	28.1(32)	29.0(87)			
Moderate	34.9(65)	42.1(48)	37.7(113)			
Low	19.4(36)	16.7(19)	18.3(55)			
Total	100.0(186)	100.0(114)	100.0(300)			
Developmental						
Very high	12.4(23)	8.8(10)	11.0(33)	1.592	3	.611
High	20.4(38)	21.9(25)	21.0(63)			
Moderate	38.7(72)	36.0(41)	37.7(113)			
Low	28.5(53)	33.3(38)	30.3(91)			
Total	100.0(186)	100.0(114)	100.0(300)			
Spiritual						
Very high	22.6(42)	16.7(19)	20.3(61)	4.402	3	.221
High	31.2(58)	32.5(37)	31.7(95)			
Moderate	29.5(55)	25.4(29)	28.0(84)			
Low	16.7(31)	25.4(29)	20.0(60)			
Total	100.0(186)	100.0(114)	100.0(300)			

Table 11 shows the relationship between marital status and needs for home care. Chi-square test indicated no significance at .05 level.

Table 12 Relationship between Educational Level and Needs for Home Care of Patients with Essential Hypertension

Needs for Home Care	Education Level: Secondary education and lower	Education Level: Intermediate-professional certificate and higher	Total	χ^2	df	P-value
Overall						
Very high	15.1(31)	14.7(14)	15.0(45)	.542	3	.910
High	32.7(67)	35.8(34)	33.7(101)			
Moderate	41.5(85)	41.1(39)	41.3(124)			
Low	10.7(22)	8.4(8)	10.0(30)			
Total	100.0(205)	100.0(95)	100.0(300)			
Physiological						
Very high	21.5(44)	29.5(28)	24.0(72)	3.179	3	.356
High	42.9(88)	40.0(38)	42.0(126)			
Moderate	27.8(57)	26.3(25)	27.3(82)			
Low	7.8(16)	4.2(4)	6.7(20)			
Total	100.0(205)	100.0(95)	100.0(300)			
Psychological						
Very high	18.1(37)	27.4(26)	21.0(63)	5.536	3	.137
High	34.6(71)	31.6(30)	33.7(101)			
Moderate	28.8(59)	30.5(29)	29.3(88)			
Low	18.5(38)	10.5(10)	16.0(48)			
Total	100.0(205)	100.0(95)	100.0(300)			
Socio-cultural						
Very high	15.6(32)	13.7(13)	15.0(45)	.542	3	.910
High	29.8(61)	27.4(26)	29.0(87)			
Moderate	37.5(77)	37.9(36)	37.7(113)			
Low	17.1(35)	21.0(20)	18.3(55)			
Total	100.0(205)	100.0(95)	100.0(300)			
Developmental						
Very high	10.7(22)	11.6(11)	11.0(33)	3.588	3	.310
High	23.5(48)	15.8(15)	21.0(63)			
Moderate	34.6(71)	44.2(42)	37.7(113)			
Low	31.2(64)	28.4(27)	30.3(91)			
Total	100.0(205)	100.0(95)	100.0(300)			
Spiritual						
Very high	19.5(40)	22.1(21)	20.3(61)	2.399	3	.494
High	33.7(69)	27.4(26)	31.7(95)			
Moderate	25.8(53)	32.6(31)	28.0(84)			
Low	21.0(43)	17.9(17)	20.0(60)			
Total	100.0(205)	100.0(95)	100.0(300)			

Table 12 shows the relationship between educational level and needs for home care. Chi-square test indicated no significance at .05 level.

Table 13 Relationship between Occupation and Needs for Home Care of Patients with Essential Hypertension

Needs for Home Care	Occupation		Total	χ^2	df	P-value
	No occupation	Occupation				
Overall						
Very high	16.3(21)	14.0(24)	15.0(45)	1.595	3	.660
High	30.2(39)	36.3(62)	33.7(101)			
Moderate	44.2(57)	39.2(67)	41.3(124)			
Low	9.3(12)	10.5(18)	10.0(30)			
Total	100.0(129)	100.0(17)	100.0(300)			
Physiological						
Very high	23.3(30)	24.6(42)	24.0(72)	.976	3	.807
High	40.4(52)	43.3(74)	42.0(126)			
Moderate	30.2(39)	25.1(43)	27.3(82)			
Low	6.2(8)	7.0(12)	6.7(20)			
Total	100.0(129)	100.0(17)	100.0(300)			
Psychological						
Very high	22.5(29)	19.9(34)	21.0(63)	.963	3	.810
High	31.0(40)	35.7(61)	33.7(101)			
Moderate	31.0(40)	28.0(48)	29.3(88)			
Low	15.5(20)	16.4(28)	16.0(48)			
Total	100.0(129)	100.0(17)	100.0(300)			
Socio-cultural						
Very high	15.5(20)	14.6(25)	15.0(45)	.777	3	.855
High	28.7(37)	29.2(50)	29.0(87)			
Moderate	39.5(51)	36.3(62)	37.7(113)			
Low	16.3(21)	19.9(34)	18.3(55)			
Total	100.0(129)	100.0(17)	100.0(300)			
Developmental						
Very high	11.6(15)	10.5(18)	11.0(33)	.406	3	.939
High	20.2(26)	21.7(37)	21.0(63)			
Moderate	36.4(47)	38.6(66)	37.7(113)			
Low	31.8(41)	29.2(50)	30.3(91)			
Total	100.0(129)	100.0(17)	100.0(300)			
Spiritual						
Very high	21.7(28)	19.3(33)	20.3(61)	1.176	3	.759
High	28.7(37)	33.9(58)	31.7(95)			
Moderate	27.9(36)	28.1(48)	28.0(84)			
Low	21.7(28)	18.7(32)	20.0(60)			
Total	100.0(129)	100.0(17)	100.0(300)			

Table 13 shows the relationship between occupation and needs for home care. Chi-square test indicated no significance at .05 level.

Table 14 Relationship between Convenience in traveling to Receive Health Care Services and Needs for Home Care of Patients with Essential Hypertension.

Needs for Home Care	Convenience in Traveling to Receive Health Care Services		Total	χ^2	df	P-value
	Convenience	Inconvenience				
Overall						
Very high	14.2(36)	19.6(9)	15.0(45)	.929	3	.818
High	33.9(86)	36.6(15)	33.7(101)			
Moderate	41.7(106)	39.1(18)	41.3(124)			
Low	10.2(26)	8.7(4)	10.0(30)			
Total	100.0(254)	100.0(46)	100.0(300)			
Physiological						
Very high	22.8(58)	30.4(14)	24.0(72)	1.614	3	.656
High	42.1(107)	41.3(19)	42.0(126)			
Moderate	28.0(71)	23.9(11)	27.3(82)			
Low	7.1(18)	4.4(2)	6.7(20)			
Total	100.0(254)	100.0(46)	100.0(300)			
Psychological						
Very high	20.1(51)	26.1(12)	21.0(63)	1.099	3	.777
High	34.3(87)	30.4(14)	33.7(101)			
Moderate	29.9(76)	26.1(12)	29.3(88)			
Low	15.8(40)	17.4(8)	16.0(48)			
Total	100.0(254)	100.0(46)	100.0(300)			
Socio-cultural						
Very high	14.2(36)	19.6(9)	15.0(45)	1.718	3	.633
High	29.9(76)	23.9(11)	29.0(87)			
Moderate	37.0(94)	41.3(19)	37.7(113)			
Low	18.9(48)	15.2(7)	18.3(55)			
Total	100.0(254)	100.0(46)	100.0(300)			
Developmental						
Very high	10.6(27)	13.0(6)	11.0(33)	.341	3	.952
High	20.9(53)	21.8(10)	21.0(63)			
Moderate	38.2(97)	34.8(16)	37.7(113)			
Low	30.3(77)	30.4(14)	30.3(91)			
Total	100.0(254)	100.0(46)	100.0(300)			
Spiritual						
Very high	18.9(48)	28.2(13)	20.3(61)	2.864	3	.413
High	33.1(84)	23.9(11)	31.7(95)			
Moderate	28.3(72)	26.1(12)	28.0(84)			
Low	19.7(50)	21.8(10)	20.0(60)			
Total	100.0(254)	100.0(46)	100.0(300)			

Table 14 shows the relationship between convenience in traveling to receive health care services and needs for home care. Chi-square test indicated no significance at .05 level.

Table 15 Relationship between Health Insurance and Needs for Home Care of Patients with Essential Hypertension.

Needs for Home Care	Having Health Insurance		Total	χ^2	df	P-value
	Have Health Insurance	No Health Insurance				
Overall						
Very high	15.4(29)	14.3(16)	15.0(45)	4.308	3	.230
High	30.3(57)	39.3(44)	33.7(101)			
Moderate	42.0(796)	40.2(45)	41.3(124)			
Low	12.3(23)	6.2(7)	10.0(30)			
Total	100.0(188)	100.0(112)	100.0(300)			
Physiological						
Very high	25.5(48)	21.4(24)	24.0(72)	.769	3	.857
High	41.0(77)	43.8(49)	42.0(126)			
Moderate	26.6(50)	28.6(32)	27.3(82)			
Low	6.9(13)	6.2(7)	6.7(20)			
Total	100.0(188)	100.0(112)	100.0(300)			
Psychological						
Very high	21.8(41)	19.6(22)	21.0(63)	.229	3	.973
High	33.0(62)	34.8(39)	33.7(101)			
Moderate	29.3(55)	29.5(33)	29.3(88)			
Low	15.9(30)	16.1(18)	16.0(48)			
Total	100.0(188)	100.0(112)	100.0(300)			
Socio-cultural						
Very high	12.8(24)	18.8(21)	15.0(45)	11.160	3	.011*
High	27.7(52)	31.2(35)	29.0(87)			
Moderate	35.6(67)	41.1(46)	37.7(113)			
Low	23.9(45)	8.9(10)	18.3(55)			
Total	100.0(188)	100.0(112)	100.0(300)			
Developmental						
Very high	11.7(22)	9.8(11)	11.0(33)	1.20	3	.751
High	20.8(39)	21.4(24)	21.0(63)			
Moderate	35.6(67)	41.1(46)	37.7(113)			
Low	31.9(60)	27.7(31)	30.3(91)			
Total	100.0(188)	100.0(112)	100.0(300)			
Spiritual						
Very high	20.7(39)	19.6(22)	20.3(61)	1.471	3	.689
High	29.3(55)	35.7(40)	31.7(95)			
Moderate	28.7(54)	26.8(30)	28.0(84)			
Low	21.3(40)	17.9(20)	20.0(60)			
Total	100.0(188)	100.0(112)	100.0(300)			

*P<.05

Table 15 shows the relationship between having health insurance and needs for home care. It was found that only socio-cultural needs was proved to be significantly related to have health insurance of the sample (χ^2 =11.160, P<.05). The subjects who have not health insurance were likely to have higher socio-cultural needs than the subjects who have health insurance. For other aspects of home care needs, the Chi-square test shows no statistical significant relation with having health insurance.

CHAPTER V

DISCUSSION

The discussion of findings from a study of factors related to the needs for home care of patients with essential hypertension is as follows:

1.The Needs for Home care of patients with essential hypertension

1.1 Overall Needs

The study reveals that the level of overall needs of patients with essential hypertension is at a high level. This is because home care can minimize time spent traveling to the hospital, and the overall cost of home care is less than institutional care. When considering elderly subjects, it is found that caregivers do not accompany them to see physicians. Thus, the level of overall needs of patients is at a high level. This finding corresponds with a study by Boonyatarpa, M. (1993: f), which showed that the overall needs of consumers of home care were at a high level.

Five aspects of the needs are as follow:

1.2 Physiological Needs

In considering each aspect of physiological needs, essential hypertension patients need to be instructed about the actions and side effects of antihypertensive drugs since essential hypertension is a chronic disease and cannot be cured. Patients who are taking drugs to control blood pressure must be regularly followed up. Even though antihypertensive drugs have the benefit of reducing blood pressure, they also have

unwanted side effects on patients. These unwanted effects such as headaches, drowsiness, dizziness, and feeling queasy make people feel uncomfortable (Hussar, 1979: 48-53). In addition, physicians, nurses, pharmacologists and other health personnel often do not inform hypertensive patients about the actions and side effects of drugs for hypertension, and even when they try to but patients do not understand. These circumstances make it necessary for patients to be instructed about the drugs they are using in order to prevent harmful effects from taking them. This finding corresponds with a study by Witchitratana, R. (1990: a) and Boonyatarpa, M. (1993: 97-101) which showed that patients who are cared for at home need to be instructed about the drugs they are taking.

The second physiological need is the need for nurses to coordinate with physicians in order to appropriately adjust medications to patients' changing symptoms. This is probably because these patients face the risk of having complications such as coronary artery disease, cerebrovascular disease, kidney disease, and retinal vascular changes (Timmis & Nathan, 1993: 260-261), which occur when the blood pressure cannot be controlled. This requires them to receive continuous care. When considering the subjects, who were mostly elderly (45%), it was found that it was not convenient for them to receive health care services at the hospital, and also they do not have caregivers to accompany them to see physicians. Furthermore, they spend too much time and money to travel to hospital; thus, they need a nurse to coordinate with the physicians in order to adjust appropriately their medication. This finding corresponds with a study by Boontong, T. (1997: 34), which found that the elderly needed convenient medical services, and a study by Boonyatarpa, M. (1993: 97-101), which found that consumers needed

continuous services at home. Moreover, the study by Lawang, W. (1999: 91) found that diabetic patients who are chronic patients needed continuity of care in medical service, particularly home visits that should be provided by nurses to all patients. In addition, frequent service by a mobile medical unit in communities is also needed by this group of patients in order to fulfill their needs for blood testing, the examination and treatment of disease, and the provision of drugs, so that patients do not need to visit physicians at hospitals or health care centers.

1.3 Psychological Needs

The primary psychological needs of patients with essential hypertension are the need to be instructed about the danger of stress affecting hypertension and the second is the patient's need to be educated about stress factors. This is because essential hypertensive patients will face stress from their illness at all times. The study found that the majority of subjects' duration of hypertension was more than 5 years. Moreover, economic conditions may contribute to their stress in various ways. Elderly patients may lose their income, and must depend on other persons in their family. When patients are sick, they must pay money for medical services, but they do not have enough income to pay. This circumstance causes increased stress to patients. In addition, patients are under stress from the complications of hypertension. This finding corresponds with a study by Phothiwara, P. (1986: 95), which indicated that the situations of diabetic patients were mostly determined by the continuous practice of activities for disease control purposes, and such continuous attention could affect the stress tolerance of the patients. In addition,

they always possess feelings of uncertainty, strong emotions, fussiness and loneliness. This is a risk factor for hypertension (Hanucharurkul, S., 1993: 137). If patients have knowledge about the danger of stress affecting hypertension and its risk factors, it will help patients control their blood pressure. Thus, patients need to be instructed about the danger of stress affecting hypertension and be educated about stress factors. This finding corresponds with a study by Boonyatarpa, M. (1993: 98), which found that patients needed psychological counseling from home care.

1.4 Socio-cultural Needs

The findings of this study reveal that one of the primary socio-cultural needs is the need for caregivers to pay attention to the patient's illness. A study by Boontong, T. (1997: 35) found that elderly people who had chronic illnesses, especially hypertension, were facing the problems of a lack of income, insufficient housing and being forced by others' neglect to live on their own. Thus, patients need other people in their family to pay attention to their illness. Additionally, patients need to depend on other people (Wichitratana, R., 1990: d-e). This corresponds with a study by Hongtrakul, C. (1988: b), which found that hypertensive patients need social support, which is an importance source of help. Furthermore, patients have a basic need to receive quality treatment and kindness from health-care personnel. Studies by (Hutangkoon, L., 1997:20) and Kragel (1974: 16) stated that when humans are ill, they will need to receive attention from other persons.

A second patient's need is the need for a hot line service for counseling when patients have health problems. This is due to patients having problems with traveling to a

hospital. Often, they do not have a care-giver to bring them to the hospital. Additionally, patients spend a lot of time and money traveling to the hospital when they have a health problem. If there were a hot-line service for counseling patients, it would be broadly accepted as a convenient and quick service, particularly for the patients who needed health counseling services and / or emergency assistance. This corresponds with a study by Lawang, W. (1999: 91), which found that diabetic patients who were confronted with chronic illnesses needed a 24-hour hot-line service for getting questions answered and receiving advice. Another study by Hay & Anderson (1963: 96) found that one real need of chronic patients was prompt assistance with their medical emergencies.

1.5 Developmental Needs

Based on the findings, it was discovered that the patients need to be instructed about their rehabilitation. This is due to the change in patients' lifestyle when they have an illness. When considering characteristics of patients, it is found that some patients have a long-lasting illness, which necessitates long-term rehabilitation to have a normal life. This corresponds with a study by Hanser, et al. (1961: 99-136), which found that patients who are discharged from the hospital needed rehabilitation.

The second need of patients is the need to be instructed about what kind of work is appropriate for their condition. This is because hypertension decreases people's capacity to independently conduct their daily activities and to work normally in society and in their family. The progress and effects of the disease require that its treatment last a long time, and that patients receive continuous care. Patients cannot predict their future life, and they

feel anxious about their work. People's occupations are one of their important roles in society. If they cannot work, it affects the patients, their family and their place in society. Patients need to be instructed about what work is appropriate given their physical condition because this is important to them. This corresponds with a study by Linehan (1963: 1066), which found that patients need to know whether they will be able to do their usual work when they are discharged from the hospital

An additional, but lower priority patient's need is the need for counseling about sexual problems. This need is less important due to the fact that most of the subjects were the elderly (45 %). The patients' endrocrine glands and gonad glands degenerate. This causes a decrease in patients' sexual activities (Ministry of Public Health, 1988: 8). Also, in Thai society, patients are often not receptive to counseling about sexual problems. This may be due to Thai people's thinking that people's sexual lives should be kept secret; thus they are not open to counseling with others about these issues (Family and Population Planning Division, 1997: 45).

1.6 Spiritual Needs

The primary spiritual need of patients is the need to have nurses help them hope and willpower in their lives. This is because illness leads to a lot of changes for patients. These changes make patients feel insecure, have inferiority complexes, and feel they are a burden to other people. This patients' need for willpower corresponds to a study by Lawang, W. (1990: 94), which found that patients needed understanding from family members, physicians and nurses to increase their will power.

The second patient's need is the need of nurses to help them have a feeling of value in society. This is because hypertension causes feelings of discomfort, suffering, and weakness, and reduces the ability of patients to do various kinds of activities. This forces patients to receive help from family members. This help causes patients to feel mental conflicts, and feel a loss of power (Jaigham, A., 1990:128). Additionally, patients have low self esteem. These events rob patients' of their spiritual calm. Thus, patients need nurses to help them have a feeling of value in society. This corresponds with Hutangkoon, L.'s study (1988: 20), which stated that patients need to sustain their lives by maintaining their reputation and prestige. Similarly, Kraegel (1974: 56) mentioned that when patients get ill, they will need to receive respect, value and prestige from those around them. This agrees with a study by Hay & Anderson (1963: 96), which found that chronically ill patients need to have the ability to contribute to society and to be self supporting.

2. Environmental Factors Related to the Needs for Home Care of Patients with Essential Hypertension

Research findings show that environmental factors such as gender, and health insurance, are related to the needs for home care in some specific areas. Additionally, age, the ability to perform activities of daily living, and family income are related to the needs for home care at a low level of significance. These factors may not influence home care needs because the subjects have a similar ability to access health care services.

Gender. The research shows that gender was significantly and statistically related only to developmental needs of home care. Females were likely to have higher developmental needs than males. This is because males are usually the family leaders and income earners supporting the family, while females are usually responsible for meeting family demands (Supab, S., 1994: 6-7). Therefore, when a male is ill, it affects the family, and he may receive more care from family members to overcome some obstacles than a female. In Thai society, females usually work at home, and do not work outside. This study found that 62.30 % of the subjects were females, and 42.70 % worked at home. When a female is ill, she often doesn't go outside the home to see physicians. These reasons cause females to need more home care than males. Additionally, the study of Hemathorn, J. & Silapasuwan, P. (1984: 60) found that the elderly males have a greater ability to perform activities than elderly females. This corresponds with a study by Palmore (1978), which mentioned that elderly females will have more activity or behavioral changes which need help than elderly males. These factors cause female patients to have higher developmental needs than male patients.

Age. The research shows that age was significantly and statistically related only to socio-cultural needs, but in a reversed relationship, i.e., the lower the age, the greater the degree of socio-cultural needs of home care. In this study, the majority of the subjects were 60 years and older. The persons who are senior citizens could adjust to illnesses better than younger people since the older people could understand the treatment plan and take better care of their health than the younger people could (Baikaw, S., 1985: 13). This corresponds with a study by Mitthongtare, R. (1989: 69-70), which found that the

older people are, the less is required from them by family or society. Senior adults have fewer expectations from others and cope with problems or stress better than their younger peers. Therefore, the younger patients have higher socio-cultural needs than the older.

Ability to perform activities of daily living. The research shows that patients' ability to perform normal activities of daily living was positively associated with socio-cultural needs of home care at a .05 level of statistical significance, and was negatively associated with developmental needs of home care at a .05 level of statistical significance.

- The ability to perform activities of daily living was positively associated with socio-cultural needs of home care at a .05 level of statistical significance. That is, the higher the level of ADL, the higher the degree of socio-cultural needs of home care. This differs from a study of Oberts (1990), which showed that children with chronic illnesses who depend on other people need more time to be taken care of. This may be explained by the fact that most of the subjects in this study have a high ability to perform the activities of daily living. This reason makes people around patients neglect them; however, hypertensive patients who are chronic patients still need help from family members and other persons around them. They need to be taken care of by health personnel. Therefore, patients' ability to perform the activities of daily living was positively associated with their socio-cultural needs of home care.

- The ability to perform activities of daily living was negatively associated with developmental needs of home care at a .05 level of statistical significance. That is, the lower of the level of ADL, the higher the degree of developmental needs of home care. This corresponds to Hirschfeld (1985: 53) who mentioned that patients who can perform

few activities of daily living become increasingly socially dependent. They have to learn to change their roles by such means as seeking instruction about their illness by cooperating with providers. This causes patients who have a lower level of ADL have a higher degree of developmental needs than the patients who have a higher level of ADL.

Family income. The research shows that family income was negatively associated with socio-cultural needs of home care at a .01 level of statistical significance. That is, the lower the level of family income, the higher the degree of socio-cultural needs of home care. This corresponds with a study by Montgomery, in which Gonyae & Hooyman (1986: 119) found that family income is related to the need for a caregiver to take care of patients. This is due to family income, which is a factor that affects life in responding to basic human needs. When family members become ill, money is always significant for treatment, paying medical bills, and expenses for traveling to a hospital or other facilities to care for the patient. A family with a higher income or higher economic status will be less affected than a family with lower income or lower economic status. When considering this study , it was found that 32.70 % of subjects had an inadequate income. These subjects used social welfare to pay for medical services. Furthermore, economic problems also affect the family. These factors cause patients with lower incomes to have higher levels of socio-cultural needs than patients with higher incomes.

Health insurance. The research shows that health insurance was significant statistically related only to the socio-cultural needs of home care. The subjects who do not have health insurance were likely to have higher socio-cultural needs than the subjects who have health insurance. This study found that 31.70 % of the subjects had no health

insurance. They must pay for medical services by themselves. Sixty percent of subjects used social welfare. This caused patients who have no health insurance to come to use medical services at hospital less often than patients who had health insurance. This corresponds with a study by Phleps (1975: 113), which found that people's use of medical services increased annually when those people were entitled to health insurance. People who are entitled to health insurance use medical services about 60 % more than uninsured people. Therefore, for patients who have no health insurance, their socio-cultural needs, such as help with the cost of treatment or individual expenditures, help with using community resources, etc. is greater than for patients who have health insurance.

The results from this study show that internal and external environmental factors were found to be unrelated to overall needs for home care. This may be because the subjects who were similar in their ability to access health care services, had similar home care needs. Additionally, this may be due to the fact that those variables were not under control during the test, since other variables had more influencing power on the home care needs of patients with essential hypertension. For these reasons, internal and external environmental factors were found to be unrelated to the overall needs of home care.

CHAPTER VI

CONCLUSION

Summary of the Study

This descriptive study aimed to identify the needs for home care and factors related to the needs for home care of patients with essential hypertension. The Neuman System Model (Neuman, 1995) was employed in this study as a guideline.

The population of this study was essential hypertensive patients who were followed up at the hypertension clinic, Siriraj Hospital, Faculty of Medicine Siriraj Hospital, Mahidol University. A quota sampling method was used to select the 300 patients as subjects. Data was collected by using an interview questionnaire constructed according to the Neuman System Model (Neuman, 1995). Data were collected between March - May of 2000. The data were analyzed by using frequency, percentage, mean, standard deviation, Pearson's product moment correlation and Chi-square tests, which showed the following research results:

1. Most subjects in this study were female. They were 60 or older in age, of the Buddhist religion, married, household workers, had finished primary school, and their family income was over 30,000 baht / month. Their income was adequate to cover family expenses. The number of family members for most patients ranged from 4 to 6 persons. Most of the subjects had a high level of ability to perform the activities of daily living, had duration of hypertension for 1-5 years, were hypertensive (grade I), had regular follow-up,

could conveniently travel to receive health care services, and had health insurance. Most of them used civil servant medical benefits.

2. When considering the need for home care of patients with essential hypertension, it was found that, overall needs, there was a high level of needs. Considering specific needs, it was found there was a high level of physiological, psychological and spiritual needs, while there was a moderate level of socio- cultural and developmental needs. The details of each specific needs of patients are as follows:

2.1 Physiological Needs: it was found that all fifteen items of physiological needs were at a high level of need for home care. The need with the highest score was the need to be instructed about the actions and side effects of antihypertensive drugs, followed by the need for nurses to coordinate with physicians to adjust appropriate medication.

2.2 Psychological Needs: it was found that seven items of psychological needs were at a high level of need of home care. The highest scored need was the need to be instructed about the danger of stress affecting hypertension, followed by the need to be educated about stress factors.

2.3 Socio-cultural Needs: it was found that most of the socio-cultural needs were at a moderate level of need for home care. The highest score was the need to receive attention from the caregiver, followed by the need to have access to a hot line service for counseling when patients had health problems.

2.4 Developmental Needs: most developmental needs were at a moderate level of needs for home care. The highest scored needs was the need to be instructed

about rehabilitation, followed by the need to be instructed about work that is appropriate for their illness.

2.5 Spiritual Needs: it was found that most of the spiritual needs were at a high level of need for home care. The need with the highest score was the need to be helped to maintain hope and willpower in their lives, followed by the need to feel they were making a valuable contribution to society.

3. Internal environmental factors, which consisted of the age and ability to perform the normal activities of daily living, were statistically associated with the patient's socio-cultural needs for home care at a .05 level of significance. Furthermore, gender and ability to perform activities of daily living were statistically associated with developmental needs for home care at a .05 level of significance. External environmental factors, such as family income, were statistically associated with socio-cultural needs for home care at a .01 level of significance, and health insurance was statistically associated with socio-cultural needs for home care at a .05 level of significance. Overall needs for home care were not related to internal and external environmental factors.

Implications and Recommendations

1. Implications and Applications of Research Findings

1.1 As the research shows, one of the greatest patient needs was the need to be instructed about the action and side effects of antihypertensive drugs; therefore, nurses and other health personnel should be concerned about giving adequate information to patients about the actions and side effects of antihypertensive drugs. The government

should establish a health policy to create a system to teach patients about using drugs or using other health-care strategies, with information which can be easily understood and remembered. Furthermore, home care services should provide information about antihypertensive drugs. They should make leaflets on this topic, so patients can read the information at home.

Besides, patients need nurses to coordinate with physicians to adjust appropriate medication when their symptoms change. Measuring patients' blood pressure and recording their symptoms gives important data to community health nurses so the medications can be adjusted appropriately. Home care can reduce patients' traveling time to the hospital, decrease overcrowding in hospitals and save money because the overall cost of home care is lower than institutional care. These features are beneficial to patients.

1.2 The findings of this study indicate that most patients need to be instructed about the danger of stress affecting hypertension . Community health nurses should respond to these needs by educating patients about events that can cause stress and local resources to deal with stress. Furthermore, community health nurses should teach patients how to manage stress, and help them practice the practical skills to manage it.

1.3 Regarding the findings about the patient's socio-cultural needs to receive attention during their illness from caregivers, community health nurses should instruct relatives or caregivers so they understand the condition of patients, and inform patients about community resources that can provide support to patients and strengthen their emotional resources.

1.4 This study found that patients need to be instructed about rehabilitation. Community health nurses should arrange teaching programs about rehabilitation. These programs should have several levels in order to suit the special needs of each patient, such as rehabilitation programs for hemiplegia patients. Furthermore, community health nurses should provide rehabilitation programs for relatives who help patients with their rehabilitation, and create pamphlets about rehabilitation for patients to read at home.

1.5 Patients need to be helped to maintain hope and willpower in their lives. This is because patients must receive treatment for a prolonged time, which often causes patients to despair. Community health nurses should collaborate with relatives or caregivers who encourage patients by giving them support and respect. When commuity health nurses contact patients, they should respect their patients as human beings.

2. Implications for Further Studies

The findings of this study show that internal and external environmental factors were found to be unrelated to overall needs for home care. This may be due to the fact that the subjects had similar levels of access to health care services; therefore, the subjects had similar needs for home care. The research did not control other variables. For these reasons, the study is unable to prove their sigificance. If such a study is conducted later, the researcher recommends that the subjects should be selected from a wide variety of settings, such as essential hypertensive patients who stay at home and have irregular follow up. Furthermore, other variables should be controlled to clarify which relationships are significant.

BIBLIOGRAPHY

Anderson, N. T. C., & Norris, A. C. (1972). Long term adjustment and adaptation mechanism in severely burned adult. Journal Nervous and Mental Disease,1 (54) 352-362.

Anderson, S. V., & Baununs, F. E. (1981). Chronic Health Problem : Concept and Application. London : C.V. Mosby.

Anday, L., & Anderson, R. (1975). Development of Indices to Medical Care. Michigan: Health Administration.

Baikaw, S. (1985). A study of the relationship between health beliefs and therapeutic complacence in patients with hypertension. M. A. Thesis in Science (Nursing), Faculty of Graduate Studies, Mahidol University.

Barrett, J., Gesones, B. A., & Phleps, C. (1975). The head nurse. New York : Appliton Century-Crofts.

Bedrosian, C. A. (1989). Home Health Nursing : Nursing Diagnosis & Care Plans. Connecticut : Appliton & Lange.

Boontong, T. (1997). The health prolems and services required of the elderly living in the slums of greater Bangkok. Journal of Nursing, 16(1), 34-45.

Boonyatarpa, M (1993). Consumer's needs on home health care. M. A. Thesis in Nursing (Nursing Administrator), Faculty of Graduate Studies, Chiangmai University.

Carlish, S. (1987). Medical/Science reports from Israel. Israel Issue. January-February, 129-130.

Chaisri, T. (1998). The study of health promoting behaviors of the patients with essential hypertension. M. A. Thesis in Science (Adult Nursing), Faculty of Graduate Studies, Mahidol University.

Dodge, I. (1969). Factor Relateed to Patients'Perception of Their Cognitive Needs. Nursing Research,18, 502-513.

Edward, D. F. (1973).Age,Race,Sex and Other Indices of Risk in Hypertension. The American Journal of Medicine, 55, 275-280.

Epstein, M., & Oster, J. R. (1984). Hypertension: A Practical Approach. Philadelphia: W. B. Saunders Company.

Ferraro, K. F. (1980). Self-Rating of Health among the Old and the Old. Journal of Health and Social Behavior, 21, 377-383.

Fillenbaum, G. G. (1979). Social Contex and Self-Assessments of Health among the Elderly. Journal of Health and Social Behavior, 20, 45-51.

Fitzpatrick, J. J. (1996). Home Care Development Policy in the U. S. ใน การประชุมวิชาการเรื่อง International Home Care Nursing Development Policy Conference วันที่ 30 มิถุนายน – 1 กรกฎาคม 2539. (หน้า 6-9). คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล.

Haddad, A. M. (1992). Ethical problems in home health care. The Journal of Nursing Administration, 22(3) 46-51.

Hanser, J. (1961). Continuity of nursing care from hospital to home. New York: NLN.

Hay, S. I., & Anderson, H. C. (1963). Are Nurse Meeting Patients Need. American Journal of nursing, 63, 12, 96-99.

Haynes, R. B., et al. (1976). Improvement of medication compliance in uncontrolled hypertension. Lancet, 2, 1265-1268.

Health and Public Policy Committee, American College of Physicians: Home health care positionpaper. (1986). Ann Intern Med, 105, 454-460.

Henderson,V.A.(1991). The nature of nursing : a difinition and its implication for practice, research and education. New York: Nation League for Nursing.

Hershey, J. C., Morton, B. G., Davis, J.B., & Reichgott,M. J.(1980).Patient compliance with antihypertensive medication.American Journal of Public Health, 70, 1081-1089.

Hirschfeld, M. J. (1985). Self-Care Potential: Is It Present? Journal of Gerontological Nursing, 11(May), 33.

Hongpanich, P. (1993). The effectiveness of health counseling on self-care behavior among hypertension patients. M. A. Thesis in Public Health (Health Education), Faculty of Graduate Studies, Mahidol University.

Hongtrakoon, J. (1989). Relationship among selected basic conditioning factors, social support and self-care agency in essential hypertension patient. M. A. Thesis in Science (Nursing), Faculty of Graduate Studies, Mahidol University.

Hulka,B. S., Zyzanski, S. J., Cassel, J. C., & Thompson, S. J.(1971). Satisfaction with Medical care in a low income population. Journal of Chronic Disease, 24(11) 661-673.

Humphrey, C. J. (1988). The home as a setting for care : clarifying the boundaries of practice. Nursing Clinic of North America, 23(2) 305-314.

Hunchangsith, A. (1979). Attitudes of population toward health insurance as described in social insurance project of Thailand: A case study of Bangkok. M. A.Thesis in Arts (Medical Social Sciences), Faculty of Graduate Studies, Mahidol University.

Hussar, D. (1974). " Your role in patient compliance." Nursing, 79(9) 847-853.

Johnson, M. M. (1970). Problem Solving in Nursing Practice.Dubuque: N.M.c.Brown.

Kaplan, N. M. (1994). Clinical Hypertension. (6th ed.). Maryland: Williams & Wilkins.

Kasl, S.V., & Cobb, C. L. (1987). Stress and health: issues in research methodology. Chichester England : Welley.

Keating, S. B., & Kelman, G. B. (1988). Home health care nursing: concepts and practice. Philadelphia: J.B.Lippincoff.

Kerr, G. R,. & Nichaman, M. Z. (1986). Salt and hypertension. Public Health Review, 14, 27-104.

Kirkendall, W. M. (1988). Hypertension. In Rakel, R. E. (Editor), CONN'A Current Therapy.(pp.225-239). Philadelphia : W.B. Saunders.

Kraegel, J. M. (1974). Patient care system. Philadelphia: J. B. Lippincott.

Kutner, N.G., & Kutner, M. H, (1979). Race and Sex as Variables Affecting Reactions to Disability. Achieves of Physical Medical and Rehabilitation, 60, 62-66.

Lamb, J. I., & Carlson,V. R. (1986). Handbook of Cardiovascular Nursing. Philadelphia: J. B. Lippincott.

Lawang, W. (1999). Problems and health care needs of diabetic patients staying at home in the Bangkok metropolitan area. M. A. Thesis in Nursing (Community Health Nursing), Faculty of Graduate Studies, Mahidol University.

LeMone, P., & Burk, K. M. (1996). Medical-Surgical Nursing: Critical Thinking in Client Care. California: Addison-Wesley Nursing.

Linehan, D. I. (1961). " What does the patient wany to know? " American Journal of Nursing, 1, 1666-1670.

Lipid Research Clinic Program. (1985). The lipid research clinics coronary primary prevention trial results. JAMA, 251, 351-374.

Loggie, J. M. H. (1992). Pediatric and Adolescent Hypertension. Massachusetts : Black well Sceintific.

Lowther, N. B., & Carter, V. D. (1981). " How to increase compliance in hypertension". Am J Nursing, 81, 963.

Marcinek, M. B.(1980). Hypertension: what it does the body. American Journal of Nursing, 80, 928-932.

Maslow, A. H. (1970) . Motivation and Personality (2nd ed.). New York: Harper & Raw.

Maneewan, C. (1994). Problems and needs of chronically ill patients and caregivers at home. Thai Journal of Nursing, 43(4), 236-244.

Martinson, I. M., & Widmer, A. (1989). Home Health Care Nursing. Philadelphia: W. B. Saunders.

Mitthongtare, C. (1989). The relationship between selected factors, impact of chronic illness and mental health status in spouses of chronic patients. M. A. Thesis in Science (Nursing), Faculty of Graduate Studies, Mahidol University.

Montgomery, R. J. V., Gonyea, J. G.,& Hooyman, N. R. (1985). Caregiving and the experience of subjective and objective burden. Family Relations, 34, 19-26.

Muhlenkamp, A.F.,& Sayles, J. A. (1986). Self-Esteem,Social Support and Positive Health Care Practices. Nursing Research, 35, 334-338.

National Institues of Health.(1997). The sixth report of the joint nation committee on prevention and treatment of high blood pressure. Paper presented at the 6th Congress of the National Heart, Lung and Blood Institute, Bethesda.

Nemec, E. D., Mansfield, L., & Kennedy, J. W. (1976). Heart rate and blood pressure responses during sexual activity in normal males. Am Heart J, 92, 274-277.

Neuman,B. (1989). The Neuman Systems Model. Connecticut : Appleton-Century Crofts.

———— (1995). The Neuman Systems Model .(3 rd ed.). Connecticut : Appleton & Lange.

Norton, J. M. (1995). Introductory Nursing Care of Adults. Philadelphia: W.B. Saunders.

O'Brien, E., & O'Malley, K. (1982). High Blood Pressure: What it means for you, and how to control it. London: Mertin Dunitz Limited.

Oberts, M. T., et al. (1989). Caregiving demands and appraisal of stress among family caregivers. Cancer Nursing, 12, 209-215.

Orem, D. E. (1991). Nursing concepts of practice.(5th ed). St.Louis: Mosby.

Padilla, G., & Grant, M. (1985). Quality of life as a cancer nursing outcome variable.Advance in Nursing Science, 8, 45-60.

Palmore, E. B. (1978). The effect of aging on activities and attitudes. St. Louis: C. V. Mosby.

Pantubtim, A. (1976). Problem and needs of patients with chronic illness in Ramathibodi Hospital. M. A. Thesis in Social Administration, Faculty of Graduate Studies, Thammasat University.

Phleps, C. E. (1975). Effects of insurance on demand for medical care. Equity in Health Services. Cambridge: Ballinger.

Pholpuem, C. (1993). The determinants of private medical service utilization in Bangkok. M. A. Thesis in Arts (Population and Social Research), Faculty of Graduate Studies, Mahidol University.

Pothiwara, P. (1986). Glucoregulation and factors adversely affect its control in insulin dependent diabetic patients in Ramathibodi Hospital. M.A. Thesis in Science (Adult Care Nursing), Faculty of Graduated Studies, Mahidol University.

Puddly,I.B., et al. (1987). Regular alcohol use raises blood pressure in treated hypertensive subjects : A randomized controlled trails.Lancet,1(21) 647.

Rice, R. (1992). Home Health Nursing Practice: Concepts & Application. St. Louis: Mosby Year Book.

Roden, J. W. (1990). Discharge Planning Guide for Nursing. Philadelphia: W. B. Saunder.

Russell, J., Hileman, J. W., & Grant, J. S, (1995). Assessing and Meeting the Needs of Home Caregivers Using the Neuman Systems Model in Neuman, B. (editor), The Neuman Systems Model.(3rd ed.).(pp. 331-341). Connecticut : Appleton & Lange.

Santinak, C. (1987). Social and economic status differences which affect Thai rural woman requiring health services. M. A. Thesis in Arts (Population and Social Research), Faculty of Graduate Studies, Mahidol University.

Singhakumfu, L. (1989). The relationship among self care agency, social support and quality of life of hemiplegia patients. M. A.Thesis in Science (Nursing), Faculty of Graduate Studies, Mahidol University.

Stampfer, M. J., et al. (1991). A prospective study of cholesterol, apolipoproteins, and the risk of myocardial infarction. N Engl J Med, 325, 373-381.

Sokolow, M., & Meiroy, M. B. (1997). Clinical Cardiology. California: Lange Medical.

Thianthong, P. (1997). Family support factors affecting self-care behaviors of diabetic patients. M. A. Thesis in Arts (Population and Social Research), Faculty of Graduate Studies, Mahidol University.

Timmis, A. D., & Nathan, A.W. (1993). Essential of Cardiology. (2nd ed.). massachusetts: Blackwell Scientific.

Walker, S. N., et al. (1988). Health-Promoting Life Styles of Older Adults : Comparison with Young and Middle-Aged Adult, Correlates and Pattern. Advance in Nursing Science.11, 76-90.

Warheit, G. (1979). Life events,coping,stress,and depressive mptomatology.American Journal of Psychiatry, 136, 502-507.

Wichitratana, R. (1980). Opinions of hospitalized patients concerning daily living needs during admittance in the hospitals. M. A. Thesis in Education (Nursing Education), Faculty of Graduate Studies, Mahidol University.

Willerson, J. T., et al. (1992). Treatment of Heart Disease. New York : Gower Medical.

Williams, A. (1994). What Bother Caregivers of Stroke Victims? Journal of Neuroscience Nursing, 26(June), 155-161.

World Health Organization.(1978). Arterial Hypertension. Technical Report. Series. No. 628, Geneva, 35-38.

_____(1985). Blood Pressure Studies in Children. Who Tech Rep Series, 715.

World Health Organization. (1999). World Health Organization-International Society of Hypertension Guidelines for the Management of Hypertension. Journal of Hypertension, 17, 151-183.

กระทรวงสาธารณสุข. (2531). (Ministry of Public Health, 1988). คู่มือการส่งเสริมสุขภาพผู้สูงอายุ. นนทบุรี: สำนักงานปลัดกระทรวง กระทรวงสาธารณสุข.

_____ (2541). (Ministry of Public Health, 1998). เตือนมหันตภัยความดันโลหิตอย่าชะล่าใจ-ตายมากกว่ามะเร็ง.(Online).Available: http://www.moph.go.th/scripts/searchtext/Search.exe/ ShowFile?/ HotNews/DAILY/JULY98/27.htm&โรคความดันโลหิตสูง [1999, April 7].

กรรณิการ์ พงษ์สนิท. (2532). (Pongsanit, K., 1989). รายงานการวิจัยเรื่องการดูแลตนเองของผู้สูงอายุที่มีความดันโลหิตสูงในโรงพยาบาลมหาราชนครเชียงใหม่. เชียงใหม่ : คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่.

เกษม วัฒนชัย. (2532). (Wattanachai, K.,1989). การดูแลรักษาโรคความดันโลหิตสูง. กรุงเทพมหานคร : สำนักพิมพ์พัฒนาศึกษา.

กองวางแผนครอบครัวและประชากร. (2540). (Family and Population Division, 1997). กฤตภาคข่าวประชากรและอนามัยการเจริญพันธ์ เล่ม 3 มกราคม-มิถุนายน 2540. ไม่ปรากฏโรงพิมพ์.

คณะกรรมการวางแผนการสาธารณสุข. (2535). (Committee of Public Health Planning, 1982). แผนพัฒนาการสาธารณสุข : ตามแผนพัฒนาเศรษฐกิจและสังคมแห่งชาติ ฉบับที่7 (พ.ศ.2535-2539). กรุงแทพมหานคร : องค์การสงเคราะห์ทหารผ่านศึก.

จารุวรรณ เหมะธรและพิมพ์พรรณ ศิลปสุวรรณ. (2527). (Silapasuwan, J., & Silapasuwan, P., 1984). ความต้องการทางสุขภาพอนามัยของผู้สูงอายุ. วารสารสุขศึกษา 7, 62-70.

จำนง อิ่มสมบูรณ์. (2537). (Imsomboon, J., 1994). การสนับสนุนสุขภาพดีถ้วนหน้าด้วยโครงการสุขภาพเริ่มที่บ้าน. วารสารกองการพยาบาล, 21(1) 6-9.

ชะนวนทอง ธนสุกาญจน์. (2541). (Tanasugarn, C, 1998). Home Health Care Evaluation. เอกสารประกอบการสอนวิชาการพยาบาลอนามัยชุมชน2. กรุงเทพมหานคร: มหาวิทยาลัยมหิดล.

นุกูล ตะบูนพงศ์ และคนอื่นๆ (2537). (Taboonpong, N., et al., 1994). ภูมิหลังและปัญหาของผู้ป่วยโรคหลอดเลือดสมอง. วารสารพยาบาลสงขลานครินทร์, 14, 1-12.

นันทนา รัตนากร. (2536). (Rattanakorn, N., 1993). รายงานวิจัยลักษณะโครงสร้างและเศรษฐกิจของครอบครัวที่เกี่ยวข้องกับความพร้อมในการดูแลผู้ป่วยจิตเวชที่บ้าน เขตจังหวัดนนทบุรี. นนทบุรี : โรงพยาบาลศรีธัญญา.

บุญลือ วันทายนต์. (2526). (Wantayont, B., 1987). ครอบครัวและวงศ์วาน. กรุงเทพฯ: โรงพิมพ์มหาวิทยาลัยรามคำแหง.

บุญธรรม กิจปรีดาบริสุทธิ์. (2533). (Kitpredaborisut, B., 1990).ระเบียบวิธีวิจัยทางสังคมศาสตร์. กรุงเทพมหานคร : การพิมพ์พระนคร.

ปรมะ สตะเวทิน. (2526). (Satavetin, P., 1983). หลักนิเทศศาสตร์. กรุงเทพฯ : รุ่งเรืองสาส์นการพิมพ์.

ประพิณ วัฒนะกิจ. (2536). (Wattanakit, P., 1993). สุขภาพดีเริ่มที่บ้าน. กรุงเทพมหานคร : สายเจริญ พาณิชย์.

ประภาเพ็ญ สุวรรณ. (2526). (Suwan, P, 1983). ทัศนคติ : การวัดการเปลี่ยนแปลงพฤติกรรมอนามัย. กรุงเทพมหานคร : โอเดียนสโตร์.

ประภาเพ็ญ สุวรรณ และสวิง สุวรรณ. (2536). (Suwan, P & Suwan, S,1993). พฤติกรรมศาสตร์พฤติกรรมสุขภาพและสุขศึกษา. กรุงเทพมหานคร : เจ้าพระยาการพิมพ์

ยุวดี ฤาชา และคนอื่นๆ. (2537). (Luecha, Y., et al., 1995). วิจัยทางการพยาบาล. (พิมพ์ครั้งที่ 5) กรุงเทพฯ : สยามศิลป์การพิมพ์.

รุจา ภู่ไพบูลย์. (2537). (Phuphaibul, R., 1994). การพยาบาลครอบครัว : แนวคิดทฤษฎีและการนำไปใช้. ขอนแก่น : ห้างหุ้นส่วนจำกัดขอนแก่นการพิมพ์.

ลออ หุตางกูร. (2525). (Hutangkoon, L., 1990). จรรยาสำหรับพยาบาล. พิมพ์ครั้งที่ 4. กรุงเทพมหานคร: โรงพิมพ์อักษรไทย.

วิเชียร เกตุสิงห์. (2542). (Gatesing, W., 1999). ค่าเฉลี่ยกับการแปลความหมาย: เรื่องง่ายๆ ที่บางครั้งก็พลาดได้ ใน เอกสารประกอบการสอนวิชาสถิติ. กรุงเทพมหานคร: คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล.

แสง จันทร์งาม. (2534). (Changham, S., 1992). ศาสนศาสตร์.กรุงเทพมหานคร : ไทยวัฒนาพานิช.

สุชา จันทน์เอม. (2538). (Chanaim, S., 1995). จิตวิทยาเด็ก. กรุงเทพฯ : บริษัทโรงพิมพ์ไทยวัฒนาพานิช จำกัด.

สุธรรม แผ่นดิน. (Paendin, S., 1992). ลดความดันเลือดโดยไม่ต้องพึ่งยา. วารสารหมอชาวบ้าน, 14, 36.

สุพัตรา สุภาพ. (2537). (Supab, S., 1994).ครอบครัวไทย. การประชุมวิชาการสมาคมศิษย์เก่าพยาบาลศิริราชเรื่องครอบครัวในยุคโลกาภิวัฒน์ต่อบทบาทพยาบาลที่ก้าวไกลครั้งที่ 9 วันที่ 23-25 พฤศจิกายน 2537 ณ. ห้องประชุมคณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล. กรุงเทพฯ : โรงพิมพ์สถาบันพัฒนาการสาธารณสุขอาเซียน มหาวิทยาลัยมหิดล.

สัญญา ร้อยสมมุติ. (2536). (Roisommut, S., 1993) สรีรวิทยาของการไหลเวียน.ขอนแก่น : ภาควิชาสรีรวิทยา คณะแพทยศาสตร์ มหาวิทยาลัยขอนแก่น.

สำนักงานคณะกรรมการอาหารและยา. (2542). (Office of Food and Drug Committee, 1999). เอกสารเผยแพร่ความดันเลือดสูง. [Online]. Available : http://www 1.fda.moph.go.th/information.nsf/3f369dfded 0920a 18026674 c005peb3d/a9d3c 1320f82 ef4 3802565 f 003b5db1?Open Document [1999, Sep 4].

สำนักนโยบายและแผนสาธารณสุข. (2542). (Bureau of Health Policy and Planning, 1999). จำนวนตายตามสาเหตุตามบัญชีตารางโรคพื้นฐาน จากบัญชีจำแนกโรคระหว่างประเทศแก้ไขครั้งที่ 10 กับอัตราต่อประชากร 100,000 คน พ.ศ. 2538-2540. [Online]. Available : http : //www.moph.go.th/ops/bhpp/val1.html [1999, Nov 16].

สำนักคอมพิวเตอร์โรงพยาบาลศิริราช. (2542). (Siriraj Computer Center, 1999). สถิติผู้ป่วยโรคความดันโลหิตสูง. กรุงเทพมหานคร : คณะแพทย์ศาสตร์ศิริราชพยาบาล.

สารรัตน์ ยงใจยุทธ. (2531). (Yongjaiyooth, S., 1988). โรคความดันโลหิตสูง. ในไพโรจน์ อุ่นสมบัติ และประพันธ์ เชิดชูงาม (บรรณาธิการ), เวชศาสตร์ป้องกัน (หน้า 904-916). กรุงเทพมหานคร : ห้างหุ้นส่วนสามัญนิติบุคคล สหประชาพาณิชย์.

สุรเกียรติ อาชานุภาพ. (2531). (Archanupab, S., 1988). ตำราการตรวจรักษาโรคทั่วไป. พิมพ์ครั้งที่1. กรุงเทพมหานคร.

สุรยงค์ วรกุลสวัสดิ์. (2535). (Worakulsawad, S., 1992). รายงานการวิจัยเรื่องการดูแลสุขภาพตนเองของผู้ป่วยโรคความดันโลหิตสูง จังหวัดพังงา. พังงา : สำนักงานสาธารณสุขจังหวัดพังงา.

สมจิต หนุเจริญกุล และพรทิพย์ มาลาธรรม. (2536). (Hanucharurkul, S., & Malatum, P., 1993). การพยาบาลผู้ป่วยความดันโลหิตสูง. ในสมจิต หนุเจริญกุล (บรรณาธิการ), การพยาบาลทางอายุรศาสตร์ เล่ม 2. (หน้า 129-163). กรุงเทพมหานคร : วี.เจ พริ้นติ้ง.

อาภา ใจงาม. (2533). (Jaigham, A.,1990). การพยาบาลกับการส่งเสริมสุขภาพจิตสังคมของผู้สูงอายุ. การประชุมวิชาการคณะพยาบาลศาสตร์ ครั้งที่ 3. 3-5 เมษายน 2533. คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล.

อรวินท์ โทรกี. (2537). (Torakee, A., 1994). ลดความดันอย่างไม่ใช้ยา. ในวารสารอาหารกับโรค. (หน้า 80-81). กรุงเทพฯ : สมาคมสหเศรษฐศาสตร์แห่งประเทศไทยในพระบรมราชินูปถัมภ์.

APPENDIX A

List of Expert

1. Instructor Weranuj Roupsantisuk M. D.

   Division of Hypertension, Department of Medicine

   Faculty of Medicine Siriraj Hospital, Mahidol University

2. Associate professor Pensri Rabieb

   Division of Surgical Nursing

   Faculty of Nursing, Mahidol University

3. Associate Professor Farida Ibrahim

   Division of Medical Nursing

   Faculty of Nursing, Mahidol University

4. Lecturer Nantawan Suwonnaroop

   Division of Public Health Nursing

   Faculty of Nursing, Mahidol University

5. Somchitra Ghaoges

   Health Center 48

   Bureau of Health, Bangkok Metropolitan

APPENDIX B

Consent Form

My name is Nongnuch Petchroung. I am a master student at the Faculty of Nursing, Mahidol University. I am studying about factors related to the needs for home care of patients with essential hypertension. You will be the one of 300 essential hypertensive patients invited to participate in the study.

The study involves an interview about your home care needs, the interview will last for approximately 30 minutes. The information from the study will help nurse and other health professionals provide better home care for essential hypertensive patients.

Any information that is obtained in connection with this study and that can identify you will remain confidential. You will not be personally identified in any reports about this study. You are also free to have significant others present with you during the interview. You are free to withdraw at any time. Your care at this clinic will not be affected by your decision to either participate or not in this study. There is no cost , nor will there be any payment to you for participating in this study. Thank you very much.

Nongnuch Petchroung

APPENDIX C

The Questionnaire

-Personal Data

-Patient's ability to perform activities of daily living assessment scale

-The needs for home care of patients with essential hypertension assessment scale

Part I : Personal data of essential hypertension

Instruction : The interviewer marks ✓ in the ☐ or fill the blank according to the answer of the respondent.

1. Sex

☐ Male ☐ Female

1. Age.....years

2. Marital status

☐ Married ☐ Single

☐ Widowed/ Divorced/ Separated

4. Educational level.....

. . . .

. . . .

. . . .

14. Is it convenient for you to go to the hospital in order to receive health care services?

☐ Yes ☐ No

Part II : Patient's ability to perform activities of daily living assessment scale.

Instruction : The interviewer marks ✓ in front of the only statement in each items according to the answer of the respondent.

1. Feeding

- Patients perform activities of daily living independently
- Patients have limitations in performing activities of daily living, but do not need help
- Patients perform activities of daily living by using special instruments
- Patients perform activities of daily living, but some minimal help from others is needed for some steps of the activity
- Patients perform activities of daily living, but a helper is needed for all steps of the activity
- Patients cannot perform activities of daily living; the helper must perform all steps of the activity

2. Dressing

- Patients perform activities of daily living independently

. . . . .

. . . . .

. . . . .

. . . . .

- Patients cannot perform activities of daily living; the helper must perform all steps of the activity

3. Walking

- Patients perform activities of daily living independently

. . . . .

. . . . .

. . . . .

. . . . .

- Patients cannot perform activities of daily living; the helper must perform all steps of the activity

4. Traveling

- Patients perform activities of daily living independently

. . . . .

. . . . .

. . . . .

. . . . .

- Patients cannot perform activities of daily living; the helper must perform all steps of the activity

5. Bathing

- Patients perform activities of daily living independently

. . . . .

. . . . .

. . . . .

. . . . .

- Patients cannot perform activities of daily living; the helper must perform all steps of the activity

6. Excretion

- Patients perform activities of daily living independently

. . . . .

. . . . .

. . . . .

. . . . .

- Patients cannot perform activities of daily living; the helper must perform all steps of the activity

Part III : The needs for home care of patients with essential hypertension assessment Scale.

Instruction : The interviewer marks ✓ in the right block according to the answer of the respondent.

Home Care Needs	Level of Needs			
	Very high	High	Moderate	Low
<u>Physiological</u>				
1. Instruction about the actions and side effects of antihypertensive drugs				
2. Coordinate with physicians to adjust appropriate medication				
. . . .				
. . . .				
. . . .				
15. Instruction about the prescribed diet and dietary restrictions				
<u>Psychological</u>				
16. Instruction about the danger of stress affecting hypertension				
17. Education about stress factors				
. . . .				
. . . .				
. . . .				
25. People to accompany patients to see the physician and follow up				

Home Care Needs	Level of Needs			
	Very High	High	Moderate	Low
Socio-cultural				
26. Help with the cost of treatment				
27. Help with buying drugs				
. . . .				
. . . .				
. . . .				
38. Help with individual expenditures				
Developmental				
39. Instruction about rehabilitation				
40. Help with social adaptation				
. . . .				
. . . .				
. . . .				
44. Instruction about daily activities				
Spiritual				
45. Help in maintaining their hope and willpower				
46. Help in living with meaning and dignity				
. . . .				
. . . .				
. . . .				
50. Help with practicing religious activities				

APPENDIX D

Ability to Perform Activities of Daily Living (n=300)

Items	ADL Score					
	6	5	4	3	2	1
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
1.Feeding	293(97.67)	7(2.33)	0(0)	0(0)	0(0)	0(0)
2.Dressing	285(95.00)	11(3.68)	2(0.66)	2(0.66)	0(0)	0(0)
3.Walking	254(84.67)	27(9.00)	16(5.33)	3(1.00)	0(0)	0(0)
4.Traveling	221(73.67)	35(11.67)	12(4.00)	9(3.00)	23(7.66)	0(0)
5.Bathing	282(94.00)	9(3.00)	7(2.34)	1(0.33)	1(0.33)	1(0.33)
6.Excretion	289(96.33)	8(2.68)	1(0.33)	1(0.33)	1(0.33)	1(0.33)

BIOGRAPHY

NAME	Miss Nongnuch Petchroung
DATE OF BIRTH	4 June 1966
PLACE OF BIRTH	Petchburi, Thailand
INSTITUTION ATTENDED	Mahidol University, 1985-1989 Bachelor of Science (Nursing and Midwifery) with the Second Class Honors Mahidol University, 1998-2000 Master of Nursing Science (Community Health Nursing)
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