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**NEED OF CARE AND CUSTOMER SATISFACTION FROM  
ELDERCARE WORKERS IN METROPOLITAN BANGKOK**

**ARUNSRI CHANPRADIT**

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**With compliments  
of**

**บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล**

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Thesis  
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ELDERCARE WORKERS IN METROPOLITAN BANGKOK**

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ELDERCARE WORKERS IN METROPOLITAN BANGKOK**

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Arunsri Chanpradit

**NEED OF CARE AND CUSTOMER SATISFACTION FROM ELDERCARE WORKERS IN BANGKOK METROPOLITAN.**

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THESIS ADVISORS : PENCHAN S. MONAIYAPONG, M.Ed.,  
WONNAPHA PRAPAIPANICH, Ph.D.(Nursing)**ABSTRACT**

The purpose of this descriptive research was to study need of care, customer satisfaction with quality of care from eldercare workers, and the relationship between family members' demographic characteristics and hiring eldercare workers status and customer satisfaction with quality of care from eldercare workers in Bangkok Metropolitan. The samples were the frail elderly who received care from eldercare workers at their homes and/or frail elderly's family members. The data were collected from April to August 2002, totaling 80 cases. Questionnaires were used to collect data and data were analyzed by using descriptive statistics and Spearman rank correlation.

The findings of this study showed that the majority of need of care fell into the category of Activities of Daily Living (ADL). The total level of customer satisfaction in quality of care ranged from moderately to highly satisfied. The customers emphasized three aspects: eldercare workers' qualifications, eldercare workers' training, and the responsive from government organizations. Moreover, the family members' demographic characteristics had no statistically significant correlation with customer satisfaction with quality of care. However, the income of eldercare workers had a statistically significant low positive correlation with tangibles, responsiveness, assurance, and empathy ( $r = .274, p < .05$ ;  $r = .276, p < .05$ ;  $r = .323, p < .001$ ;  $r = .276, p < .05$ , respectively).

The results of this study suggest that the information gathered in this study could be used to develop programs to serve the elderly's need of care and to prepare eldercare workers to respond to the customers' expectations. To ensure the frail elderly's safely, eldercare workers should have to complete extra training in special care and receive certificates for their qualifications, and nursing organizations should act as a leader to control the service quality and training course quality. In addition, nursing organizations should be involved in developing the system for supervision of the eldercare training schools and/or agencies.

**KEY WORDS : NEED OF CARE / CUSTOMER SATISFACTION / FRAIL****ELDERLY / ELDERCARE WORKER**

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ความต้องการการดูแลและความพึงพอใจของผู้รับบริการจากการดูแลของผู้ดูแลผู้สูงอายุในเขตกรุงเทพมหานคร  
(NEED OF CARE AND CUSTOMER SATISFACTION FROM ELDERCARE WORKERS IN BANGKOK METROPOLITAN )

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#### บทคัดย่อ

การวิจัยเชิงพรรณานี้มีวัตถุประสงค์เพื่อศึกษาความต้องการการดูแลและความพึงพอใจของผู้รับบริการจากการดูแลของผู้ดูแลผู้สูงอายุในเขตกรุงเทพมหานคร ศึกษาความสัมพันธ์ระหว่างปัจจัยพื้นฐานของสมาชิกในครอบครัวและการจ้างผู้ดูแลผู้สูงอายุกับความพึงพอใจในคุณภาพบริการจากการดูแลของผู้ดูแลผู้สูงอายุ กลุ่มตัวอย่างจำนวน 80 ราย เป็นผู้สูงอายุที่ได้รับการดูแลจากผู้ดูแลผู้สูงอายุที่บ้านในเขตกรุงเทพมหานคร และหรือสมาชิกในครอบครัว โดยใช้แบบสอบถามเป็นเครื่องมือวิจัยในการเก็บข้อมูล และเก็บรวบรวมข้อมูลเป็นเวลา 5 เดือน ตั้งแต่เดือนเมษายน-สิงหาคม 2545 วิเคราะห์ข้อมูลโดยใช้สถิติเชิงบรรยายและสหสัมพันธ์ สเปียร์แมน

ผลการวิจัยพบว่าผู้สูงอายุมีความต้องการการดูแลในด้านกิจวัตรประจำวันเป็นส่วนใหญ่ ความพึงพอใจของผู้รับบริการอยู่ในระดับปานกลางถึงมาก ผู้รับบริการให้ข้อเสนอแนะใน 3 ด้าน คือ คุณสมบัติของผู้ดูแลผู้สูงอายุ การฝึกอบรม และหน่วยงานที่รับผิดชอบ ความสัมพันธ์ระหว่างปัจจัยพื้นฐานของสมาชิกในครอบครัวและการจ้างผู้ดูแลผู้สูงอายุกับความพึงพอใจของผู้รับบริการจากการดูแลของผู้ดูแลผู้สูงอายุพบว่า เงินเดือนของผู้ดูแลผู้สูงอายุมีความสัมพันธ์ทางบวกกับปัจจัยกำหนดคุณภาพบริการในด้านความเป็นรูปธรรมของบริการ การตอบสนองต่อผู้รับบริการ ความน่าเชื่อถือ และการเข้าใจและรู้จักผู้รับบริการ ( $r = .274, p < .05$ ;  $r = .276, p < .05$ ;  $r = .323, p < .001$ ;  $r = .276, p < .05$  ตามลำดับ)

ข้อเสนอแนะในการวิจัยครั้งนี้คือ นำข้อมูลที่ได้จากการศึกษาไปใช้ในการพัฒนารูปแบบเพื่อให้ผู้ดูแลผู้สูงอายุตอบสนองได้ตรงกับความต้องการของผู้สูงอายุ และเตรียมผู้ดูแลผู้สูงอายุให้ตรงกับความต้องการของผู้รับบริการ เพื่อปกป้องให้ผู้สูงอายุได้รับความปลอดภัยจากการให้บริการ ผู้ดูแลผู้สูงอายุควรได้รับการฝึกอบรมเพิ่มเติมในกิจกรรมการดูแลพิเศษและได้รับประกาศนียบัตรรับรอง องค์กรวิชาชีพพยาบาลควรเป็นผู้นำในการควบคุมคุณภาพบริการและหลักสูตรฝึกอบรม องค์กรวิชาชีพพยาบาลควรมีส่วนร่วมในการพัฒนาระบบเพื่อการควบคุมดูแลโรงเรียนสอนผู้ดูแลผู้สูงอายุหรือศูนย์ผู้ดูแลผู้สูงอายุ

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1. Conceptual Framework

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## CHAPTER I

### INTRODUCTION

#### **Background and rationale**

Cultural and societal-economic contextual factors play crucial roles and have considerable influence on caregiving and consequences of caregiving in Thai society (Kespichayawattana, J., 1999: ix). In the past, the caregiving for frail elderly parents was provided by families (Wathinee Boonchalaksi, B.E.2543: 212). Presently, Thailand is rapidly undergoing modernization. Trends and changes in Thai society such as industrialization, migration, and declining fertility are expected to affect the traditional practices of family obligation in caregiving for elderly parents in several ways (Caffrey, 1992: a; Knodel, Chayovan, & Saengtienchai, 1994; Limanonda, 1995, cited by Kespichayawattana, J., 1999: 3).

The elderly population structure is also changing. In Thailand, the number of people aged 60 years and over had been increasing steadily from 4.8 million in 1995 to 5.3 million in 1998. The number is expected to be 7.4 million in the year 2010 and 13.9 million in the year 2020 (National Statistical Office, 1997). One of the important trends is the rapidly growing number of elderly persons in Metropolitan Bangkok, the capital city of Thailand. In 1999, elderly population accounted for 7.5 percent of the total Bangkok population (National Statistical Office, 2001).

Elderly citizens constitute the group of persons who have specific physical, emotional, economical, and social needs, as well as illness patterns which are different from those of other age groups. Because their conditions are changing both physically and socio-emotionally, their reserved energy and immunity are reduced. These factors cause them to become ill, and develop chronic illnesses easily. Several researchers have mentioned that at least one chronic illness has been found in the elderly (Carr & Kazanowski, 1994: 878; Schwarz, 1999: 95).

Furthermore, it has been discovered that one out of four elderly people in Thailand has long-term disability condition, which is 18% of all Thai elderly population. Approximately 6.9% of the elderly depend on others in doing at least one personal care activity such as eating, face cleaning, putting on clothes, using toilet, and bathing. In addition, approximately 11.5% depend on others to go out of their homes, and 45% depend on others while using public transportation (Sutthichai Jitapunkul, B.E.2542: 2-3). In his study, Sutthichai Jitapunkul (B.E.2542: 54) found that there is an increase in the number of elderly with chronic illnesses such as heart disease, cancer, cerebro vascular accident, and accidents (Sutthichai Jitapunkul, B.E.2542: 54). This, along with the policy to reduce the length of hospital stay, has resulted in patients with chronic illnesses receiving care in hospitals only when they are in critical conditions. Therefore, family caregivers are assumed to perform the caregiving role when the patients are discharged (Yupapin Sirapo-ngam, B.E.2539: 84). Several studies have reported that family caregivers have become burdened both physically and mentally, but they are still contented to care for the patients (Wipawan Chaoum, B.E.2537: 17; Faison, et al., 1999: 244; Yupapin Sirapo-ngam, et al., B.E.2542: 262-263; Wannipa Boonrayong, B.E.2543: 14).

Bangkok, which is the most urbanized and populated area of Thailand, is directly affected by the pressure of rapid social, economic, and cultural changes (Office of the Prime Minister, 1991). An increasing number of eldercare training schools and various eldercare centers reflects that social and economic situations of Thailand have considerably changed from agricultural society to industrial society. Families in Thailand have changed from extended families to more single families, especially in metropolitan society (Srivatananukulkit, C., 1999: 1-2). In care-dependent elderly families, the great majority of caregivers are women. Currently, half of all caregivers also work outside their hometowns or study in a higher degree program for a long time. In addition, the demands and constraints of caregiving can become overwhelming. To reduce their burdens, some families use elderly care services provided by eldercare workers from training schools or eldercare agencies. Even though there are nursing homes providing direct care for the elderly, they are not so popular. Because most relatives are afraid that the society will blame them as being

ungrateful to those whom they are indebted to, by sending the elderly to elderly caring institutions (Kespichayawattana, J. 1999: xi; Wathinee Boonchalaksi, B.E.2543: 212).

Eldercare centers providing home care for the elderly have become a popular business because they can respond to the needs of individuals/families in metropolitan society such as Bangkok Metropolis. Information sources for hiring eldercare workers from training schools can be found in newspapers, on the Internet, on business cards, and information conveyed from one person to another. Furthermore, the information can be received from friend, or those who have used the services and have positive attitudes that these eldercare workers can actually reduce the burden of caring for the elderly. In some cases, in which the family caregivers are not ready or unable to take care of the elderly, healthcare personnel such as a doctor or a nurse may advise the family caregivers to hire an eldercare worker from a training school to help the primary caregivers in providing care to the elderly.

Although the use of service from eldercare workers is popular, there is not any study that investigates the satisfaction of the elderly or the family caregivers with quality of care received from eldercare workers in detail. The training schools use a variety of training programs, with different contents and periods of time, but eldercare workers have the duty to take care of primary physical and mental well-being of elders, not including nursing treatment (Non-Formal Education Promotion Division, Office of Private Education Commission, Ministry of Education, n.d.). Frail elders have many health problems and need a lot of care, such as Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL), and special activities from health deviation. There is also no empirical evidence that demonstrates all of the cares needed by the elderly. Therefore, it seems clear that the need of care activities from eldercare workers is very important and should be thoroughly investigated.

### **Conceptual framework**

The conceptual framework used to guide this study was derived from Orem's theory (2001), customer perceptions and expectations in quality service by Parasuraman, Zeithaml, and Berry (1990), and a literature search for factors related to customer satisfaction.

Orem (2001: 224-252) has identified three types of self-care requisites as follows:

**Universal self-care requisites** are common to all human beings during all stages of the life cycle, adjusted to age, developmental state, and environmental and other factors. They are associated with life processes, with the maintenance of the integrity of human structure and functioning, and with general well-being.

**Developmental self-care requisites** are associated with human developmental processes and with conditions and events occurring during various stages of the life cycle, as well as events that can adversely affect development.

**Health-deviation self-care requisites** are associated with genetic and constitutional defects and human structural and functional deviations and with their effects, as well as with medical diagnosis and treatment measures.

The frail elderly are care-dependent in daily living on others due to chronic illnesses or degenerative changes in them. They are either partially or totally care-dependent. Eldercare workers provide care to them both ADL and IADL. Therefore, the need of care of a frail older person is covered in self-care requisites.

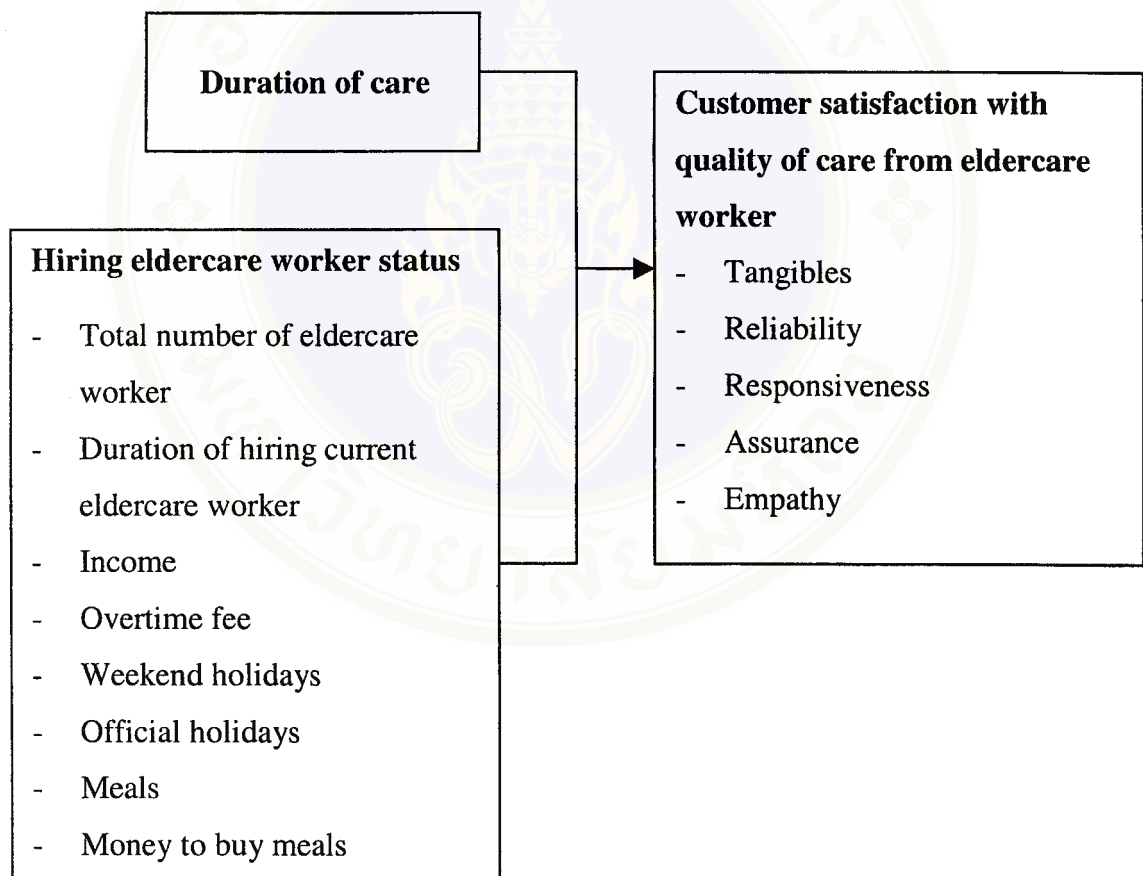
Evidence-based research has demonstrated that customers' characteristics, including age, education, income, occupation, travel time, travel convenience, frequency of service use, health problem, and health service expense, as well as service provider factors including accommodation, availability, security, responsiveness, being faithful, and courtesy are related to customer satisfaction (Benya Luakhtaisong, B.E.2541; Dusadee Yairaungsri, B.E.2541; Anong Auewattana, B.E.2542; Krissanee Phochanapan, B.E.2542; Orapin Chaipayom, B.E.2542; Puangtong Tangthaitikul, B.E.2542; Afridi, M. I., 2002; Kesini Srikongyou, B.E.2543; Yanee Nakpong, B.E.2543).

The conceptual framework of customer perceptions and expectations in service quality (Parasuraman, Zeithaml, and Berry, 1985) is an indicator in the marketing service quality. Service quality depends on the service expectations and perceptions of their customers. According to Parasuraman and others, there are five dimensions of the determinants of service quality as follows:

1. Tangibles
2. Reliability

3. Responsiveness
4. Assurance
5. Empathy

In this study, the researcher used activities in need of care of the frail elder persons derived from three types of self-care requisites. The frail elders are cared for by eldercare workers. Eldercare workers provide services based on five dimensions of determinants of service quality. As a result, the frail elders or family members perceive satisfaction in service quality from eldercare workers. Therefore, customer satisfaction is an outcome of service quality.



**Figure 1** Conceptual framework

Figure 1 represents a visual display of the identified variables in a conceptual model that described the relationship of study variables. The independent variables were duration of care and service provider factors, including total number of eldercare workers, duration of hiring the current eldercare worker, income, overtime fee,

weekend holidays, official holidays, meals, and money to buy meals, presented in the left box. The dependent variable was customer satisfaction which was grouped into five dimensions including Tangibles, Reliability, Responsiveness, Assurance, and Empathy, presented in the right box. The arrow indicated an expected relationship. In this model, duration of care and hiring eldercare workers status were expected to have a relationship with customer satisfaction.

### **Research questions**

1. What is the need of care from eldercare workers in Metropolitan Bangkok?
2. What is the level of customer satisfaction in quality of care from eldercare workers in Metropolitan Bangkok?
3. What are the factors related to customer satisfaction with quality of care from eldercare workers?

### **Research objectives**

The objectives of this descriptive research were to:

1. explore the need of care from eldercare workers in Metropolitan Bangkok,
2. explore the customer satisfaction in quality of care from eldercare workers in Metropolitan Bangkok, and
3. study the relationship between family members' demographic characteristics (duration of care) and hiring eldercare workers status (number of eldercare workers, duration of hiring, total duration of hiring, income of eldercare workers, overtime, weekend holidays, official holidays, number of meals, and money to buy meal) and customer satisfaction with quality of care from eldercare workers.

### **Research hypothesis**

1. There was a relationship between family members' demographic characteristics and hiring eldercare workers status and customer satisfaction with quality of care from eldercare workers

### **Scope of study**

This study is descriptive research studying need of care and customer satisfaction from eldercare workers in Bangkok Metropolis. The sample of this study consisted of the frail elderly in Bangkok Metropolis who received care from eldercare workers at their homes and/or family members of the frail elderly. Data were collected in a five-month period from April to August 2002.

### **Expected outcomes and benefits**

1. The results of this study would be used as basic information for eldercare training schools, eldercare centers, and related government organizations coordinating with private sectors and for administrators or owners to develop and administrate their agencies under the permission of the law.

2. The results of this study would be used as a guideline for the related government organizations coordinating with private sectors for planning and improving the eldercare training programs to better respond to the need of care the care-dependent elderly have and to improve customer satisfaction.

3. The results of this study would be used as a guideline for future research focusing on other aspects of frail elderly who are cared for by eldercare workers.

### **Definition of variables**

**Need of care in the elderly** is demands resulting from physical disabilities and behavior problems of an elder, which are due to the progression of underlying diseases. This activity reflects the eldercare worker's responsibilities in providing assistance in activities of daily living (ADL), instrumental activities of daily living (IADL), and management of health problems.

These demands were measured with the need of care questionnaire. The frail elderly or family members reported the frail elderly's activities that they needed care from eldercare workers. Higher scores indicated higher care-dependence.

**Customer satisfaction** is the frail elderly's or family member's perception in five dimensions of determinant of service quality from eldercare workers. Customer satisfaction indicated the level of satisfaction which the frail elderly or family members appraised the service. These perceptions were measured with the customer

satisfaction with quality of care questionnaire. The frail elderly or family members reported satisfaction in service quality from eldercare workers for each dimension. Higher scores indicated higher satisfaction with service quality.

**Demographic characteristics** are the attributes which are believed to influence customer satisfaction. In this study, demographic characteristics meant duration of care, while hiring eldercare workers status involved number of eldercare workers, duration of hiring, total duration of hiring, income of eldercare workers, overtime, holidays, official holidays, number of meals, and money to buy meals.

**Duration of care** is the period during which the family members took care of the frail elderly since the frail elderly are care-dependent. The family members reported duration of care in terms of months in the open-ended questionnaire.

#### **Hiring eldercare workers status**

- **Total number of eldercare workers** is the numbers of eldercare workers who were hired to care for the frail elderly, including current eldercare workers

- **Duration of hiring current eldercare worker** is the period in month that current eldercare worker were hired to take care of the frail elderly.

- **Income** is the eldercare workers' salary which excluded overtime fee.

- **Overtime fee** is the money that family members paid for the eldercare worker if they wanted them to work during holidays.

- **Weekend holiday** is the number of days per week that eldercare worker took off from the duty.

- **Official holiday** is the number of days per year that eldercare workers took off from the duty for festival or ceremony.

- **Meals** is the number times of food intake per day that eldercare workers received from employers.

- **Money to buy meals** is the money for eldercare workers provided by the employer if they did not provide meals for eldercare worker.

#### **Definition of terms**

**Customers** are the frail elderly or family members who hired eldercare workers from an eldercare training school or agency to assist the frail elderly.

**Family member** is a relative, friend, or significant other who provides an unpaid, but important, component of care to care for the elder person who is a person with physical or mental impairment and has limitations in performing activities of daily living, necessitating ongoing assistance in the home or community. A family member is a person who takes care of the elderly, lives in the same houses, pay eldercare workers' salary, and oversees activities from eldercare workers no less than eight hours per day.

**Eldercare worker** is a person who is trained in eldercare training schools to become an eldercare worker. These schools must be registered with the Ministry of Education according to the Private School Act 1982. The curricula used in the schools are school curricula or curricula approved by the Ministry of Education. This included eldercare workers who had completed the courses from the centers registered with the Ministry of Commerce.

**The elderly** are persons over 60 years old who need assistance in daily living activities.

**Bangkok Metropolis** is the capital city of Thailand and the main center of all economic activities. It is the area divided into ten districts as follows:

- District 1 : Bang Rak, Pom Prab Sattru Phai, Phra Nakhon, Samphanthawong, Sathon
- District 2 : Khlong Toei, Bang Kho Laem, Yan Nawa, Vadhana
- District 3 : Prawet, Phra Khanong, Lat Krabang, Suan Luang, Bang na
- District 4 : Pathum Wan, Dusit, Ratchathewi
- District 5 : Din Daeng, Huai Khwang
- District 6 : Bang kapi, Bueng Kum, Khan Na Yao, Wang Thong Lang, Saphan Sung
- District 7 : Don Muang, Bang Sue, Phaya Thai, Lak si
- District 8 : Chatuchak, Bang Khen, Min Buri, Lat Phrao, Nong Chok, Khlong Sam Wa, Sai Mai
- District 9 : Taling Chan, Bangkok Noi, Bangkok Yai, Bang Phlat, Phasi Charoen, Nong Khaem, Bang Khae, Thawi Watthana
- District 10 : Khlong San, Chom Thong, Thon Buri, Bang khun Thian, Rat Burana, Thung Khru, Bang Bon

## **CHAPTER II**

### **LITERATURE REVIEW**

A number of literature sources, articles, and related studies have been reviewed. In this chapter, relevant information is presented in the following sequence:

1. Change in aging and elderly health problems
2. Self-care requisites
3. Frail elderly and caregiver
4. Factors affecting changes of elderly care patterns
5. Eldercare workers
6. Service quality and customer satisfaction and factors related to customer

satisfaction

#### **Change in aging and elderly health problems**

The number of elderly population has increased in most part of the world, including Thailand. Aging is a process that has many definitions and many consequences. A theory of aging explains several types of age-related changes, including changes that are: 1. Deterious, resulting in reduced function; 2. Progressive, occurring gradually; 3. Intrinsic, not attributable to modifiable environmental agents; and 4. Universal, affecting all members of a species if given the opportunity by virtue of age (Hayflick, 1988, cited by Miller, 1999: 37). Aging human beings undergo changes in all domains of their lives: genetic, biochemical, metabolic, physiological, psychological, social, and for some, even spiritual (Yates, 1996: 547, cited by Miller, 1999: 37).

Age-related changes are developmental and degenerative changes. They vary in individuals and can be divided into two categories (Miller, 1999: 179-374):

### **Age-related physiological changes**

- Hearing impairment--the older persons have difficulty understanding verbal communication and develop risk factors, such as impacted wax and ototoxic medications.

- Vision changes include diminished depth perception, a narrow visual field, difficulty seeing objects clearly, an increased sensitivity to glare, and delayed adaptation to dark and light. As a result of these changes, older adults may have problems performing activities, such as reading, shopping, walking safely, and seeing markings on objects such as clocks and appliances. Also, they are at an increased risk for falls and injuries because of difficulty maneuvering safely in stairways and unfamiliar or dimly lit environments.

- Digestion and nutrition is often affected by risk factors, such as tooth loss, medication effects, diminished smell and taste, impaired cognitive, and physical function, as well as socioeconomic, cultural, and environmental factors. They interfere with the activities involving obtaining, preparing, and enjoying food.

- Risks of developing urinary incontinence because of the following consequences: diminished bladder capacity, bladder contractions during filling, incomplete bladder emptying, urinary urgency and frequency, and relaxation of the pelvic floor musculature. Additional consequences that affect urinary elimination include delayed excretion of water-soluble medications and decreased efficiency of homeostatic mechanisms. Risk factors that increase the probability of the development of urinary incontinence include fecal impaction, adverse medication effects, diseases, impaired physical functions, and environmental barriers.

- Cardiovascular function increases the susceptibility of older adults to atherosclerosis, cardiac arrhythmias, and postural and postprandial hypotension including systemic diseases and adverse medication effects. They interfere with their adaptive response to intense exercise.

- Respiratory performance may be compromised by risk factors, such as illness, tobacco use, or exposure to environmental pollutants. Older adults have the probability of lower respiratory infections, such as pneumonia, influenza, and tuberculosis. When lower respiratory infections occur in older adults, the

manifestations are more subtle and the consequences are likely to be serious or life-threatening.

- Osteoporosis is an age-related loss of bone mass that predisposes older adults to fractures. Age-related changes in musculoskeletal and central nervous systems affect the mobility and safety of older adults, increasing their susceptibility to falls. Common risk factors for falls in older adults include medical problems, adverse medication effects, and environmental factors.

### **Age-related psychosocial changes**

Although the physiological changes and chronic illnesses associated with older adulthood may affect a person's functional abilities, the psychosocial changes are often the most challenging and demanding in terms of coping energy. Older adults face many psychosocial changes that are associated with the life events of later adulthood. Many life events associated with old age involve losses, rather than gains, most likely to occur close together, with less time available to adjust to each event, longer lasting and often become chronic problems, and inevitably evoking a feeling of powerlessness. The losses of older adults are likely to be losses of significant others and objects that have been part of life for many decades. Examples of common events requiring psychosocial adjustments in older adults are widowhood, retirement, confronting ageist attitudes, chronic illnesses, functional impairments, decisions about driving car, death of friends and family members, and relocation from the family homestead (Miller, 1999: 179-374).

Characteristics of aging patients, who have multiple and complex health problems, include:

1. diminished physiologic function
2. accumulation of life stresses, diseases, and environmental hazards
3. "classic" signs and symptoms of disease possibly absent, delayed, or altered
4. physical disease present as psychiatric syndrome
5. psychiatric disease present as a medical complaint
6. multiple medical, psychiatric, and social problems in the same patient

7. drug effects with more pronounced and adverse reactions (Sirintorn Chansirikarn, B.E.2539: 77).

The major health problems in the elderly populations, surveyed by Institute of Geriatric Medicine (1993) and Chanita Maneewan, et al. (B.E.2537: 241), can be divided into two categories: physical health and mental health problems. The chief physical health problems are muscular pain, high blood pressure, cardiovascular disease, and cancer. The major mental health problems are anxiety, insomnia, changes in mood, changes in thought, and changes in behavior. Multiple systems are involved, the most important of which are neuromuscular changes causing sarcopenia, neuroendocrine dysregulation, and decline in immunologic function.

### **Self-Care Requisites**

Self-care requisites are formulated and expressed insights about actions that are known to be necessary in the regulation of aspects of human functioning and development. There are two elements that formulate self-care requisites. One element is the factor to be controlled to keep aspects of individuals' human functioning and development within norms compatible with life, health, and personal well-being. The second element is a specification of the nature of the action to be preformed.

According to Orem, three types of self-care requisites are identified: universal, developmental, and health-deviation.

**Universal self-care requisites** are common to all human beings during all stages of the life cycle, adjusted to age, developmental state, and environmental and other factors. They are associated with life processes, with the maintenance of the integrity of human structure and functioning, and with general well-being.

**Developmental self-care requisites** are associated with human developmental processes and with conditions and events occurring during various stages of the life cycle (e.g. prematurity, pregnancy) and events that can adversely affect development.

**Health-deviation self-care requisites** are associated with genetic and constitutional defects and human structural and functional deviations and with their effects and with medical diagnosis and treatment measures.

Based on previous studies, it has been found that chronically ill patients are totally dependent on a caregiver in activity of daily living (ADL), Instrumental

Activity of Daily Living (IADL), and personal demands at home. Examples of ADL are performing personal hygiene care, eating, dressing, exercising, toileting or using a bedpan or commode, and having physical movement (getting in a comfortable position in bed and walking across the room). Examples of IADL are shopping; making appointments; doing errands; planning meals; taking care of banking, bills and other financial matters; contacting healthcare providers about medication/treatment needs, purchasing medications, checking on during the night, and judging/assessing needs for medications/treatments prescribed as needed. Personal demands of caregiving included being unable to leave care-receivers alone, organizing time around care-receivers' daily activities, making special adaptations in home to prevent care-receiver from injury/hurt, and locking the doors and regulating wandering behavior. In addition, some need special care due to their health problems such as physical therapy, caring and feeding via nasogastric tube, wound care, endotracheal tube care and suction, taking temperature, taking antipyretic drug, spraying liquid medicine, injection, caring the retained foley's catheter, intermittent catheter, caring and feeding via gastrostomy tube, colostomy bag care, home oxygen, and performing continuous ambulatory peritoneal dialysis (CAPD) (Chanita Maneewan, et al., B.E.2537: 236-244; Wallhagen, 1992: 115-121). Therefore, need of care of frail older persons is covered in self-care requisites.

The caregiving demands of patients reflect the caregiver's responsibilities for providing assistance to care for recipients in ADL and IADL resulting from three factors: physical or functional impairment, cognitive impairment, and personal demand (Yupapin Sirapo-ngam, B.E.2540: 4-5):

1. Physical or functional impairment results from the progressive nature of the disease, and disabilities or deterioration of many organs, which affect dependence in self-care activities and IADL of patients. Besides this, specific care for illness requires specific care from the caregiver. This caregiving task can be planned with strong expectations of what is going on.

2. Cognitive impairment causes behavior changes such as dementia, depression, and hallucination. This impairment creates unexpected patients' demands, which has an impact on caregivers' feelings of uncertainty and makes it more difficult to plan adequately for helping the patient.

3. Personal demand includes emotional changes of the patients, with the demand occurring almost all the time, depending on each individual and the effect of the patients' disease.

### **Frail elderly and caregiver**

Frailty is a state of age-related physiologic vulnerability resulting from impaired homeostatic reserve and a reduced capacity of the organism to withstand stress. The frail elderly are the older population most in need of healthcare and support services. About 10-25% of those older than 65 years and 50% of those older than 80 years are frail (Oldaker, 2001: 6).

The cost of caring for the elderly has increased (Dwyer & Miller, 1990: 27). Most of the chronically ill patient, who has a long length of stay in the hospital, is paid for by the government. Prakit Vathesatogkit (B.E.2527: 429) found that the cost of admitting a patient in a government hospital is about 900 baht/day, but this cost is nearly 20 years ago. Besides, there are a lot of critically ill patients, and the hospital has determined the policy for early discharge of chronically ill patients. When they are no longer critically ill, they are discharged to continuous care by family caregivers at home. Hospital stays these days are much shorter, and patients are discharged with much higher needs than in the past (Eure, M., 2002). The effects of these changes on the outcome of hospital care remain unclear, particularly for patients 65 years of age and older, a population that accounts for almost half of all inpatients (Inouye, et al., 1999: 565).

All these require long-term family caregiving. The care for frail elderly is assumed to be a family responsibility that is usually shared among family members according to their age and abilities. In Thailand, it is uncommon for a family to place elderly parents in institutions such as nursing homes or residential homes. Traditionally, the family has been the caregiver, and it is expected to continue to provide care for the aging (Chang, T.P., 2000: 33). The primary caregivers are generally female, as the society expects women to be caregivers (Kasuya, et al., 2000: 119; Ratchada Ragkanarm, B.E.2543: 35; Wannipa Boonrayong, B.E.2543: 15; Yin, T., et al., 2002: 203). In general, the family is still seen as the fundamental unit in

Thailand to provide support and care to frail elderly in their homes (Kespichayawattana, J. 1999: 19).

Policies have been designed to promote increased family support. However, they frequently fail to consider that caring for a dependent elderly person has become normative. It is also a stressful experience that can exceed the capacity of many families and increase caregivers' stress and burden (Brody, 1985, cited by Dwyer and Miller, 1990: 27; Chanita Maneewan, et al., B.E.2537: 237-238; Wipawan Chaoum, B.E.2537: 50-52; Phiangjai Tirapaiwong, B.E.2540: 57-58).

As regards the effect of caregiving responsibilities on family providers, most investigators suggested that caregiving tasks impose emotional strain and have negative effects on the caregiver's quality of life. Caregivers frequently manifest high levels of chronic stress, predisposing them to physical health problems, severe fatigue, psychiatric illness, and feelings of burden, isolation, and frustration (Oberst, et al., 1989: 209; Livingston & Katona, 1996: 153; Faison, et al., 1999: 243-253). Also, studies found that an increase in ADL elderly's need is associated with an increase in caregiver's burden (Faison, et al., 1999: 243-253).

As for the burden of caregiving or the older persons' needs for assistance following hospitalization, with shortened lengths of hospital stay, family members assume critical roles in assisting older adults following discharge. Older persons are often dependent at the time of discharge (Bull, M.J. & Jervis, L.L., 1996). Half of the elders in one study in the UK reported problems with mobility that presented difficulty with getting to the toilet, getting in and out of the bathtub, and maintaining balance while dressing (Waters, 1987). In the USA, problems related to managing personal care were reported; in addition, elders often reported experiencing difficulty with meal preparation, washing dishes, and house cleaning (Wolock, et al., 1987). The early discharge of patients from hospital to their former functional capacity could be summarized as going home 'quicker and sicker.' Lack of functional independence at discharge often necessitates caregiving assistance by one or more family members when the person returns home. However, reforms that shift the care from hospital to home may assume a level of skill or expertise that is not commonly held by patients or their carers. It is often assumed that the family will take on a caregiving role, but

frequently they are not asked, and are often not adequately prepared for this role (Wellard & Street, 1999, cited by Johnson, P et al., 2001).

### **Factors affecting changes of elderly care patterns**

Traditionally, the family has been the caregiver and it is expected to continue to provide care for the aging. However, there are changes in social and cultural norms (Chang, T.P., 2000: 33). Changes in the patterns of elderly care at the macro level are caused by three main factors: urbanization, industrialization, and migration.

Urbanization and industrialization change ways of life in both rural and urban families. The elderly and the children are the most effected since they still need someone to take care of them. Mason (1992) has pointed out that urbanization and industrialization have five different effects on family, of which four are negative and only one is positive.

The four negative effects are loss of parental power over the young generation, increased female labour force participation, increased female education, and increased migration. First of all, there is loss of parental power over the young generation. Traditionally, it is not uncommon to find households with more than two generations headed by the oldest male person. In such a family structure, the oldest persons have enormous authority and power over family members through control of family reproductive resources, such as the family enterprise or land. It is generally believed that the elderly are treated with reverence, and are cared for and have high place within the family. Today, under the nuclear-type of family structure, the aged persons have practically little or no role or authority over the children's "new families." While they may still maintain authority in the original household, age may force such authority to be passed on to the next generation, particularly in making decisions related to running of a family business. Second is increased female labor force participation, and third is increased female education. Higher female educational achievement also increases the opportunity of not participating in the labor force. Also, with rapid urbanization, there are more job opportunities available. All these, however, mean that less labor is available to care for the elderly in the household. The nature of work is also less flexible and compatible to the care of those at home. Thus, the increased female labor force participation may undermine intergenerational co-

residence. Finally, there is increased migration. In general, migration involves the physical separation of the senior and young generations; the proportion of multi-generational households are consequently reduced. On the contrary, the positive effect is rising income, one important process that may improve the welfare of the elderly (Mason, 1992, cited by Boonchalaksi, W., 2000: 25-31; Chang, T.P., 2000: 34-38).

It is obvious that the elderly undoubtedly depend on and need caring from others in the family, or from caregivers who are close relatives (Faison, et al., 1999: 243). To reduce their burdens, some families use elderly care services provided by eldercare workers from training schools or eldercare centers. Even though there are nursing homes providing direct care for the elderly, they are not popular in Thailand. This is because most relatives are afraid that the society will blame them as being ungrateful to those whom they are indebted to by sending the elderly to the elderly caring institutions or finding day care (Wathinee Boonchalaksi, B.E.2543: 212). Furthermore, in Thailand there are no community or governmental resources, eldercare resource centers, or area agencies on aging for a referral for home healthcare after hospitalization as in foreign countries. Everyone wants the best care for their parents. Eldercare workers provide care management for the elderly by helping keep them healthy and independent in their homes as long as possible. Dellasega, et al. (2001: 248) studied posthospital home care for frail older adults in rural locations and indicated that the proportion of those receiving help from relatives decreased over time, while the proportion of those receiving paid help increased.

Eldercare centers which provide home care for the elderly have become popular businesses, as they can respond to the needs of individuals/families in metropolitan societies such as Bangkok Metropolis. Individuals in the families do not have time or are not ready to take care of the elderly, or sometimes they become stressed or tired of caring for them. Information sources for hiring eldercare workers from training schools may be advertisements in the newspapers, the Internet, business cards, or information conveyed from one person to another. Furthermore, the information can be received from friends or those who have used the services and have positive attitudes that these eldercare workers can actually reduce the burden of caring for the elderly. In some cases, personnel in a healthcare team, such as a doctor or a nurse, may advise the relatives to find an eldercare worker from a training school to

help the relatives in caring for the elderly who need care for some period after hospitalization or when relatives are not ready to take care of them but are able to pay for these services. The private nursing homes, mostly located in urban areas, are still expensive and could be afforded only by wealthy families (Kespichayawattana, J., 1999: 19), and these practices are not accepted by some families. Taking care for the elderly who is just discharged from hospital with dependence condition results in family members' worry. They have no knowledge, time, or expertise in judging the elderly's ability to live safely and meet caregiving demands of frail elderly. Thus, they may choose to hire eldercare workers to provide care for frail elderly in their homes.

### **Eldercare workers**

Eldercare workers receive training from training schools or eldercare agencies. They have to pass a curriculum of the Non-Formal Education Promotion Division, Office of Private Education Commission, Ministry of Education. A curriculum covers three-month period of time for training in the eldercare program, which consists of theory and practicum. The theory part includes principle of elder care, elderly psychology, activity and recreation of elderly, food for elderly, cleansing and maintaining instruments inside home, using Thai and English languages, role and convention of eldercare workers, hygiene, and labor law. The practicum part includes practice in school laboratory and clinical settings for 120 hours.

Akanimanee, N. (2002: 57) studied eldercare workers' opinion on job satisfaction factors in Bangkok Metropolis. The sample was composed of 220 eldercare workers. The demographic data was found that the majority of the sample was female, aged between 16 and 45 years of age. Most of the subject was single (91.82%), came from up-country (95.91%), and 55.45% finished secondary education (Mathayomsuksa 6). More than half of the subjects had work experience of 1-5 years. Their length of experience ranged from less than one year to more than 10 years. Also, most of the subjects (55.27%) intended to continuing their occupation from 1-5 years. Their wages ranged from 4,000 to 6,000 Baht per month (73.73%), and 50% spent most of their wages to support their families. The commission from the agency was 10-20% for most of the subjects. Some of the eldercare training schools did not deduct commission because these schools gave salary to the eldercare workers as

regular worker (27.27%). About 87.73% of the subjects received a certificate of eldercare worker from the school licensed by the Ministry of Education. Most of them were trained for approximately 24 weeks for the training programs, eldercare worker and baby sitter (87.27%), and 6.36% were trained only in the eldercare worker training program.

Working characteristics that require caregivers to take care of the elderly 24 hours a day, six days a week, may make them tired or unsatisfied with their works. They have the duty to take care of primary physical and mental well-being of the elderly, not including nursing treatment (Non-Formal Education Promotion Division, Office of Private Education Commission, Ministry of Education, n.d.). In fact, the frail elderly who are care-dependent in daily living from chronic illnesses or degenerative changes are either partially or totally care-dependent. Eldercare workers provide care to them, both ADL and IADL and special care, and they live in the same house. Thus, the important qualifications of eldercare workers are providing care with excellent service quality and being able to satisfy customers.

## **Service quality and customer satisfaction and factors related to customer satisfaction**

### **Service Quality**

Increasing competition among providers of healthcare services and growing public concern about the quality of care delivered have contributed to today's fiercely competitive healthcare market. As in any business, in the healthcare services the customer is key to success. Managing the relationship between the institution and the customer is key to marketing healthcare services. A full understanding of how to really work is important to the success of business operation of any healthcare organization. Also, providing a service customers want at a competitive and fair price when they want the service is the key to a successful service provision. Hence, an understanding of service quality is one most important aspect of healthcare services.

In 1985, Parasuraman, A., and et al. developed a model of service quality and determinants of service quality. It was derived from the exploratory research (focus group and in-depth executive interviews). The research revealed ten dimensions that

consumers use in forming expectations about and perceptions of service. Determinants of service quality consist of ten dimensions as follows:

1. **Reliability** involves consistency of performance and dependability. It means that the firm performs the service right the first time. It also means that the firm honors its promise. Specifically, it involves:

- accuracy in billing;
- keeping records correctly; and,
- performing the service at the designated time.

2. **Responsiveness** concerns the willingness or readiness of employees to provide service. It involves timeliness of service:

- mailing a transaction slip immediately;
- calling the customer back quickly; and,
- giving prompt service (e.g., setting up appointments quickly).

3. **Competence** means possession of the required skill and knowledge to perform the service. It involves:

- knowledge and skill of the contact personnel;
- knowledge and skill of operational support personnel; and,
- research capability of the organization, e.g., securities brokerage firm.

4. **Access** involves approachability and ease of contact. It means:

- the service is easily accessible by telephone (lines are not busy and operators do not put customers on hold);
- waiting time to receive service is not extensive;
- convenient hours of operation; and,
- convenient location of service facility.

5. **Courtesy** involves politeness, respect, consideration, and friendliness of contact personnel (including receptionists, telephone operators, etc.). It includes:

- consideration for the consumer's property (e.g., no muddy shoes on the carpet); and,
- clean and neat appearance of public contact personnel.

6. **Communication** means keeping customers informed in the language they

can understand and listening to them. It may mean that the company has to adjust its language for different consumers--increasing the level of sophistication with a well-educated customer and speaking simply and plainly with a novice. It involves:

- explaining the service itself;
- explaining how much the service will cost;
- explaining the trade-offs between service and cost; and,
- assuring the customer that a problem will be handled.

**7. Credibility** involves trustworthiness, believability, and honesty. It involves having the customer's best interests at heart. Contributing to credibility are:

- company name;
- company reputation;
- personal characteristics of the contact personnel; and,
- the degree of hard-sell involved in interactions with the customer.

**8. Security** is the freedom from danger, risk, or doubt. It involves:

- physical safety;
- financial security; and,
- confidentiality.

**9. Understanding/Knowing the customer** involves making the effort to understand the customer's needs. It involves:

- learning the customer's specific requirements;
- providing individualized attention; and,
- recognizing the regular customer.

**10. Tangibles** include the physical evidence of the service:

- physical facilities;
- appearance of personnel;
- tools or equipment used to provide the service;
- physical representations of the service; and,
- other customers in the service facility (Parasuraman, et al.,1985: 41-50).

In 1988, Parasuraman,A., Zeithmal, V.A., and Berry, L.L. developed a model of service quality and SERVQUAL instrument for measuring customer perceptions of service quality. Phase I was an extensive qualitative study of service customers and

service-company executives that resulted in the development of a model of service quality. Phase II was a large-scale empirical study that focused on the customer side of their service-quality model. From this phase, they developed a methodology for measuring service quality (SERVQUAL), and they refined their conclusions concerning the dimensions customers used to judge service quality. Phase III was an empirical study that focused on the service provider half of their model and their most complex and ambitious effort to date. Phase III alone involved research in 89 separate field offices of five national service companies. The three research phases together have included customer focus-group interviews, employee focus-group interviews, in-depth executive interviews, customer surveys, manager surveys, and first-line employee surveys. They had studied six service sectors thus far: appliance repair, credit cards, insurance, long-distance telephone, retail banking, and securities brokerage. Phase IV centered on the topic of customers service expectations: how customers form their expectations and the key influences that affect this process. Their research protocol had been to explore through qualitative research model that they found and tested relationships within the model quantitatively. In phase IV they also added services they had not yet studied (automobile service, business equipment service, hotels, and truck rental) to some of the services included in the earlier phases (Parasuraman, et al.,1990: ix-x). Therefore, SERVQUAL had only five distinct dimensions with concise definitions for them. These definitions, along with the definitions of three original dimensions that remained intact, are as follows:

1. **Tangibles:** Appearance of physical facilities, equipment, personnel, and communication materials
2. **Reliability:** Ability to perform the promised service dependably and accurately
3. **Responsiveness:** Willingness to help customers and provide prompt service
4. **Assurance:** Knowledge and courtesy of employees and their ability to convey trust and confidence
5. **Empathy:** Caring, individualized attention the firm provides its customers (Parasuraman, et al.,1990: 26).

The SERVQUAL instrument is based on their experience in using it in a number of studies. The SERVQUAL is a measure of service quality. It consists of a concise multiple-item scale with good reliability and validity that companies can use to better understand the service expectations and perceptions of their customers.

The SERVQUAL provides a basic skeleton through its expectations/perceptions format encompassing statements for each of the five service-quality dimensions. The skeleton, when necessary, can be adapted or supplemented to fit the characteristics or specific research needs of the company and can be applicable across a broad spectrum of services (Parasuraman, et al.,1990: 175-186). The SERVQUAL instrument has been developed to measure service quality from the customer's perspectives (Parasuraman, et al., 1985, 1988). It is a 7-point Likert type scale used for measuring patients' expectations of excellent service and their long-term experiences of service business with the aim of describing service quality at a given point in time. It has been tested and applied in the healthcare sectors as well (Babakus & Mangold, 1992, cited by Hiidenhovo, et al., 2002: 60). A number of studies about service quality were conducted. First, Panida Khamyu (B.E.2538: e) studied service quality provided by nurses as expected by patients and head nurses' perception of patients' expectation toward service quality provided by nurses, as well as compared service quality provided by nurses as expected by patients and head nurses' perception of patients' expectation toward service quality provided by nurses in private hospitals, Bangkok Metropolis. The results of this study showed that the patients' expectations toward service quality provided by nurses at a high level were access, communication, competency, courtesy, credibility, reliability, responsiveness, security, tangibles, and understanding/knowing the patients. As for the head nurses' perception of patients' expectation toward service quality provided by nurses, credibility and reliability were at the highest level, while service quality of access, communication, competency, courtesy, responsiveness, security, tangibles, and understanding/knowing the patients were at a high level. There were statistically significant differences between service quality provided by nurses as expected by patients and head nurses' perception of patients' expectation toward service quality provided by nurses.

Skawvadee Doungden (B.E.2538: e) studied patients' expectation and head nurses' perception of patients' expectation on nursing service quality in government

hospitals, Bangkok Metropolis. The findings revealed that patients' expectation and head nurses' perception of patients' expectation on nursing service quality were at a high level. Patients' expectation and head nurses' perception of patients' expectation on nursing service quality were statistically significantly different at the level of .05. Head nurses perceived patients' expectation more than that of patients themselves on access, communication, courtesy, credibility, security, and understanding/knowing customers, while patients had higher perception than that of head nurses' perception when it came to tangibles.

In this study, the service-quality perception section was determined to be at the satisfaction level. The statements were specifically adapted to fit the characteristics or specific needs of the frail elderly.

#### **Customer satisfaction and factors related to customer satisfaction**

Satisfaction has been used as an indicator of quality of care (Avis, et al., 1995: 318; Mahon, 1996: 1242) and as an important outcome measure (Fitzpatrick, 1991: 887; Bond & Thomas, 1992: 752; Mahon, 1996: 1242). Satisfaction represents a complex mixture of perceived need, expectations of care, and the experiences of care (Wilkin, et al., 1992, cited by Mahon, 1996: 1243). Satisfaction data have also been used for evaluating the effects of continuous quality improvement (Paccirillo, 1996: 1045). A study by Hardy & Rust (1994, cited by Mahon, 1996) based on factor analysis of questionnaire items found that satisfaction was related to patients' perceptions of the quality of care.

Customer satisfaction means customers' expectations or perceptions that their demands or needs are met correctly and with quality. It is the outcome of service. Outcome assessment is the most consumer-oriented portion. It alone addresses the actual impact of care on service. A customer satisfaction survey can monitor concerns about eldercare workers or eldercare center quality and measure interpersonal skills and training. Customer satisfaction is no longer simply the nice or right thing to do; it is the only good business choice in today's highly competitive environment (Steiber & Krowinski, 1990, cited by Mahon, 1996: 1242). According to the Institute of Hospital Quality Improvement & Accreditation, customer satisfaction is an important indicator

about monitoring quality of healthcare service (The Institute of Hospital Quality Improvement & Accreditation, 2546).

Several studies of customers' characteristics and satisfaction were conducted in the past (Padcharee Tongpae, B.E.2540; Benya Luakhtaisong, B.E.2541; Dusadee Yairangsri, B.E.2541; Anong Auewattana, B.E.2542; Krissanee Phochanapan, B.E.2542; Orapin Chaipayom, B.E.2542; Puangtong Tangthaitikul, B.E.2542; Afridi, M. I., 2002; Kesini Srikongyou, B.E.2543; Yanee Nakpong, B.E.2543). Several dimension of service quality, customer satisfaction, and factors related to this service quality and customer satisfaction were reported. Padcharee Tongpae (B.E.2540: d) studied nursing service quality as perceived by patients on tangibles, reliability, responsiveness, assurance, and empathy, and compared nursing service quality concerning five dimensions as perceived by inpatients of excellent award community hospitals, region 2. The questionnaire derived from SERVQUAL, which were developed by Parasuraman, et al. The major findings were as follows: 1. The nursing service quality as perceived by inpatients of excellent award community hospitals and general community hospitals was not satisfactory; 2. The nursing service quality as a whole, each dimension, and each item as perceived by inpatients of both groups of community hospitals showed statistically significant difference at the level of .05; 3. The nursing service quality scores as perceived by inpatients of general community hospitals were higher than those of inpatients of excellent award community hospitals.

Benya Luakhtaisong (B.E.2541: e) studied satisfaction of health services of community hospitals in Buriram Province. The finding showed that two-thirds of inpatients and outpatients had satisfaction with health services of community hospitals at a high level and about one-thirds had moderate level of satisfaction. The occupation and confidence in hospital services of inpatients were related to health services satisfaction. The patients who had agricultural occupation were more satisfied than those having other occupations, and the inpatients who had high confidence in hospital services were more satisfied than those having lower confidence. The factors which were related to health services satisfaction of outpatients were local language, type of illness and confidence in hospital services. The outpatients who spoke Khamer and Suay dialects were more satisfied than those who spoke Thai Korat and Thai dialect.

Moreover, the outpatients who had agricultural occupation were more satisfied than those having other occupations. The chronic patients were more satisfied than those of emergency cases, and the outpatients who had higher confidence in hospital services were more satisfied than those having middle and lower confidence. However, this study found that the factors which were not related to health service satisfaction were age, sex, education, income, and health insurance for both inpatients and outpatients.

Dusadee Yairangsri (B.E.2541: e) identified the correlation between the expected quality of services and subsequent satisfaction of medical service received by sick buddhist monks in the in-patient department of the Priest Hospital. The results indicated that 60.08% of the subjects expected high service quality and 63.16% of the subjects had a high level of satisfaction with the medical services. There was no significant correlation between satisfaction of medical services and the factors regarding age, duration of becoming a priest, the location of the temples, income, education level, Dharma education level, status of buddhist monks, number of admissions, length of stay, and sex of the careproviders. Significant correlations were found between expected quality of services, reliability, assurance, tangibles, empathy, responsiveness, ability, accuracy of role perception, and satisfaction with medical services received.

Anong Auewattana (B.E.2542: e) measured clients' satisfaction towards healthcare service at the outpatient department of Amnatcharoen Hospital. The results showed that there were significant differences regarding the satisfaction levels when various clients' educational levels were tested. The same result was obtained concerning clients' occupations. However, it was found that other variables such as sex, marital status, and the location of the clients' house did not affect the satisfaction level. There were significantly positive relations between overall satisfaction and age and between accessibility to the hospital and opinion of the service system. Furthermore, monthly income was inversely related to overall satisfaction towards outpatient service, and the number of visits was not related to clients' satisfaction towards healthcare service.

Krissanee Phochanapan (B.E.2542: e) studied clients' satisfaction regarding healthcare service at Out-patient Department (OPD), Institute of Dermatology. This study was set up to determine the relationship between the clients' socio-demographic

characteristics, perceptions of the service system, service quality, and clients' satisfaction. The results revealed that the analysis of the relationship between age and clients' satisfaction were positively correlated. However, education was negatively correlated to clients' satisfaction. The analysis of the relationship between each of the factors and clients' satisfaction indicated that the clients' perception of service system and service quality were positively correlated to clients' satisfaction. The results of multiple regression analysis indicated that the statistically significant relative contributors, which explained variation in clients' satisfaction from total variation, were staff, assurance, empathy, place, and responsiveness.

Orapin Chaipayom (B.E.2542: e) investigated the clients' satisfaction with health care service to determine the relationship between accessibility, clients' perceptions of service quality, and clients' satisfaction at Out-patient Department (OPD), Siriraj Hospital. The results revealed that the overall satisfaction levels were low, but the satisfaction with courtesy and out-of-pocket cost was at a high level. Satisfaction with quality of care, medical information, and coordination was also at a low level, while satisfaction with convenience was at a moderate level. In addition, clients' accessibility level was moderate, and clients' perception of service quality was good. The analysis of the relationship between each of the factors and clients' satisfaction indicated that accessibility and clients' perception of service quality were positively correlated to clients' satisfaction. The results of multiple regression analysis indicated that the statistically significant relative contributors which explained variation in clients' satisfaction from total variation were technical skills, explanation from providers, accommodation, art of care, and affordability.

Puangtong Tangthaitikul (B.E.2542: e) studied satisfaction of patients who had voluntary health insurance toward health center service in Uthaitanee Province. The results showed that patients had high levels of satisfaction with the voluntary health insurance program. The highest level was courtesy; the lowest level was convenience and out-of-pocket costs. Most patients were married women, aged 40-45 years, with primary education levels, agricultural professions, and monthly incomes of 2,001-4,000 Baht. Their use of health centers were  $\leq 5$  times per year with a mean of 5.98, and the minimum length of visits had a mean of 16.11 minutes. Travel time from their houses to centers had a mean of 17.42 minutes. In addition, sex, profession, and travel

time to centers had significantly different levels of satisfaction ( $p < .05$ ), while age, education, income, experience, and visit length had no significant different levels of satisfaction ( $p < .05$ ). Also, approximately 31% indicated problems with the program, and 14.21% indicated problems with health center service.

Afridi, M. I. (2002: iv) studied consumers' satisfaction towards healthcare services provided by the health centers at Salaya sub-district, Nakhonpathom Province, Thailand. The results showed that 88.6% of the subjects were highly satisfied. Percentage of high satisfaction in case of coordination among staff and between various processes in Out-patient Department (OPD) was less. More than three quarters of the consumers responded that accessibility to healthcare services was high except for medical information received from the staff about examinations, service expenses, and disease prevention. Results also showed that there was a high level of perception of health service system except in the case of medical equipment of which there was not enough and was of poor quality. Relational studies showed that general characteristics of the subjects had no significant statistical relationship with satisfaction, but there was a significant statistical relationship between accessibility and perception. In the case of accessibility, distance had no statistical significant relationship with satisfaction.

Kesini Srikongyou (B.E.2543: e) studied the satisfaction of outpatient service users at Paktho Hospital in Ratchaburi Province. The results showed that the overall satisfaction towards outpatient users was at a high level (67.8%), a moderate level (31.0%), and a low level (1.2%). The satisfaction with courtesy, coordination, convenience, quality of care, medical information and out-of-pocket costs were at a high level (72.9%, 70.2%, 66.7%, 65.9%, 65.1%, and 50.2%, respectively). Service system, service process, and service provider factors were at good levels (92.2%, 91.4% and 90.6%, respectively). The analysis of the relationship between each of the factors and outpatient service users' satisfaction indicated that service system, service process and service provider factors were positively correlated to outpatient service users' satisfaction ( $p < 0.001$ ) with correlation coefficients of 0.571, 0.550, and 0.631, respectively. The result of multiple regression analysis indicated that variable factors, which could explain the outpatient service users' satisfaction, were accommodation,

security, availability, responsiveness, faithfulness, and courtesy. All of these factors could explain the variation in outpatient service users' satisfaction at 46.8%.

Yanee Nakpong (B.E.2543: e) studied satisfaction of the elderly towards Suwandararam Temple Service Center for the Aged in Ayutthaya Province. The study revealed that the elderly had a high level of satisfaction with the services provided by the center. General services was rated the most satisfying by all members, while building location aspect was the least satisfying. The elderly's satisfaction with the provision of services significantly depended on education, current occupation, frequency of service use, distance to the center, travel convenience, and elderly's problem at the 0.05 level. However, the elderly's satisfaction with the services did not significantly depend on income, number of children, health status, residential condition, time spent on travel, and expense for travel at the 0.05 level. The most frequently participated program activities by the elderly were health examination, recreation, and exercise programs, whereas, the least frequently participated activities were income generating programs, games and sports, and physical therapy.

Based on a review of literature, it could be seen that eldercare workers who care for the frail elderly in their homes must have knowledge about changes in aging, caregiving demands or need of care, and ways to provide service to satisfy elderly patients and family members. If eldercare workers are able to provide good quality service and customer satisfaction, they could be hired for a long time to improve the elderly's health problems or maintain the elderly's health function. Thus, they are able to help their elderly patients to spend the final years of their life with quality and as comfortable as possible.

## CHAPTER III

### MATERIALS AND METHODS

This descriptive research was designed to study the elderly's need of care, customer satisfaction, and the relationship between demographic characteristics and hiring eldercare workers status and customer satisfaction with quality of care from eldercare workers in Metropolitan Bangkok. The population and sample, instruments, study site, protection of human subjects, data collection, and data analysis will be described in this chapter.

#### **Population and sample**

The population in this descriptive research was the frail elderly, who received care from eldercare workers at their homes, or the frail elderly's family members. Data were collected in a five-month period from April to August 2002. A convenient sample of 80 frail elderly and primary caregivers were selected based on the following criteria:

#### **Frail elderly**

- (1) being sixty years old or older
- (2) having consciousness and being able to communicate with others in the Thai language
- (3) being care-dependent on eldercare workers at home. If the elderly were hospitalized, they had to receive care from the eldercare workers at least one week prior to or post hospitalization. As for the reason, in one week, if customers were dissatisfied with service quality from eldercare workers, they could change eldercare workers from eldercare workers agencies and/or training schools.
- (4) being taken care of by eldercare workers who passed the training program from eldercare worker training schools or eldercare agencies.
- (5) living in Metropolitan Bangkok

### Family members

- (1) taking care of elders and living in the same houses
- (2) overseeing activities that eldercare worker performed for the frail elderly no less than eight hours per day.

### Sample size

The sample size was calculated based on power analysis:

$$\beta:\alpha = 4:1$$

$$\text{set } \alpha = .05$$

$$\beta = .05 \times 4 = .20$$

$$\text{power} = 1 - .20 = .80$$

$$\text{effect size medium} = .30$$

The sample size for correlational studies (nondirectional (two-tailed) test) was calculated from this formula:

$$n = \frac{n_{.10} - 3}{100q^2} + 3$$

$$q = q'_2 \sqrt{2} \quad (\text{Cohen, 1988: 109-136})$$

While  $q'_2$  was the ES index which was interpreted:

$$q = 0.30\sqrt{2}$$

$$= 0.4243$$

Where  $n_{.10}$  (read from the table) was the necessary sample size for the given  $\alpha$  and desired power at  $q = .10$ , and  $q$  was the nontabulated ES. To find  $n$  for a value of  $q$  not tabled, a good approximation was given by substituting in the formula:

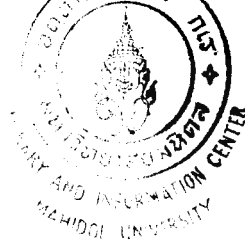
$$n = \frac{1,240 - 3}{100 \times .4243 \times .4243} + 3$$

$$= 71.71$$

Therefore, the sample size was around 72 subjects.

### Instruments

The instruments used in data collection were comprised of three parts as follows (see Appendix B):



### **Part I. Demographic Questionnaire**

A demographic questionnaire was developed by the researcher particularly for this study. This self-reported questionnaire was used to assess the frail elderly's and family members' general demographic characteristics and the hiring of eldercare workers status. There were altogether 19 questions. The questionnaire consisted of three parts. Part I, the frail elderly' general demographic characteristics, was composed of questions eliciting information regarding gender, age, marital status, level of education, underlying disease, duration of illness, income, and source of income. Part II, family members' general demographic characteristics, was designed to elicit information concerning family members' gender, age, marital status, relation to the elderly, level of education, occupation, income, and duration of care. Finally, Part III, the hiring of eldercare workers status, was composed of items regarding the reason for hiring eldercare workers, employer, source of information or contact, number of eldercare workers, duration of hiring, eldercare worker's income, the reason for terminating the hiring or changing the eldercare workers, overtime, and eldercare worker's welfare.

### **Validity and Reliability**

The content of the demographic questionnaire was developed by the researcher. The entire questionnaire was evaluated for content validity by seven experts: six nurse instructors and one nurse who is the owner of an eldercare worker agency (see Appendix C).

### **Part II. Need of Care Questionnaire**

The need of care questionnaire was specially developed by the researcher for this study. This self-reported questionnaire was used to explore the frail elderly's activities for which they needed care from eldercare workers. It was conducted from three types of self-care requisite framework in Orem's theory: Universal self-care requisites, Developmental self-care requisites, and Health deviation self-care requisites, as well as the information generated from the literature review.

The total number of items in Part II of the questionnaire was 36 items including:

Universal self-care requisites consisted of 31 items (items 1-31).

Developmental self-care requisites consisted of 3 items (items 32-34).

Health deviation self-care requisites consisted of 2 items (items 35-36).

The questionnaire used the yes-no type of responses. As for marking procedure, "needed activity" was equal to 1 point, while "did not need activity" meant no point. The total scores ranged from 0-36, with higher scores indicating higher care-dependence. In addition, this part of the questionnaire included open-ended questions for other activities for which the frail elderly might need care from eldercare workers but were not included in the items.

### **Validity and Reliability**

The content of the need of care questionnaire was developed by the researcher. The entire questionnaire was evaluated for content validity by seven experts: six nurse instructors and one nurse who is the owner of an eldercare worker agency (see Appendix C). The reliability of the questionnaire was tested with 30 subjects who shared similar characteristics with the subjects of the study. It was found that the reliability by KR-20 was .76. When this questionnaire was used with 80 subjects, it was found that the reliability was .86.

### **Part III. Customer Satisfaction in Quality of Care Questionnaire**

This self-reported questionnaire was used to determine the frail elderly's or family members' satisfaction with quality of care received from eldercare workers.

The questionnaire was derived from SERVQUAL, which was developed by Parasuraman et al (1988). The SERVQUAL provides a basic skeleton through its expectations/perceptions format encompassing statements for each of the five service-quality dimensions (tangibles, reliability, responsiveness, assurance, and empathy). It is composed of 22 statements. The skeleton, when necessary, can be adapted or supplemented to fit the characteristics or specific research needs of a company and can be applicable across a broad spectrum of services.

The SERVQUAL instrument was developed based on the developer's experience in using it in a number of studies. The SERVQUAL is a measure of service quality. It is a concise multiple-item scale with good reliability and validity

that companies can use to better understand the service expectations and perceptions of their customers.

In Thailand, Tongpae (1997) used the SERVQUAL in her research (Nursing Service Quality as Perceived by Inpatients of Community Hospitals, Region 2). The reliability of the questionnaire tested by Cronbach's alpha Coefficient was .95.

The SERVQUAL statements in the perception section, which was used in this study, was grouped into the five service-quality dimensions as follows: tangibles--statements 1-4, reliability--statements 5-9, responsiveness--statements 10-13, assurance--statements 14-17, and empathy--statements 18-22. The service-quality perception section was determined to be at a satisfaction level. The statements were adapted to fit the characteristics or specific needs of the frail elderly. The customer satisfaction in quality of care questionnaire that was used in this study consisted of a total of 22 items on a 5-point Likert scale including 1 = least satisfied, 2 = slightly satisfied, 3 = moderately satisfied, 4 = mostly satisfied, and 5 = fully satisfied. The total scores ranged from 22 to 110, with higher scores indicating higher service satisfaction.

### **Validity and Reliability**

The content of the customer satisfaction in quality of care questionnaire was developed by the researcher. The entire questionnaire was evaluated for content validity by seven experts: six nurse instructors and one nurse who is the owner of an eldercare worker agency (see Appendix C). The reliability of the instrument was tested with 30 subjects. It was found that the reliability by Cronbach's alpha Coefficient was .95. When this questionnaire was used with 80 subjects, the Cronbach's alpha Coefficient was .96.

### **Study site**

1. Ramathibodi Faculty of Medicine, Mahidol University
2. Rajavithi Hospital
3. Five eldercare worker agencies and/or training schools
4. Elders' houses located in Metropolitan Bangkok

### **Protection of human subjects**

This study was conducted based on the protection of human rights. Eligible subjects were invited to participate in the study. The researcher explained the purpose of the study, the research process, benefits, time used to complete the questionnaire, method of answering the questionnaire, and the right to refuse to participate in the study. All participants who agreed to participate gave their consent and were assured that data would be kept strictly confidential and would be reported only as a group data.

### **Data collection**

The data collection was carried out from April to August 2002. The process of data collection in this study was separated into two phases: the first phase was surveying the eldercare worker agencies and/or training schools and the second was collecting data.

#### **Phase I: Survey of the eldercare worker agencies and/or training schools**

1. The researcher surveyed the eldercare worker agencies and/or training schools that were registered with the Non-Formal Education Promotion Division, Office of Private Education Commission, Ministry of Education, and the eldercare worker agencies and/or training schools that provided service and were registered with the Ministry of Commerce.

2. The researcher surveyed the eldercare worker agencies and/or training schools from the Internet, Yellow Pages, billboards, and etc.

3. The researcher contacted the eldercare worker agencies and/or training schools that provided both training and service and asked for their customers' address and telephone number. A total of five eldercare worker agencies and/or training schools agreed to participate in this study.

#### **Phase II: Procedure for data collection**

Data collection was carried out at two places: at home and at the hospital.

##### **1. At home**

1. Permission to conduct research was obtained from the Faculty of Graduate Studies, Mahidol University.

## 2. Data collection procedure was carried out by two methods.

2.1 The researcher contacted eldercare worker agencies and/or training schools for their customers' address and telephone number. Then, data collection would be processed in the following manner:

- The researcher contacted the family members by phone and made an appointment. The researcher provided information and asked for their consent to participate in the study. When the subjects completed the self-reported questionnaire (approximately 20 minutes), the researcher checked the questionnaire for completion and expressed thankfulness to the subjects. A total of 23 subjects were obtained by this method.

-The researcher contacted family members by phone and asked for their participation in data collection. The subjects who agreed to participate in the study but chose to respond to mailed questionnaire received the self-reported questionnaire by mail. The package of the questionnaire included the protection of human right form, the questionnaire, and a stamped envelope with return address. The follow-up process was done at the end of the second week by telephone, and the questionnaire was resent by mail during the fourth week to those who had not responded. If a returned questionnaire was incomplete, the researcher sent the incomplete questionnaire back to the subject and attached a letter that explained which data were incomplete and asked them to return the completed questionnaire to the researcher within one week and/or the researcher called the subject to ask for the incomplete questionnaire. A total of seven subjects were obtained by this method.

2.2 In case that eldercare worker agencies and/or training schools did not provide their customer phone numbers, they were asked to contact family members for their participation in the study. The subjects who agreed to participate received the self-reported questionnaire from eldercare workers or the owner of the eldercare worker agencies and/or training schools with the self-addressed envelope. A total of 80 questionnaires were sent to the subjects. There were 37 returned questionnaires, or a 46.25% response rate. Of these numbers, two questionnaires did not meet the criteria of frail elderly and two questionnaires contained incomplete data. Thus, 33 complete questionnaires were analyzed, or a 41.25% response rate.

## **2. At the hospital**

### **Ramathibodi Faculty of Medicine, Mahidol University**

1. Permission to conduct research was obtained from the Faculty of Graduate Studies, Mahidol University.

2. Permission to collect data from out-patient and in-patient clinics was obtained from the Institution Review Board (IRB) of Ramathibodi Faculty of Medicine, Mahidol University.

3. After obtaining permission to collect data from the Institution Review Board (IRB), the researcher contacted the head nurses of four wards and an ambulatory nursing care unit for permission to approach the patient and family members.

4. The subjects who met the criteria were approached by the researcher. Data were collected by using the self-reported questionnaire.

A total of twelve subjects were obtained from Ramathibodi Faculty of Medicine, Mahidol University.

### **Rajavithi hospital**

1. Permission to conduct research was obtained from the Faculty of Graduate Studies, Mahidol University.

2. Permission to collect data from in-patient clinic was obtained from the Institution Review Board (IRB) of Rajavithi hospital.

3. After obtaining permission to collect data from the Institution Review Board (IRB), the researcher contacted the Assistant Director of Nursing Department (Academic Department) asking for permission to approach the patients and family members.

4. The researcher contacted the Assistant Director of Nursing Department (Academic Department) asking the subjects once a week. Self-reported questionnaires were given to the subjects who met the criteria. A total of five subjects were obtained from Rajavithi hospital.

Finally, the researcher checked the data on the questionnaires obtained from all data collecting methods again for accuracy and prepared the data for analysis.

## Data analysis

The analysis of the data was computerized by the Statistical Package.

1. Percentage was used to describe the demographic characteristics and activities involving need of care. Mean, standard deviation, median, and mode were used to describe duration of illness, duration of care, and the hiring of eldercare workers status. Mean and standard deviation were used to describe customer satisfaction. The score of need of care and customer satisfaction in five dimensions were ranked.

2. Pearson product moment correlation coefficient could not be analyzed as planned. After testing data distribution, the data showed positive skewness. Thus, Spearman Rank Correlation was used to analyze the relationship between duration of care, number of eldercare workers, duration of hiring, total duration of hiring, income of eldercare workers, overtime, weekend holidays, official holidays, number of meals, money to buy meal and customer satisfaction. The following categories were applied with positive or negative significance of the correlation:

.00-.25: little if any

.26-.49: low

.50-.69: moderate

.70-.89: high

.90-1.00: very high (Munro, B.H., 2001: 234)

## CHAPTER IV

### RESULTS

This study focused on three aims: first, to explore the elderly's need of care from eldercare workers in Metropolitan Bangkok; second, to explore the customer satisfaction with service quality of care from eldercare workers in Metropolitan Bangkok; and third, to study the relationship between demographic characteristics and the hiring eldercare workers status and customer satisfaction with service quality of care from eldercare workers.

In this chapter, the results of this study are presented as follows: 1) elderly's demographic characteristics, 2) family members' demographic characteristics, 3) the hiring eldercare workers status, 4) need of care, 5) customer satisfaction, and 6) relationship between family members' demographic characteristics and hiring eldercare workers status and customer satisfaction.

#### **Description of the sample**

The sample of the study consisted of the elderly and family members who were living with and providing the most of care for the frail elderly. Twelve subjects were obtained from Ramathibodi Faculty of Medicine, Mahidol University, five subjects from Rajavithi Hospital, 40 subjects from five eldercare workers agencies and/or training schools, and 23 subjects from the elder's houses located in Metropolitan Bangkok. Thus, 80 family members were included in this study. The data were collected from April to August 2002.

#### **1) Elderly's demographic characteristics**

As presented in Table 1, 51.25% of the frail elderly were female, and 48.75% were male. The largest group of the subjects (40%) were 60-74 years old. More than half of the subjects (61.25%) were married. Approximately 36% graduated from primary school. In addition, about 31% of the frail elderly had two or more

underlying diseases. The two most common underlying diseases of the frail elderly were hypertension (35%) and diabetes mellitus (28.75%). The causes of the frail elderly's care-dependence were cerebrovascular disease (35%); degenerative change (13.75%); fall (6.25%), which included consequence of fall: hip fracture, head of femur fracture, and colle's fracture; and others (27.5%) such as COPD, dementia, Alzheimer's, Parkinson, heart disease, chronic renal failure, cerebral hypoxia, pneumonia, gout, cancer, pulmonary emboli, and spondylosis. More than half of them (52.5%) did not have any income. For the elderly who had income, sources of income varied. Nearly half of them (48.75%) received income from their children, 11.25% from their pension, 8.75% from child and pension, and 28.75% from others, such as enterprise, business, property, savings interests, alimony, relatives, and spouse. About 28% of the frail elderly had income more than 10,000 baht per month. Finally, the average duration of illness was 48.46 months, with a standard deviation of 54.32 and a range of 1 month to 240 months.

**Table 1. Frequency and percentage of frail elderly's demographic characteristics (n = 80)**

Characteristics	f	%
<b>Gender</b>		
Male	39	48.75
Female	41	51.25
<b>Age (years)</b>		
60-74 <sup>+</sup>	32	40.00
75-84 <sup>+</sup>	27	33.75
≥85	21	26.25
<b>Marital status</b>		
Single	5	6.25
Married	49	61.25
Widowed / Divorced / Separated	26	32.50

**Table 1. Frequency and percentage of frail elderly's demographic characteristics (n = 80) (Continued)**

<b>Characteristics</b>	<b>f</b>	<b>%</b>
<b>Educational level</b>		
No education	13	16.25
Primary school	29	36.25
Secondary school	8	10.00
High school	6	7.50
Certificate / Diploma	5	6.25
Bachelor's degree	14	17.50
Higher than Bachelor's degree	4	5.00
Missing	1	1.25
<b>Underlying disease</b>		
Hypertension	28	35.00
Diabetes Mellitus	23	28.75
Heart disease	10	12.50
Chronic renal failure	6	7.50
COPD	5	6.25
Dementia	3	3.75
Cancer	3	3.75
Other diseases	7	8.75
<b>Causes of care-dependence</b>		
CVA	28	35.00
Degenerative change	11	13.75
Fall	5	6.25
Others	22	27.50
Missing	14	17.50

**Table 1. Frequency and percentage of frail elderly's demographic characteristics (n = 80) (Continued)**

Characteristics	f	%
<b>Personal income (baht)</b>		
No income	42	52.50
< 5,000	3	3.75
5,000-10,000	12	15.00
> 10,000	23	28.75
<b>Sources of income</b>		
Pension	9	11.25
Child support	39	48.75
Pension and child support	7	8.75
Others	23	28.75
Missing	2	2.50
<b>Duration of illness (months)</b>		
Mean = 48.46; Median = 24; Mode = 24 (SD = 54.32; Range = 1-240)		

## 2) Family members' demographic characteristics

As shown in Table 2, 73.75% of the subjects who were family members were female. More than half (57.5%) of the family members were in the 25-50-year-old age group. Moreover, more than half (60%) of the family members were married, while 31.25% had never been married, and 8.75% were widowed, divorced, or separated. The largest group of the family members consisted of the frail elderly's daughter (52.5%). In terms of education, nearly half of the family members (46.25%) received a Bachelor's degree. The largest group of the family members' occupation consisted of government officials or state enterprise employees (36.25%), and 33.75% were traders or businesspersons. The majority of family members (58.75%) had income more than 20,000 Baht/month/person. The average duration of care providing was 50.93 months, with a standard deviation of 61.02 and a range of 2 to 264 months.

**Table 2. Frequency and percentage of family members' demographic characteristics (n = 80)**

<b>Characteristics</b>	<b>f</b>	<b>%</b>
<b>Gender</b>		
Male	21	26.25
Female	59	73.75
<b>Age (years)</b>		
< 25	3	3.75
25-50	46	57.50
> 50	31	38.75
<b>Marital status</b>		
Single	25	31.25
Married	48	60.00
Widowed / Divorced / Separated	7	8.75
<b>Relation to the elderly</b>		
Daughter	42	52.50
Son	18	22.50
Wife	7	8.75
Daughter-in-law	4	5.00
Husband	1	1.25
Relative	8	10.00
<b>Educational level</b>		
No education	0	0
Primary school	6	7.50
Secondary school	3	3.80
High school	4	5.00
Certificate/ Diploma	10	12.50
Bachelor's degree	37	46.30
Higher than Bachelor's degree	20	25.00

**Table 2. Frequency and percentage of family members' demographic characteristics (n = 80) (Continued)**

Characteristics	f	%
<b>Occupation</b>		
Unemployed	3	3.75
Government official / State enterprise employee	29	36.25
Trader/ Businessperson	27	33.75
Employee	11	13.75
Housewife	5	6.25
Others	5	6.25
<b>Income / month (baht)</b>		
< 5,000	4	5.00
5,000-10,000	7	8.75
10,001-20,000	21	26.25
> 20,000	47	58.75
<b>Duration of care (months)</b>		
Mean = 50.93; Median = 24; Mode = 12 (SD = 61.02; Range = 2-264)		

### 3) The hiring eldercare workers status

The present study investigated the factors related to the hiring eldercare workers status, including the reasons for hiring eldercare workers, sources of information for hiring, and the reasons for terminating the hiring or changing the eldercare workers.

#### 3.1 The reasons for hiring eldercare workers

From the open-ended questionnaire eliciting the reasons for having eldercare workers, the reasons could be grouped as follows: 1) reducing their burden (67.5%), 2) needing someone's companionship with the frail elderly (62.5%), 3) having no experience in caring for the frail elderly (22.5%), and 4) family caregivers being of an old age (11.25%). One family caregiver might have more than one reason for hiring eldercare workers.

### **3.2 Persons who were responsible for paying for eldercare workers' salary**

Family caregivers who were responsible for paying for the eldercare workers' salary were children (72.5%) (the number of children ranged from 1 to 9), spouse (18.75%), relatives (17.5%), the elderly themselves (11.25%), and common purse (1.25%).

### **3.3 Sources of information for hiring**

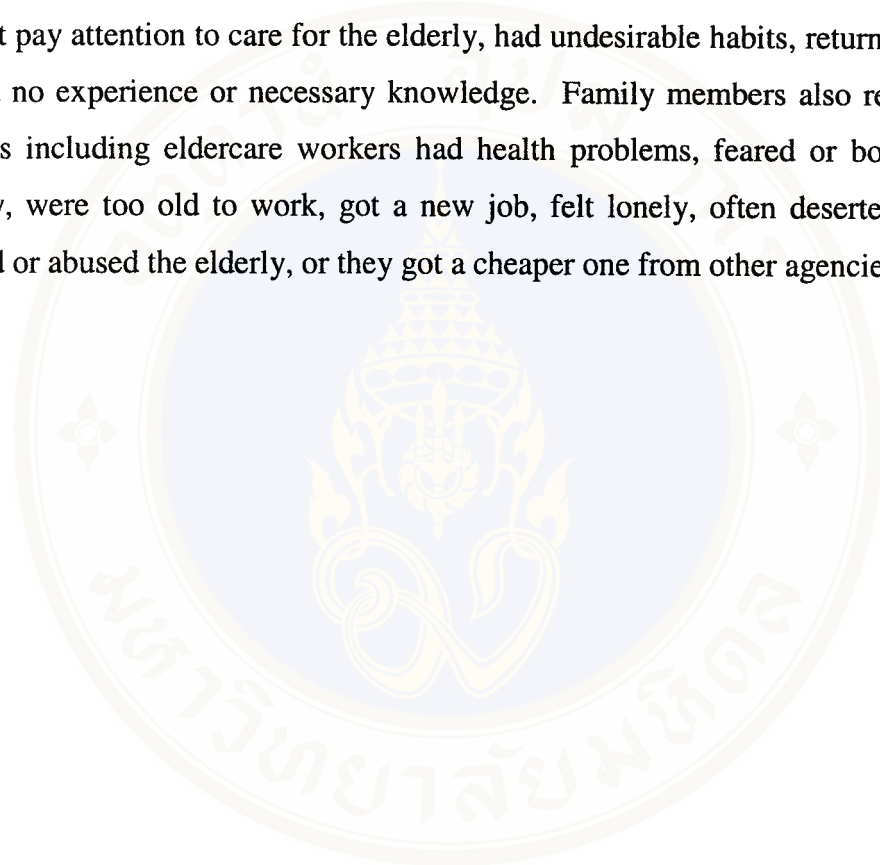
The most important sources of information for hiring were healthcare providers (28.75%), relatives (16.25%), friends and persons who had used this kind of service (12.5%), and eldercare agencies or training schools (11.25%). The rest received the information from an advertisement, such as announcement from media, billboards, signboards, and newspapers (16.25%).

### **3.4 Hiring eldercare workers and eldercare workers' welfare**

Data in Table 3 indicated that the total number of eldercare workers who were hired to take care of each elderly ranged from 1 to 11 ( $M = 2.54$ ;  $SD = 2.06$ ). Duration of hiring current eldercare worker ranged from 0.25 to 72 months ( $M = 13.20$ ;  $SD = 17.23$ ), with total duration of hiring ranging from 1 to 90 months ( $M = 20.37$ ;  $SD = 21.71$ ). Moreover, eldercare workers' salary ranged from 3,500 to 19,300 baht ( $M = 7,661.84$ ;  $SD = 2,522.47$ ). The eldercare workers' welfare included a place to live and rest, weekend holidays, overtime, official holidays, meals or money to buy meals, and others. Weekend holidays ranged from 0 to 8 days per month ( $M = 3.11$ ;  $SD = 1.77$ ). If the customers wanted eldercare workers to work during holidays, they paid the overtime fees, which ranged from 200 to 620 baht per day ( $M = 324.29$ ;  $SD = 80.03$ ). Official holidays ranged from 0 to 6 days per year ( $M = 0.88$ ;  $SD = 1.78$ ), such as Songkran day, New Year's day, Labor day, and agencies or training schools' associate day or activity day. In general, eldercare workers received three meals per day or money to buy food by themselves, ranging from 0 to 120 baht per day ( $M = 31.25$ ;  $SD = 40.98$ ). In addition, some eldercare workers received extra benefits, such as clothes, sweets and snacks, and consumer goods.

### **3.5 The reasons for terminating the hiring or changing the eldercare workers**

According to the open-ended questionnaire, family members who hired more than one eldercare worker reported several reasons for stopping using the service of the previous eldercare workers. The main reason was that eldercare workers had no responsibility, or no willingness to live with the elderly. Other reasons included they did not pay attention to care for the elderly, had undesirable habits, returned to school, or had no experience or necessary knowledge. Family members also reported other reasons including eldercare workers had health problems, feared or bored with the elderly, were too old to work, got a new job, felt lonely, often deserted their duty, bullied or abused the elderly, or they got a cheaper one from other agencies.



**Table 3. Range, mean, standard deviation, median, and mode of the hiring eldercare workers status**

	range	mean	SD	median	mode
Total number of eldercare workers	1-11	2.54	2.06	2	1
Duration of hiring current eldercare worker (months)	0.25-72	13.20	17.23	5	1
Income/month (baht)	3,500-19,300	7,661.84	2,522.47	7,000	6,500
Total duration of hiring (months)	1-90	20.37	21.71	12	1
Overtime/day (baht)	200-620	324.29	80.03	300	300
Weekend holidays/ month (days)	0-8	3.11	1.77	4	4
Official holidays/ year (days)	0-6	0.88	1.78	0	0
Meals/day	0-3	2.55	1.04	3	3
Money to buy meals/ day (baht)	0-120	31.25	40.98	0	0

#### 4) Need of care

As shown in Table 4, as for need of care from eldercare workers, the majority of them were keeping a close watch on warning signs and reporting any health problems to primary caregivers (97.5%); followed by helping with dressing (96.25%), bed-making (96.25%); keeping company (96.25%); taking a bath, shampooing, and providing personal hygiene care (95%); and preventing the elderly from falls (95%). The least care needed were colostomy caring (6.25%), helping with intermittent catheter (17.5%), and taking care of retained Foley's catheter (18.5%). In addition, family members reported other needs of care, such as taking temperature, pulse, respiration rate, and blood pressure; giving tapid sponge; recording and reporting symptoms and signs to family members or the doctor; massaging; giving intradermal injection; preparing snack or fruit; giving an enema, drawing blood for plasma glucose testing; dressing wound; and stimulating memory.

Self-care requisites are formulated and expressed insights' about actions that are known to be necessary to have validity in the regulation of aspects of human functioning and development. Three types of self-care requisites are identified: universal, developmental, and health-deviation. As shown in Table 4, need of care from eldercare workers were categorized into self-care requisites. The majority of them were Universal self-care requisites. Total need of care was categorized into activities of daily living (ADL), instrumental activities of daily living (IADL), and special nursing care, the majority of which were ADL.

**Table 4. Percentage of self-care requisites and ranking in order**

Self-care requisites	%
Universal self-care requisites	
1. helping with dressing, keeping a close watch on warning signs, and reporting health problems to primary caregivers	97.50
2. helping with dressing	96.25
3. bed making	96.25
4. keeping company	96.25

**Table 4. Percentage of self-care requisites and ranking in order (continued)**

Self-care requisites	%
5. taking a bath, shampooing, providing personal hygiene care	95.00
6. preventing falls	95.00
7. making a safety environment in the home to prevent elderly from injury/hurt	91.25
8. talking with elderly, cheering them up	86.25
9. turning on television or reading books	78.75
10. preparing meals	67.50
11. taking the elderly to the bathroom or helping use the toilet	66.25
12. helping with walking across the room	62.50
13. performing evacuation	56.25
14. helping with eating	50.00
15. using a plastic bag for void (for men)	48.70*
16. playing on Dharma tape	47.50
17. mouth suctioning	45.00
18. making blenderized diet	45.00
19. feeding blenderized diet via nasogastric tube	43.75
20. recording intake and output	38.75
21. performing lung percussion	37.50
22. performing oxygen therapy	35.00
23. using a condom with a bag for void (for men)	30.77*
24. caring for tracheostomy tube	30.00
25. performing inhaled bronchodilator	27.50
26. performing tracheostomy tube suctioning	25.00
27. helping with bedpan using	25.00
28. feeding blenderized diet via gastrostomy tube	18.75
29. caring for retained foley's catheter	18.75
30. helping with intermittent catheter	17.50
31. taking care of colostomy bag	6.25

**Table 4. Percentage of self-care requisites and ranking in order (continued)**

Self-care requisites	%
<b>Developmental self-care Requisites</b>	
1. helping with range of motions	83.75
2. helping get in a comfortable position in bed or out of bed	82.50
3. turning body to prevent bed sore	71.25
<b>Health deviation self-care Requisites</b>	
1. taking medicine	93.75
2. performing insulin injection	25.00

\* This need of care was calculated in men only.

### 5) Customer satisfaction

Customer satisfaction with service quality of care is presented in Table 5 and Table 6. The average of total customer satisfaction with service quality of care was 3.83. The total levels of customer satisfaction with service quality of care ranged from moderately satisfied to mostly satisfied. Among service quality of care, the highest means of customer satisfaction with service quality of care were eldercare workers not fearing or offending frail elderly ( $M = 4.16$ ;  $SD = 0.72$ ) (empathy), eldercare workers having confidence in and being faithful to work with customers' property ( $M = 4.09$ ;  $SD = 0.75$ ) (reliability), giving prompt care and close up care ( $M = 4.08$ ;  $SD = 0.76$ ) (responsiveness), and always being willing to help the elderly ( $M = 4.08$ ;  $SD = 0.73$ ) (responsiveness). The levels of the highest mean of customer satisfaction with service quality of care ranged from mostly satisfied to fully satisfied. The lowest mean of customer satisfaction with service quality of care were eldercare workers having the knowledge to answer questions or solve problems in caring for the elderly ( $M = 3.45$ ;  $SD = 0.87$ ) (assurance), understanding the specific need of the frail elderly ( $M = 3.61$ ;  $SD = 0.88$ ) (responsiveness), and paying attention to the elderly's feelings ( $M = 3.62$ ;  $SD = 0.89$ ) (empathy). The levels of the lowest mean of customer satisfaction with service quality of care ranged from moderately satisfied to mostly satisfied.

**Table 5. Range, mean, and standard deviation of customer satisfaction with service quality of care (n=80)**

Service quality of care	range	mean	SD
<b>Tangibles</b>	<b>1-5</b>	<b>3.81</b>	<b>0.65</b>
1. Eldercare workers prepared environment and equipment with cleanliness, neatness, and comfort for use.	2-5	3.71	0.75
2. Eldercare workers cared to make the elderly clean and comfortable.	2-5	4.01	0.74
3. Eldercare workers looked neat.	2-5	3.89	0.69
4. Quality of care was appropriate with salary.	1-5	3.64	0.82
<b>Reliability</b>	<b>1-5</b>	<b>3.87</b>	<b>0.64</b>
5. Eldercare workers did things as scheduled.	1-5	3.80	0.79
6. Eldercare workers provided care at the appropriate time	1-5	3.69	0.70
7. Eldercare workers performed the service right the first time, with no absence from the work.	1-5	3.94	0.82
8. Eldercare workers reported exact health problems or signs to primary caregivers.	2-5	3.81	0.86
9. Eldercare workers had confidence in and were faithful to work for the customer's property.	2-5	4.09	0.75
<b>Responsiveness</b>	<b>1-5</b>	<b>3.87</b>	<b>0.68</b>
10. Eldercare workers told the customer exactly when care would be performed.	2-5	3.71	0.77
11. Eldercare workers gave prompt care and close up care to the elderly.	2-5	4.08	0.76
12. Eldercare workers were always willing to help the elderly.	2-5	4.08	0.73
13. Eldercare workers understood the specific needs of the frail elderly.	1-5	3.61	0.88

**Table 5. Range, mean, and standard deviation of customer satisfaction with service quality of care (n=80) (Continued)**

Service quality of care	range	mean	SD
<b>Assurance</b>	<b>1-5</b>	<b>3.64</b>	<b>0.76</b>
14. Eldercare workers had the knowledge to care for the elderly with safety.	1-5	3.64	0.85
15. Eldercare workers provided care activities quickly and with expertise.	1-5	3.69	0.84
16. Eldercare workers carefully provided care.	2-5	3.80	0.91
17. Eldercare workers had the knowledge to answer questions or solve problems in caring for the elderly.	1-5	3.45	0.87
<b>Empathy</b>	<b>1-5</b>	<b>3.86</b>	<b>0.71</b>
18. Eldercare workers provided care with consistent courtesy.	2-5	3.93	0.76
19. Eldercare workers did not fear or offend the frail elderly.	2-5	4.16	0.72
20. Eldercare workers cheered up the elderly by speaking pleasantly, touching hands, and keeping company.	2-5	3.77	0.90
21. Eldercare workers had the customer's best interest in mind and could understand and respond to the appropriate need of care.	2-5	3.74	0.74
22. Eldercare workers paid attention to the elderly's feelings.	1-5	3.62	0.89
<b>Total</b>	<b>1-5</b>	<b>3.83</b>	<b>0.62</b>

In Table 6, the highest to the lowest means of the five dimensions in service quality were presented. The results revealed that reliability and responsiveness ( $M = 3.87$ ;  $SD = 0.64$  and  $M = 3.87$ ;  $SD = 0.68$ ) received the highest mean, while assurance had the lowest mean ( $M = 3.64$ ;  $SD = 0.76$ ). The levels of customer satisfaction with service quality of care ranged from moderately satisfied to mostly satisfied. Regarding the reliability dimension, the subjects were satisfied with eldercare workers' confidence and faithfulness to the customer's property (item 4:  $M = 4.09$ ;  $SD = 0.75$ ). Regarding the responsiveness dimension, the subjects were satisfied with eldercare workers' prompt care and close up care (item 11:  $M = 4.08$ ;  $SD = 0.76$ ) and eldercare workers were always willing to help the elderly (item 12:  $M = 4.08$ ;  $SD = 0.73$ ). Focusing on the assurance dimension, which had the lowest mean, eldercare workers' knowledge to answer questions or solve problems in caring for the elderly was the least satisfied (item 17:  $M = 3.45$ ;  $SD = 0.87$ ).

**Table 6. Highest to lowest mean of five dimensions in service quality of care**

Item	M	SD	Level
<b>Five dimensions</b>			
<b>1. Reliability</b>	3.87	0.64	moderately- mostly satisfied
<b>2. Responsiveness</b>	3.87	0.68	"
<b>3. Empathy</b>	3.86	0.71	"
<b>4. Tangibles</b>	3.81	0.65	"
<b>5. Assurance</b>	3.64	0.76	"

#### **6) The relationship between family members' demographic characteristics and the hiring eldercare workers status and customer satisfaction**

As family members were the total sample who scored the service quality, the relationship between the elderly's demographic characteristics and customer satisfaction with service quality of care could not be analyzed as planned. The frail elderly did not respond to the service quality question because they might had degenerative changes or it was more easier for family members to answer the question.

The Spearman rank correlation analysis was conducted to identify the relationship between family members' demographic characteristics and the hiring of eldercare workers status, which included duration of care, total number of eldercare workers, duration of hiring current eldercare worker, total duration of hiring, income of eldercare workers, overtime, number of weekend holidays, number of official holidays, number of meals, money to buy meals, and customer satisfaction with service quality of care in the five dimensions (tangibles, reliability, responsiveness, assurance, and empathy). It was found that income of eldercare workers had a statistically significant low positive correlation with tangibles ( $r = .274$ ;  $p < .05$ ). Next, the income of eldercare workers had a statistically significant low positive correlation with responsiveness ( $r = .276$ ;  $p < .05$ ). Moreover, the income of eldercare workers had a statistically significant low positive correlation with assurance ( $r = .323$ ;  $p < .001$ ). Finally, the income of eldercare workers had a statistically significant low positive correlation with empathy ( $r = .276$ ;  $p < .05$ ). However, the other variables, including duration of care, total number of eldercare workers, duration of hiring current eldercare worker, total duration of hiring, overtime, number of weekend holidays, number of official holidays, number of meals, and money to buy meals had no statistically significant correlation with customer satisfaction with service quality of care. The correlation was shown in Table 7.

**Table 7. Spearman rank correlation coefficients among the studied variables (n = 80)**

	1	2	3	4	5	6	7	8	9	10
<b>1.Tangibles</b>	.000	-.105	.019	.036	.274*	.232	-.149	.050	-.125	-.048
<b>2.Reliability</b>	.189	.008	.078	.115	.106	.076	-.104	-.038	-.001	-.037
<b>3.Responsiveness</b>	.036	.029	.090	.167	.276*	.010	-.152	.011	.080	-.035
<b>4.Assurance</b>	.056	-.051	.046	.019	.323**	.141	-.020	.044	-.135	.124
<b>5.Empathy</b>	.115	.094	.034	.133	.276*	-.042	-.179	-.008	.053	-.010

\*  $p < .05$  \*\*  $p < .001$

1 = Duration of care

2 = Total number of eldercare workers

3 = Duration of hiring current eldercare worker

4 = Total duration of hiring

5 = Eldercare workers' income

6 = Overtime

7 = Number of weekend holidays

8 = Number of official holidays

9 = Number of meals

10 = Money to buy meals

In conclusion, the frail elderly were those 60-74 years old. The majority of them were married. Approximately 36.25% of them graduated from a primary school. The frail elderly had two or more underlying diseases. The two most common underlying diseases of these frail elderly were hypertension and diabetes mellitus. The causes of care-dependence of them were cerebrovascular disease, degenerative changes, and fall. Moreover, more than half of them did not have any income, whereas nearly half of them received income from their children. In addition, the family members were mostly women, and most of the family members ranged in age from 25 to 50 years old and were married. The majority of need of care was activities of daily living (ADL). Besides, the levels of customer satisfaction with service quality

of care ranged from moderately satisfied to mostly satisfied. Finally, the income of eldercare workers had a statistically significant low positive correlation with tangibles, responsiveness, assurance, and empathy.



## **CHAPTER V**

### **DISCUSSION**

In this chapter, the findings are discussed as follows: 1) the elderly's demographic characteristics, 2) family members' demographic characteristics, 3) the hiring eldercare workers status, 4) need of care, 5) customer satisfaction, and 6) the relationship between family members' demographic characteristics and the hiring eldercare workers status and customer satisfaction.

#### **1) The elderly's demographic characteristics**

As for gender of the frail elderly, 51.25% were female and 48.75% were male. The largest group of them (40%) was 60-74 years old. The elderly in this age group face many crises in life, such as retirement, loss of close relatives or spouse, decreased income, loss of social roles, and decreased social activities. Generally, the elderly in this group are healthy and still have much capability than other elder groups, but many persons sometimes depend on others (Hoffman, et al., cited by Srireun Kaewkangwan, B.E.2530: 593-594). Besides, this study found that 26.25% were older than 85 years old. The elderly in this age group face more health problems, and ADL become increasingly difficult, forcing their dependence on others (Yin, et al., 2002: 199-208).

About 31.25% of the frail elderly in this study had at least two underlying diseases. One reason could be that all of them were elderly and had age-related physiological changes which caused the degeneration of many organs. As a result, just like others of the same age, the impairment of organ systems and a decrease in the immune system increased vulnerability and sickness (Chanita Maneewan, et al., B.E.2537: 242; Chavalee Yamvong, B.E.2539: 65-67). The two most common underlying diseases of the frail elderly were hypertension (35%) and diabetes mellitus (28.75%).

These results were similar to previous studies by Pensri Lausawatchaikul (B.E.2543: 17) and Yin, T., et al. (2002: 203) which reported that frail elderly had two or more chronic diseases such as hypertension and diabetes mellitus. The majority of them were chronic illnesses which were caused by pathological diseases and degeneration changes. Moreover, the causes of care-dependence were cerebrovascular disease (35%), degenerative change (13.75%), and fall (6.25%). Cerebrovascular disease (CVD) causes both physical problems and behavior problems to patients (Wongjunlongsin, S., 1999: 13).

Most CVD patients have high demand of care from their caregivers, which are indicated as follows: 1) needing assistance with activities of daily living, 2) needing assistance to prevent complications, 3) needing assistance to prevent trauma and injury, and 4) needing psychological and emotional support. Therefore, when they return home, they still need assistance from caregivers (Hibrahim, P., 1996: 164-167).

Fall is related to advanced age; it is known that the older elderly have a higher risk of falls than the younger elderly because of poorer health status and functional abilities. Aging and physiological changes might cause many disorders simultaneously, such as gait changes and reduction in limb coordination, that make the elderly no longer able to lift their feet as high as they used to, and also make them prone to trip on uneven paving stones or curbs that cause injury or fall (Stone, J.K. & Chenitz, W.C., 1991: 291-308; O'Loughlin, J.L. & et al., 1993: 340; Brown Commodore, D.I., 1995: 84-89; Langlois, J.A. & et al., 1995: 275-278; Tinetti, M.E., 1997: 787-788; Pensri Lausawatchaikul, B.E.2543: 16; Overstall, 1980: 482, cited by Thiamwong, L., 2001: 64).

These factors are the fall-related factors that cause injury or fall. Unintentional injuries such as nonfatal injuries include fractures and serious soft tissue trauma, a hazardous consequence of falling that can occur with or without serious injury. There is also limitation of functioning and activity, whether due to physical impairment from injury or to fear of future falls. Older individuals unable to get up after fall are at risk of complications such as dehydration, pressure sores, and pneumonia. For these 80 years old or older, factors associated with an increased frequency of inability to get up without help include decreased upper and lower extremity strength, poor balance, arthritis, and increased activity of daily living (ADL) dependency (Stone, J.K. &

Chenitz, W.C., 1991: 291-308; O'Loughlin, J.L. & et al., 1993: 340; Brown Commodore, D.I., 1995: 84-89; Langlois, J.A. & et al., 1995: 275-278; Tinetti, M.E., 1997: 787-788; Pensri Lausawatchaikul, B.E.2543: 16).

In the present study, more than half of the elderly (52.5%) had no income. One reason could be that all of them were the elderly who had retired from work. In contrast, Ratchada Ragkanarm (B.E.2543: 31) found that elder persons with cognitive impairment had pension or accumulated retirement for doctor's fee, eldercare workers cost, and support in expense of daily living. In this study, about 28% of the frail elderly had income more than 10,000 baht per month while the National Statistical Office reported in 2002 that 98.8% of the elderly had an average income of 40,804 baht per year. In this study, about 48% of the frail elderly had income, and they had more than one source of income. Nearly half of the frail elderly (48.75%), who had income, received income from their children, 11.25% from their pension, 8.75% from children and pension, and 28.75% from other sources, such as enterprise, business, property, savings deposit, interest, alimony, relatives, and spouse. Wonnapha Sritanyarat, et al. (B.E.2545: 27) stated that children and the elderly's current work were the sources of income and children were the important sources of female elder's income.

In most developing countries, aging persons' economic supports from pension schemes are likely to cover only a very small proportion of the aging population. This is also true of provident funds which cover only workers in the formal sector and are paid out in a lump sum upon retirement, which are usually inadequate and quickly spent. Most aging persons work to advanced ages and depend almost entirely upon family support in their later years. This may be in the form of shared housing, food, and other necessities but rarely in the form of direct transfer of income (Chang, T.P., 2000: 33-34). In the western countries, aging persons are supported by the government, public aged pension, and voluntary savings. In Australia, for example, aged care services are from the government and elder persons' income tested fee. In the USA, healthcare services are from Medicare and Medicaid (Wonnapha Sritanyarat, et al., B.E.2545: 18-19). Medicare is a federal program that pays specified healthcare services for all persons over the age of 65 years who are eligible to receive Social Security benefits. Persons with permanent total disabilities are also covered. The

objective of Medicare, funded through a payroll tax for all working citizens, is to protect older adults against large medical outlays. Individual providers are reimbursed for health services provided according to Medicare regulations.

Medicare program has two plans, A and B, which pay for institutional care such as hospital, nursing home and noninstitutional care such as physician fee, outpatient visit. However, these plans are restricted in some types of services.

The other major government program for healthcare is Medicaid. Medicaid is a federal-state program. The purpose of the program is to provide access to care for the poor and medically needy of all ages. Services covered by Medicaid is varied by State to State. Unlike Medicare, Medicaid provides long-term care services (e.g., nursing home, home health) and personal care services, (e.g., chores, homemaking). In addition, Medicaid has eligibility criteria that are based on level of income (Swanson, J.M. & Albrecht, M., 1993: 46; Smith, C.M. & Maurer, F.A., 2000: 150-162).

## **2) Family members' demographic characteristics**

Most of the family members were female (73.75%). This finding was similar to Kasuya, et al. (2000: 119); Ratchada Ragkanarm (B.E.2543: 31); Wonnapha Sritanyarat, et al. (B.E.2545: 28); and Yin, T., et al. (2002: 203). The social expectation that women will be caregivers (The 'feminization of caregiving') has resulted in women providing care in nearly 75% of the total sample. Moreover, the family members' ages ranged from 25 to 50 years old. This finding indicated that most of the subjects (57.5%) becoming family caregivers were in the middle-aged group which may be expected to take on the caregiving role. These characteristics of family caregivers were similar to the reports of other studies on family caregivers in Thailand (Gasemgitvatana, S., 1993: 58; Chuburi, O., 1996: 42-44; Kenchaiwong, P., 1996: 65; Somnuk, C., 1997: 59; Chuangsawadsak, S., 1998: 38; Wongjunlongsin, S., 1999: 46; Wonnapha Sritanyarat, et al., B.E.2545: 28). As regards the relationships with the frail elderly, the findings indicated that about three-quarters of family members who provided care were adult children (52.5% were daughters and 22.5% were sons). This result was in accordance with previous studies by Wipawan Chaoum, B.E.2537: 36; Chuburi, O., 1996: 42; Kenchaiwong, P., 1996: 65; Thipsamniag, T., 2000: 54; and Wonnapha Sritanyarat, et al., B.E.2545: 28. This is probably due to the fact that

spouses are also too old to provide care. In this study, most of the family members who provided care for the elderly were daughters. Traditionally, in the Thai family, chores are interchangeably performed by men and women. However, heavy physical labor is mostly done by men, while cleaning, cooking and child rearing are generally done by women (Kespichayawattana, J., 1999: 7), who are expected to continue to provide care for the aging parents as well.

In terms of occupation, the largest group of family members was composed of government officials or state enterprise employees (36.25%) and traders or businesspersons (33.75%). This finding was consistent with a previous study by Manus Dulayapachara (B.E.2543: 39) which reported that mainly government officers and merchants need these workforces. Because family caregivers work outside the home, they have multiple responsibilities and need caregiving assistants. Furthermore, the majority of family members (58.75%) had income more than 20,000 Baht per month. This finding was similar to the National Statistical Office, 2002 which reported that households in Bangkok Metropolis had an average income of 24,365 baht per month (National Statistical Office, B.E.2545). This finding is probably due to the fact that eldercare workers' salary is quite expensive. In this study, eldercare workers had wages ranging from 3,600 to 19,300 Baht per month. These eldercare workers' wages were similar to the previous study by Akanimanee, N. (2002: 57) which reported that eldercare workers have wages ranging from 4,000 to 6,000 Baht per month and they have to pay the agency commission about 10-20%.

### **3) Hiring eldercare workers status**

#### **3.1 The reasons for hiring eldercare workers**

Family members hired eldercare workers to perform the caregiving role. They had several reasons for having eldercare workers. Based on the open-ended questionnaire, it was revealed that the majority of the reasons was that all family members worked outside the home, so they wanted someone to care for the elderly (65%). Many working caregivers found that the demands of their jobs and caregiving responsibilities were in conflict (The Administration on Aging of the United States Department of Health Services. *Elderaction*, 1999). Family members who paid for eldercare workers' salary were children (72.5%). The results supported a previous



study by Ratchada Ragkanarm (B.E.2543: 31) which found that the reasons for hiring eldercare workers were because family caregivers had other burdens.

### 3.2 Sources of information for hiring

When the frail elderly were discharged from the hospital and/or depended on others, family caregivers who were not ready or unable to take care of the elderly needed eldercare workers to perform the caregiving role. They had different sources of information for hiring eldercare workers. The majority of the sources of information were healthcare providers (28.75%). Healthcare providers, such as a doctor or a nurse, might advise the relatives to hire an eldercare worker from a training school or agency to help the relatives in caring for the elderly. Family members trusted the expert's opinion and expected that they received information of the best eldercare training school or agency in Bangkok Metropolis. In addition, most eldercare training schools or agencies in Bangkok Metropolis are owned or managed by medical or nursing professionals (Wathinee Boonchalaksi, B.E.2543: 210). This is because basic nursing skills and patient care must be taught. These schools are established in the form of companies in order to conduct marketing work and find jobs for students. The schools also act as middlemen between eldercare workers, elders, and families (Wathinee Boonchalaksi, B.E.2543: 210). In contrast, previous research by Kenagy, et al. (1999:662) found that their frail elderly and family patients or families recommended specific eldercare workers or agencies who they were satisfied with to their friends and families, driving more referrals by words of mouth. Words of mouth is probably the most powerful force in healthcare marketing, as consumers want to know how others like them evaluate care. It is worth noting that many trusts the evaluations of family members and friends more than any other source of data, including expert opinion.

Eldercare workers' salary ranged from 3,500 to 19,300 Baht per month ( $M = 7,661.84$ ;  $SD = 2,522.47$ ). This finding was similar to the rate of salary of civil servants. Currently, government officials who graduated with a Bachelor's degree received 6,360 Baht per month plus benefits (Office of the Civil Service Commission, B.E.2546). However, there were much wider variations in the range of eldercare workers' salary. One reason could be that eldercare workers performed several activities and at various hours per day and some eldercare workers took care of the

elderly who needed special care. This result supported the previous study by Akanimanee, N. (2002: 57) that eldercare workers' salaries ranged from 4,000 to 6,000 Baht per month and they paid the commission of about 10-20% to the agency. Similar to the western countries, the rates charged by private homecare agencies are often beyond the means of middle income families. However, there are several ways to obtain competent help at lower rates. In the western countries, in contrast to Thailand, if older persons are discharged from a hospital and receive skilled healthcare services at home, such as nursing or physical therapy, they are usually eligible for homemaker-home health aide service from home care agencies under the coverage of the Medicare scheme. When Medicare coverage ends, it is often possible to hire these same aides privately for a half to two-thirds of the cost charged by the home care agencies (The Administration on Aging of the United States Department of Health Services, 1999).

The eldercare workers' welfare included living space, weekend holidays, overtime, official holidays, meals or money to buy meals, and others. In the western countries, many caregivers who decide to hire a home care worker will need to determine how much help their older relative needs--several hours a day or all day until the family returns home, or living around the clock care. Usually, paid helpers do not live in the elderly's home. They only receive salary but not welfare as in Thailand. Home health agencies recruit, train, and pay the worker; family caregivers pay the agency (The Administration on Aging of the United States Department of Health Services, 1999).

#### **4) Need of care**

As for need of care from eldercare workers, it was revealed that the majority of them were keeping a close watch on warning signs and reporting health problems to primary caregivers (97.5%), followed by helping with dressing (96.25%), bed-making (96.25%), keeping company (96.25%), taking a bath, shampooing, or doing personal hygiene care (95%), and preventing falls (95%). These needs of care were similar to the reports of other posthospital home care for frail older studies (Wallhagen, M.I., 1992; Chanita Maneewan, et al., B.E.2537; Bull. M.J.& Jevis.L.L., 1996; Faison,K.J., et al., 1999; Ratchada Ragkanarm, B.E.2543; Wannipa Boonrayong, B.E.2543;

John,R., 2001), in which most elderly had substantial problems with IADLs, difficulties with physical ADLs, and psychological changes.

Several papers have explored the causative elements of frailty. In essence, they jointly identify four principle etiologies: 1) genetic, 2) disease and injuries, 3) lifestyle, and 4) aging (Bortz II, W.M., 2002: M283). As for genetic disorders, errors in the genetic program can contribute to frailty either through primary muscle, bone, or neurologic malformation, or secondarily through many other entities, such as sickle cell anemia or cystic fibrosis.

Diseases and injuries, toxins, infections, injuries, and malignancy all may provoke frailty. Osteoporosis, the result of repeated microinjuries, is a major form of this mechanism. Toth and Poehlman (2000, cited by Bortz II, W.M., 2002: M285) recently pointed out how many chronic diseases common in older people conspire to limit physical exercise and thereby accelerate catabolic processes.

Lifestyle is the greatest contributor to frailty. Nutritional problems, either as insufficient or excessive calories, are frequent coconspirators in the production of frailty. A sedentary lifestyle leads slowly and inexorably to diminished muscle strength and frailty, so that at age 70 and beyond, the average "usually" aged person is confronted with decreased movement capacity and the above-described sequential problems. The direct burdens imposed by nutritional and exercise maladaptations are compounded by disordered chemoregulator patterns. Numerous population surveys have revealed the endemic inadequacy of physical activity with particular deterioration in the later decades of life.

As regards aging, the deteriorative effects of aging per se certainly have the potential to affect the development of muscle weakness through accumulation of metabolic debris as cross linkages, membrane stiffening, and DNA alteration.

The older persons who are frail or have chronic diseases are independently predictive of incident falls, worsening mobility or ADL disability, hospitalization, and death. In sum, the elderly' needs of care were due to the deterioration of aging and development of chronic illness. The result of this study revealed that the elderly's need of care was in congruence with Orem's three types of self-care requisites.

Regarding the burden of caregiving or the older persons' needs for assistance following hospitalization, with shortened lengths of hospital stay, family members

assume critical roles in assisting older adults following discharge. Older persons are often dependent at the time of discharge (Bull, M.J. & Jervis, L.L., 1996: 541). Half of the elders in one study in UK reported problems with mobility that presented difficulty with getting to the toilet, getting in and out of the bathtub, and maintaining balance while dressing (Waters, 1987, cited by Bull, M.J. & Jervis, L.L., 1996: 542). In the USA, as for problems related to managing personal care, it was reported that the elderly often experienced difficulty with meal preparation, washing dishes, and cleaning the house (Wolock, et al., 1987, cited by Bull, M.J. & Jervis, L.L., 1996: 542). The early discharge of patients from hospital to their former functional capacity, thus, could mean going home 'quicker and sicker.' Lack of functional independence at discharge often necessitates caregiving assistance by one or more family members when the person returns home. However, reforms that shift the care from hospital to home may assume a level of skill or expertise that is not commonly held by patients or their carers. It is often assumed that the family will take on a caregiving role, but frequently they are not asked, and are often not adequately prepared for this role (Wellard & Street, 1999, cited by Johnson, P et al., 2001: 220).

However, eldercare workers could be hired for the caregiving role to replace family caregivers. Eldercare workers have the duty to take care of primary physical and mental well-being of elders, not including nursing treatment (Non-Formal Education Promotion Division, Office of Private Education Commission, Ministry of Education, n.d.). In fact, the result of this study suggested that the needs of care from eldercare workers include ADLs, IADLs, and special medical needs such as insulin injections, suction, and medicine intake.

In the western countries, a homemaker or personal care worker is supervised by an agency or caregivers and provides personal care, meal planning, household management, light housework, exercise, companionship, and medication reminders. A housekeeper or chore worker is supervised by the person hiring them and performs basic household tasks and light cleaning. A home health aide, certified nurse assistant, or nurse aide, is supervised by an agency's registered nurse. They provide personal care; help with transfers, walking, and exercise; do household services that are essential to healthcare; provide assistance with medications; and report changes in the patient's condition to the RN or therapist and complete appropriate records (The

Administration on Aging of the United States Department of Health Services, 1999). In accordance with these previous studies, the result of this study showed that eldercare workers were supervised by family members or eldercare training schools or agencies. If the older persons had special nursing needs such as insulin injection or suction, eldercare workers were trained by eldercare training schools or agencies after taking the eldercare worker's role. However, some eldercare workers did not receive training for this special care but depended on "learning by doing" and got advice from family members. In contrast, in the western countries, eldercare workers have qualifications and/or training or have training certificates in these special procedures (The Administration on Aging of the United States Department of Health Services, 1999).

## 5) Customer satisfaction

Customer satisfaction with service quality of care was based on five dimensions of determinant of service quality. The average of total customer satisfaction with service quality of care was 3.83. The total levels of customer satisfaction with service quality of care ranged from moderately satisfied to mostly satisfied. This finding was in contrast with previous studies by Dusadee Yairangsri (B.E.2541: e) which reported that the subjects had a high level of satisfaction with the medical services and Orapin Chaipayom (B.E.2542: e) which reported that overall satisfaction levels were low, but the satisfaction with courtesy and out-of-pocket cost was at a high level. Satisfaction with quality of care, medical information, and coordination were at low levels, and satisfaction with convenience was at a moderate level. In this study, among service quality of care, the highest mean was eldercare workers not fearing or offending the frail elderly ( $M = 4.16$ ;  $SD = 0.72$ ). The result indicated that the family members were concerned with caring and individualized attention the firm provided its customers through eldercare workers. This finding was supported by the study of Akanimanee, N. which reported that eldercare workers enjoyed their jobs. They viewed that their effort could help the elderly to be comfortable, safe, and happy (Akanimanee, N., 2002: 75). The levels of the highest mean of customer satisfaction with service quality of care ranged from mostly satisfied to fully satisfied.

Family members' satisfaction with the assurance dimension ranged from moderately satisfied to mostly satisfied. However, this dimension was the least satisfied ( $M = 3.45$ ;  $SD = 0.87$ ). Family members indicated less satisfaction in eldercare workers' knowledge to answer questions or solve problems in caring for the elderly. One reasonable explanation was eldercare workers should receive training from training schools or eldercare agencies. A curriculum covers a three-month period of time for training in the eldercare program, which consists of principle of eldercare, elderly psychology, activity and recreation of elderly, food for elderly, cleansing and maintaining instruments inside home, using Thai and English languages, role and convention of eldercare workers, hygiene, and labor law. In fact, some eldercare workers did not receive enough training as proposed, and some eldercare workers took care of the elderly who needed special care such as intradermal injection, suction, oxygen therapy, or keeping a close watch on warning signs, all of them which had not been trained for. Furthermore, the least family members' satisfaction in the responsiveness dimension was the eldercare workers' understanding of the frail elderly's need. This result could be explained that eldercare workers might not have enough knowledge of the elderly's deterioration due to insufficient preparation. Therefore, they could not interpret or respond to the elderly's need approximately as expected.

These findings were in accordance with family members' feelings from the open-ended questionnaire, which could be grouped into three concepts as follows: 1) eldercare workers' characteristics, 2) eldercare workers' training, and 3) the related government organization responsible for this training program.

#### *1) Eldercare workers' characteristics*

About 31.25% of the frail elderly had at least two underlying diseases. The two most common underlying diseases of the frail elderly were hypertension and diabetic mellitus. The family members whose frail elderly had diabetic mellitus expected the eldercare workers to have knowledge of preparing diabetic diet and insulin injection (three subjects). Supporting evidence came from family members' statements in the open-ended questionnaire as follows:

*"Eldercare workers should be neat, honest, highly responsible, and have enough knowledge, especially about insulin injection and diabetic diet cooking."*

*"I want eldercare workers to prepare good hygiene meals, with high nutrients suitable for elders."*

*"Eldercare worker should prepare diabetic diet for the patient."*

*"I want eldercare training schools or centers to train eldercare workers about eldercare, basic patient care such as insulin injection, preparing diabetic diet, talking to the elderly, support as well as how to please the patient."*

*"Eldercare training schools or centers claim that they have training, but eldercare workers insist that they have never been trained or they had only been trained in simple cooking."*

Regarding the frail elderly who had underlying diseases, family members expected that eldercare workers had knowledge of keeping a close watch on warning signs of these underlying disease (two subjects). Supporting evidence came from family members' statements in the open-ended questionnaire as follows:

*"I want eldercare workers who have knowledge of patient caring, basic nursing care, and symptoms observation for patients with specific type of disease."*

*"I want eldercare workers who understand warning signs of the patient."*

Two family members had the frail elderly who only spoke Chinese. Thus, they wanted eldercare workers to have knowledge, especially in the Chinese language. Supporting evidence came from the family members' statements in the open-ended questionnaire:

*"Eldercare workers should be able to understand the Chinese language."*

Besides, family members expected that eldercare workers should care for the frail elderly with cleanliness and comfort and that they should be honest and responsible (eight subjects). Supporting evidence came from family members' following statements in the open-ended questionnaire:

*"Eldercare workers should be industrious, honest, and have faith."*

*"Eldercare workers should be greatly responsible and honest with the frail elderly and employers."*

*"I want eldercare workers to treat the frail elderly as if they were their parents and work with willingness, using knowledge and ability they receive from their training."*

*"Sometimes, the frail elderly want to talk to others and sometime they want some rest. Therefore, eldercare workers should be a good conversation who is calm, gentle, patient, and understanding of the elderly's need."*

*"Eldercare workers should care for the frail elderly with kindness and cheer them up."*

*"Eldercare workers should be polite, courteous and pleasant."*

*"Eldercare workers should have conversation with patients, help patients to move, please patients, and observe symptoms for patients with various types of diseases."*

## **2) Eldercare workers' training**

Family members wanted eldercare training schools or agencies to teach more basic knowledge regarding the elderly such as degenerative changes, physical impairment, and need of care from eldercare workers. Some family members expected that eldercare workers should be trained in a full course with some special care included in the program to meet needs of care of the frail elderly. Family members also wanted eldercare workers who could perform special care and had experience in work. Supporting evidence came from family caregivers' statements in the open-ended questionnaire as follows:

*"Eldercare workers should be trained about using various kinds of device in caring for the elderly."*

*"Eldercare training schools or centers claimed that they have training, but eldercare workers insisted that they had never been trained or they were trained only in simple cooking."*

*"I am not confident in permitting eldercare workers to inject medicine because they are not nurses or practical nurses and they have not been trained to do injection."*

*"Eldercare training schools or centers should teach more basic knowledge of the elderly such as osteoporosis in the elderly because some eldercare workers did passive joint exercise for the elderly which caused fracture."*

*"Eldercare workers should be trained and pass the standardized test from Ministry of Public Health. They also must not have any criminal background."*

*"Because of high demand from customers, eldercare workers do not have experience in work. They have not been trained to be expert in caring. Some eldercare training schools or centers provide training for eldercare workers for only 2-3 hours and these eldercare workers do not pass any evaluation from eldercare training schools or centers."*

### **3) The related government organization responsible for this training program**

At present, eldercare workers' training course is controlled by the Ministry of Education, while service is controlled by the Ministry of Commerce. Family caregivers suggested that the related government organizations which are responsible for this training program, such as the Ministry of Public Health, should control eldercare training schools or centers and provide standardized training for eldercare workers. One example of recommendations in the open-ended questionnaire is that *"Ministry of Public Health or related organizations should control the standard of eldercare training schools or centers."*

## **6) The relationship between family members' demographic characteristics and hiring eldercare workers status and customer satisfaction**

From this study, it was found that income of eldercare workers ( $r = .274$ ;  $p < .05$ ) had a statistically significant low positive correlation with tangibles. Next, the income of eldercare workers ( $r = .276$ ;  $p < .05$ ) had a statistically significant low positive correlation with responsiveness. Moreover, the income of eldercare workers ( $r = .323$ ;  $p < .001$ ) had a statistically significant low positive correlation with assurance. In addition, the income of eldercare workers ( $r = .276$ ;  $p < .05$ ) had a statistically significant low positive correlation with empathy. However, the other variables, namely, duration of care, total number of eldercare workers, duration of hiring current eldercare worker, total duration of hiring, overtime, number of weekend holidays, number of official holidays, number of meals, and money to buy meals had

no statistically significant correlation with customer satisfaction with service quality of care.

The relationship means that family members were more satisfied with eldercare workers in four dimensions of satisfaction: tangibles, responsiveness, assurance, and empathy, though income of eldercare workers increased.

In this study, eldercare workers' salaries ranged from 3,500 to 19,300 Baht per month. There were much wider variations in the range of eldercare workers' salary. One reason could be that eldercare workers performed several activities at different hours per day and some eldercare workers took care of the elderly who needed special care. As a result, eldercare workers' salary depended on work experience of eldercare workers, number of work hours per day, activities, and the elderly's need of special care. Akanimanee, N. (2002: 57) found that eldercare workers had work experience of 1-5 years. Their lengths of experience ranged from less than one year to more than ten years. Eldercare workers who had a lot of work experience could serve, respond to the needs, have knowledge and ability, and understand the customers. Therefore, eldercare workers who have high income could not only meet the frail elderly's need of care but also create family member's satisfaction.

Surprisingly, family members' satisfaction in the reliability dimension did not increase with an increase in eldercare workers' salary as in other dimensions. One possible reason might be that reliability mostly involved with work schedule and individual characteristics. Although eldercare workers had knowledge, ability, and understanding to respond to the elderly's need, they might not provide care as scheduled or might be absent from work.

Customer satisfaction has an effect on business success. Customer satisfaction with a product or service is the main aim of product design in the fields of commodities and trade. If the customers have less satisfaction with quality of care from eldercare workers, they may terminate the relationship and seek another eldercare worker or eldercare training school or center. The owners of eldercare training schools or centers should understand this and try to increase customer satisfaction by increasing knowledge or training of eldercare workers to better meet the elderly's need of care. The outcomes of improved eldercare workers' knowledge

and service quality of care can increase eldercare workers' confidence in doing their work, which will affect the quality of services provided to customers or service users.

This study demonstrated that the need of care from eldercare workers included ADL, IADL, and special nursing care. These needs of care were similar to the reports of studies of other posthospital home care for frail elderly (Wallhagen, M.I., 1992; Chanita Maneewan, et al., B.E.2537; Bull. M.J.& Jevis.L.L., 1996; Faison,K.J., et al., 1999; Ratchada Ragkanarm, B.E.2543; Wannipa Boonrayong, B.E.2543; John,R., 2001), in which most elders had substantial problems with IADLs, difficulties with physical ADLs, and psychological changes. The total levels of customer satisfaction with service quality of care ranged from moderately satisfied to mostly satisfied. The family members' demographic characteristics had no statistically significant correlation with customer satisfaction with service quality of care from eldercare workers. The customer satisfaction was similar to the reports of other studies (Padcharee Tongpae, B.E.2540; Dusadee Yairangsri, B.E.2541; Anong Auewattana, B.E.2542; Krissanee Phochanapan, B.E.2542; Orapin Chaipayom, B.E.2542, Puangtong Tangthaitikul, B.E.2542; Afridi, M. I., 2002; Kesini Srikongyou, B.E.2543; Yanee Nakpong, B.E.2543). The results of this study from family members' recommendations could be grouped in three concepts as follows: 1) eldercare workers' characteristics, 2) eldercare workers' training, and 3) the related government organizations coordinating with private sectors.

## CHAPTER VI

### CONCLUSION

#### Conclusion

This descriptive research aimed to study need of care, customer satisfaction with service quality of care from eldercare workers, and the relationship between demographic characteristics and hiring eldercare workers status and customer satisfaction from eldercare workers in Metropolitan Bangkok. Orem's self-care theory and Parasuraman, et al.'s service quality were used as conceptual frameworks for this study. The subjects were the frail elderly who received care from eldercare workers at their homes, or the frail elderly's family members in Metropolitan Bangkok. Data were collected from April to August 2002. The subjects who were recruited in the study were selected based on the following inclusion criteria:

#### **Frail elderly**

- (1) being sixty years old or older
- (2) having consciousness and being able to communicate with others in the Thai language
- (3) being care-dependent on eldercare workers at home. If the elderly were hospitalized, they had to receive care from the eldercare workers at least one week prior to or post hospitalization.
- (4) being taken care of by eldercare workers who passed the training program from eldercare worker training schools or eldercare agencies.
- (5) living in Metropolitan Bangkok

#### **Family members**

- (1) taking care of elders and living in the same houses
- (2) overseeing activities that eldercare worker cared for the frail elderly no less than eight hours per day

The instruments used in this study were as follows:

1. Demographic Questionnaire developed by the researcher.
2. Need of Care Questionnaire developed by the researcher. The reliability of the instrument was a KR-20 = .86.
3. Customer Satisfaction with Quality of Care Questionnaire developed by the researcher. The reliability of the instrument was a Cronbach's alpha = .96.

Data were collected with self-reported questionnaires completed by the subjects. The analysis of the data was computerized by the Statistic Package. The results of the study could be summarized as follows:

1. As for need of care from eldercare workers, the majority of fell under the Universal self-care requisites. The total need of care was categorized to activities daily living (ADL), instrumental activities daily living (IADL), and special nursing care. The majority of need of care was ADL.

2. As regards customer satisfaction with service quality of care, the average total customer satisfaction with service quality of care was 3.83. The total levels of customer satisfaction with service quality of care ranged from moderately satisfied to mostly satisfied. Among service quality of care, the highest means of customer satisfaction with service quality of care were eldercare workers not fearing or offending the frail elderly ( $M = 4.16$ ;  $SD = 0.72$ ) (empathy), having confidence in and being faithful to work with customer's property ( $M = 4.09$ ;  $SD = 0.75$ ) (reliability), giving prompt care and close up care ( $M = 4.08$ ;  $SD = 0.76$ ) (responsiveness), and always being willing to help the elderly ( $M = 4.08$ ;  $SD = 0.73$ ) (responsiveness). The levels of the highest mean of customer satisfaction with service quality of care ranged from mostly satisfied to fully satisfied. The lowest means of customer satisfaction with service quality of care were eldercare workers having the knowledge to answer questions or solve problems in caring for the elderly ( $M = 3.45$ ;  $SD = 0.87$ ) (assurance), understanding the specific need of the frail elderly ( $M = 3.61$ ;  $SD = 0.88$ ) (responsiveness), and paying attention to the elderly's feelings ( $M = 3.62$ ;  $SD = 0.89$ ) (empathy). The levels of the lowest mean of customer satisfaction with service quality of care ranged from moderately satisfied to mostly satisfied.

3. Family members' demographic characteristics, which included duration of care, had no statistically significant correlation with customer satisfaction with service

quality of care in the five dimensions (tangibles, reliability, responsiveness, assurance, and empathy).

4. Hiring eldercare workers status, which included the total number of eldercare workers, duration of hiring current eldercare worker, total duration of hiring, overtime fee, number of weekend holidays, number of official holidays, number of meals, and money to buy meals had no statistically significant correlation with customer satisfaction with service quality of care in the five dimensions (tangibles, reliability, responsiveness, assurance, and empathy).

5. Income of eldercare workers had a statistically significant low positive correlation with tangibles ( $r = .274$ ;  $p < .05$ ).

6. Income of eldercare workers had a statistically significant low positive correlation with responsiveness ( $r = .276$ ;  $p < .05$ ).

7. Income of eldercare workers had a statistically significant low positive correlation with assurance ( $r = .323$ ;  $p < .001$ ).

8. Income of eldercare workers had a statistically significant low positive correlation with empathy ( $r = .276$ ;  $p < .05$ ).

## **Recommendations**

**Implications for eldercare training schools' or agencies' administrators or owners and the related government organizations coordinating with private sectors**

Information obtained in this study could be used to develop programs to serve the need of care of the elderly and to prepare eldercare workers to meet the expectation of customers in order to enhance quality of service.

### **Implications for nursing practice**

1. At present, eldercare worker's training course is controlled by the Ministry of Education while service is controlled by the Ministry of Commerce. Despite the training and service affecting the nursing profession, nursing organizations have less involvement in quality control of the training program and quality of care these workers provide. In order to protect the frail elderly, nursing organizations should act as a leader to collaborate between Ministry of Education and Ministry of Commerce to

control quality of service and training courses. This activity should be announced to the public as well.

2. Eldercare workers are responsible for taking care of primary physical and mental well-being of elders, not including nursing treatment. Results of the study revealed that frail elders had many health problems and needed several types of care, such as activity daily living (ADL), instrument activity daily living (IADL), and special nursing care such as insulin injection, suction, and feeding. Currently, some eldercare workers perform these nursing procedures although they are not permitted to do so by law. Some do not even have proper training. Theoretically, nurses should provide these special cares. Due to the limited number of nurses and high cost for hiring nurses to take care of these elders at home, training eldercare workers to perform these special cares is required. It is recommended that there should be general training programs preparing eldercare workers to take care of primary physical and mental well-being of the elderly. To perform special care, eldercare workers have to complete extra training in special care and receive a certificate for their qualification. In addition, nursing organizations should develop the system for nurses to supervise trainings and services these eldercare workers provide.

3. In order to have sufficient facility to meet the increased need of the elderly, the government organization, such as nursing schools, faculties of medicine, and hospitals, should set up eldercare training programs to serve not only the organizations themselves but also other organizations.

4. This study provided baseline information for nurses to involve in an eldercare training or service. Nurses can manage eldercare training schools or become the agencies' administrators and/or owners, as well as consultants of eldercare training schools and agencies. Nurses can also train eldercare workers and provide an assessment of the client's needs.

### **Implications for the nursing research**

1. The sample of this study was limited to those living in Bangkok Metropolis. It is recommended that further study be extended to other cities representing different areas of the country and different types of local population.

2. This study provided information on customers' perceptions in service quality. The comparison of perceptions/expectations in service quality between customers and eldercare workers might provide more valuable information.

3. The findings of this study shed light on several cares which eldercare workers provided and different benefits they received. Research on the eldercare workers' opinions on job satisfaction and factors related to their job satisfaction should also be investigated to improve caregiving situations leading to better care and quality of life of the elderly.

### **Limitations of this study**

1. The administrators or owners of eldercare training schools or agencies were not willing to give address or telephone number of their customers because they wanted to protect their customers' privacy. Thus, the study had the sample size of only 80 cases. In fact, the actual number of customers that hired eldercare workers to work in their homes was much larger.

2. This study was conducted with the subjects who lived in Bangkok; thus, the findings of this study may not be generalized to those living in other settings in Thailand.

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## APPENDIX A

### Consent to participate in Research study

คำชี้แจงและการพิทักษ์สิทธิของผู้เข้าร่วมการวิจัย

เรื่อง ขอความอนุเคราะห์ในการตอบแบบสอบถามเพื่อการวิจัย

เรียน ผู้สูงอายุ หรือ ผู้ดูแลผู้ดูแลหลัก ผู้ตอบแบบสอบถามทุกท่าน

ดิฉัน นางสาวอรุณศรี จันทร์ประดิษฐ์ นักศึกษาพยาบาลศาสตรมหาบัณฑิต สาขา การพยาบาลผู้ใหญ่ คณะแพทยศาสตร์ร.พ.รามาริบัติ มหาวิทยาลัยมหิดล กำลังทำวิทยานิพนธ์เรื่อง "ความต้องการการดูแลและความพึงพอใจของผู้รับบริการจากการดูแลของผู้ดูแลผู้สูงอายุในเขต กรุงเทพมหานคร" ซึ่งมี รศ.เพ็ญจันทร์ ส. โมโนยพงศ์ เป็นอาจารย์ที่ปรึกษา ขณะนี้กำลังดำเนินการ เก็บรวบรวมข้อมูล ผู้วิจัยจึงใคร่ขอความร่วมมือจากท่านในการตอบแบบสอบถาม ทั้งนี้ข้อมูลที่ได้รับจากท่านจะได้รับการพิทักษ์สิทธิ ถือเป็นความลับ จะนำไปใช้ในการวิจัยเท่านั้น ไม่มีผลกระทบต่อท่านแต่ประการใด คำตอบของท่านมีความสำคัญอย่างยิ่งที่จะช่วยให้การวิจัยครั้งนี้สำเร็จลุล่วงไปด้วยดี และคาดว่าผลการวิจัยที่ได้นี้จะ เป็นข้อมูลสำหรับหน่วยงานที่เกี่ยวข้องนำไปปรับปรุงคุณภาพ และคุณสมบัติของผู้ดูแลผู้สูงอายุให้เหมาะสมต่อไป ซึ่งจะเป็นผลดีในด้านการคัดเลือกและพัฒนา ให้ได้ผู้ดูแลผู้สูงอายุที่มีคุณสมบัติตามความเหมาะสมและสอดคล้องกับความต้องการของผู้สูงอายุต่อไป

ผู้วิจัยหวังเป็นอย่างยิ่งว่า จะได้รับความร่วมมือจากท่านเป็นอย่างดี หากท่านตอบแบบสอบถามเรียบร้อยแล้วกรุณาส่งแบบสอบถามกลับคืนผู้วิจัยตามชื่อ ที่อยู่หน้าซองซึ่งติดแสตมป์ไว้เรียบร้อยแล้ว ขอขอบพระคุณเป็นอย่างสูงมา ณ โอกาสนี้

ขอแสดงความนับถือ

(นางสาวอรุณศรี จันทร์ประดิษฐ์)

ผู้วิจัย

สำหรับผู้เข้าร่วมวิจัย

ข้าพเจ้าได้รับทราบความละเอียดข้างต้น มีความเข้าใจและยินดีที่จะเข้าร่วมการวิจัยนี้

ลายมือชื่อ.....

(.....)

โปรดส่งคืนแบบสอบถามกลับภายใน 2 สัปดาห์หลังจากได้รับแบบสอบถาม



**APPENDIX B**

## APPENDIX B

### Instruments

#### ส่วนที่ 1

#### แบบสอบถามข้อมูลส่วนบุคคล

คำชี้แจง กรุณาตอบแบบสอบถามเกี่ยวกับตัวท่านและผู้สูงอายุ โดยทำเครื่องหมาย ✓ ในช่องสี่เหลี่ยม และ/หรือเติมคำในช่องว่าง

#### 1. ข้อมูลเกี่ยวกับผู้สูงอายุ

##### 1.1 เพศ

ชาย

หญิง

##### 1.2 อายุ

60-74 ปี

75- 84 ปี

85 ปี ขึ้นไป

##### 1.3 สถานภาพสมรส

โสด

คู่

ม้าย หย่า แยก

##### 1.4 ระดับการศึกษา

ไม่ได้รับการศึกษา

ประถมศึกษา

มัธยมศึกษาตอนต้น

มัธยมศึกษาตอนปลาย

ประกาศนียบัตรวิชาชีพ

ปริญญาตรี

สูงกว่าปริญญาตรี

##### 1.5 โรคประจำตัว เช่น เบาหวาน ความดันโลหิตสูง (ถ้ามี)

การเจ็บป่วยปัจจุบันที่ทำให้ผู้สูงอายุต้องพึ่งพาการดูแลจากผู้อื่น

.....

1.6 ระยะเวลาที่เจ็บป่วย.....

1.7 รายได้ของผู้สูงอายุต่อเดือน

ไม่มีรายได้

ต่ำกว่า 5,000 บาท

5,001-10,000 บาท

มากกว่า 10,000 บาท

แหล่งรายได้ของผู้สูงอายุ (สามารถตอบได้มากกว่า 1 ข้อ)

เบี้ยบำนาญ

จากบุตร

อื่นๆ

(ระบุ).....

2. ข้อมูลของญาติผู้รับผิดชอบในการดูแลผู้สูงอายุ

2.1 เพศ

ชาย

หญิง

2.2 อายุ

ต่ำกว่า 25 ปี

25-50 ปี

50 ปี ขึ้นไป

2.3 สถานภาพสมรส

โสด

คู่

ม้าย หย่า แยก

2.4 ความสัมพันธ์กับผู้สูงอายุ

บุตร

คู่สมรส

ญาติพี่น้อง

อื่นๆ.....

2.5 ระดับการศึกษา

ไม่ได้รับการศึกษา

ประถมศึกษา

มัธยมศึกษาตอนต้น

มัธยมศึกษาตอนปลาย

ประกาศนียบัตรวิชาชีพ

ปริญญาตรี

สูงกว่าปริญญาตรี

2.6 อาชีพ

ไม่ได้ทำงาน

รับราชการ/รัฐวิสาหกิจ

ค้าขาย/ธุรกิจ

รับจ้าง/พนักงานบริษัท

แม่บ้าน

อื่นๆ.....

2.7 รายได้ต่อเดือน

ต่ำกว่า 5,000 บาท

5,000-10,000 บาท

10,001-20,000 บาท

มากกว่า 20,000 บาท

2.8 ระยะเวลาที่ญาติผู้ดูแลหลักดูแลผู้สูงอายุ.....

3. ข้อมูลเกี่ยวกับผู้ดูแลผู้สูงอายุ

3.1 เหตุผลที่ท่านจ้างผู้ดูแลผู้สูงอายุ

1.....

2.....

3.....

3.2 ผู้ที่รับผิดชอบจ่ายค่าจ้างให้แก่ผู้ดูแลผู้สูงอายุ คือ (สามารถตอบได้มากกว่า 1 ข้อ)

ตัวท่านเอง

บุตร จำนวน .....คน (ไม่นับรวมท่านในกรณีที่ท่านเป็นบุตรของผู้สูงอายุ)

ผู้สูงอายุ

คู่สมรส

ญาติพี่น้อง

อื่นๆ .....

3.3 ท่านได้รับข้อมูลหรือติดต่อผู้ดูแลผู้สูงอายุโดยวิธีใด

ประกาศจากสื่อ(ระบุ).....

บอกเล่าต่อๆ กันมาจาก.....

อื่นๆ.....

3.4 จำนวนผู้ดูแลผู้สูงอายุที่เคยว่าจ้าง

ผู้ดูแลผู้สูงอายุที่เคยว่าจ้าง	ระยะเวลา	อัตราค่าจ้าง/เดือน
1. คนปัจจุบัน		
2. คนที่.....		
3. คนที่.....		
4. คนที่.....		
5. ....		
รวม		

หากเคยจ้างผู้ดูแลผู้สูงอายุตั้งแต่ 2 คนขึ้นไป สาเหตุที่เลิกจ้างผู้ดูแลผู้สูงอายุคนก่อนๆ คือ

1.....

2.....

3.....

3.5 การจ้างล่วงหน้า

มี อัตราค่าจ้าง.....บาท/วัน

ไม่มี

3.6 สวัสดิการที่เป็นข้อตกลงระหว่างผู้รับบริการกับศูนย์บริการที่จะต้องให้แก่ผู้ดูแลผู้สูงอายุ  
(สามารถตอบได้มากกว่า 1 ข้อ)

ที่พัก

วันหยุด.....วัน/สัปดาห์

วันหยุดนักขัตฤกษ์.....วัน/ปี

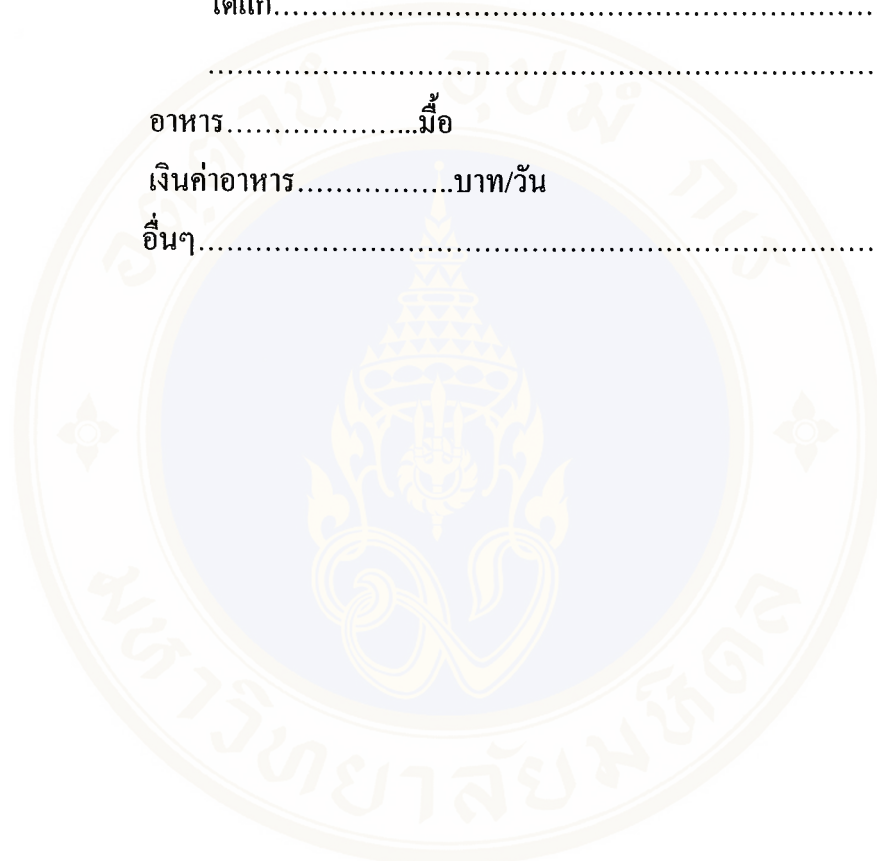
ได้แก่.....

.....

อาหาร.....มื้อ

เงินค่าอาหาร.....บาท/วัน

อื่นๆ.....



ส่วนที่ 2

แบบวัดความต้องการการดูแล

คำชี้แจง กรุณาตอบแบบสอบถามเกี่ยวกับกิจกรรมต่างๆ ที่ผู้สูงอายุต้องการการดูแลจากผู้ดูแลผู้สูงอายุ โดยทำเครื่องหมาย ✓ ในช่องสี่เหลี่ยม

ความต้องการโดยทั่วไป

- |                                                      |         |  |            |
|------------------------------------------------------|---------|--|------------|
| 1. การหายใจ                                          |         |  |            |
| - ดูแลท่อช่วยหายใจ ทำแผลและ                          |         |  |            |
| ล้างทำความสะอาดท่อช่วยหายใจ                          | ต้องการ |  | ไม่ต้องการ |
| .                                                    |         |  |            |
| .                                                    |         |  |            |
| 2. อาหารและน้ำ                                       |         |  |            |
| - จัดเตรียมอาหารรับประทาน                            | ต้องการ |  | ไม่ต้องการ |
| - จัดเตรียมอาหารทางสายยาง                            | ต้องการ |  | ไม่ต้องการ |
| .                                                    |         |  |            |
| 3. การขับถ่าย การระบายและการดูแลสุขวิทยาส่วนบุคคล    |         |  |            |
| - อาบน้ำ เช็ดตัว สระผม ทำความสะอาดร่างกาย            | ต้องการ |  | ไม่ต้องการ |
| .                                                    |         |  |            |
| 4. การมีกิจกรรมและการพักผ่อน                         |         |  |            |
| - เปิดโทรทัศน์ให้ดู อ่านหนังสือให้ฟัง                | ต้องการ |  | ไม่ต้องการ |
| - พาออกเดินเล่น                                      | ต้องการ |  | ไม่ต้องการ |
| .                                                    |         |  |            |
| 5. การมีปฏิสัมพันธ์                                  |         |  |            |
| - อยู่เป็นเพื่อน                                     | ต้องการ |  | ไม่ต้องการ |
| - พูดคุยกับผู้สูงอายุ ให้กำลังใจ                     | ต้องการ |  | ไม่ต้องการ |
| .                                                    |         |  |            |
| 6. ป้องกันอันตรายต่างๆ ต่อชีวิต หน้าที่ และสวัสดิภาพ |         |  |            |
| - ป้องกันอุบัติเหตุ การพลัดตกหกล้ม                   | ต้องการ |  | ไม่ต้องการ |
| .                                                    |         |  |            |



### ส่วนที่ 3

#### แบบวัดความพึงพอใจในคุณภาพบริการจากการดูแลของผู้ดูแลผู้สูงอายุ

คำชี้แจง หลังจากที่ท่านได้รับบริการการดูแลจากผู้ดูแลผู้สูงอายุท่านนี้แล้ว ท่านมีความพึงพอใจในคุณภาพบริการตามหัวข้อต่อไปนี้มากน้อยเพียงใด โปรดทำเครื่องหมาย ✓ ในช่องที่ตรงกับความรู้สึกของท่านมากที่สุดในแต่ละหัวข้อโดยที่

- มากที่สุด หมายถึง ท่านพึงพอใจในคุณภาพบริการของผู้ดูแลผู้สูงอายุในหัวข้อนั้นมากที่สุด
- มาก หมายถึง ท่านพึงพอใจในคุณภาพบริการของผู้ดูแลผู้สูงอายุในหัวข้อนั้นมาก
- ปานกลาง หมายถึง ท่านพึงพอใจในคุณภาพบริการของผู้ดูแลผู้สูงอายุในหัวข้อนั้นปานกลาง
- น้อย หมายถึง ท่านพึงพอใจในคุณภาพบริการของผู้ดูแลผู้สูงอายุในหัวข้อนั้นน้อย
- น้อยที่สุด หมายถึง ท่านพึงพอใจในคุณภาพบริการของผู้ดูแลผู้สูงอายุในหัวข้อนั้นน้อยที่สุด

ตัวอย่างเช่น

คุณภาพบริการของผู้ดูแลผู้สูงอายุ	ระดับความพึงพอใจ				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
1. ดูแลท่านให้เกิดความสะดวกสบาย เช่น การทำความสะอาดร่างกาย เชื้อผ้า การจัดทำทาง		✓			

ตัวอย่างนี้หมายถึง

จากการดูแลของผู้ดูแลผู้สูงอายุทำให้ท่านเกิดความสะดวกสบาย เช่น การทำความสะอาดร่างกาย เชื้อผ้า การจัดทำทาง ท่านรู้สึกพึงพอใจมาก

คุณภาพบริการของผู้ดูแลผู้สูงอายุ	ระดับความพึงพอใจ				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
1. จัดสิ่งแวดล้อมและอุปกรณ์เครื่องใช้ให้สะอาด เรียบร้อย สะดวกที่จะใช้งาน					
2. ดูแลร่างกายผู้สูงอายุให้สะอาด เรียบร้อย และเกิดความสุขสบาย					
.					
.					
7. ปฏิบัติงานตามเวลาที่ควรจะเป็น ไม่ขาดงานหรือ ลางานบ่อย					
8. รายงานอาการของผู้สูงอายุให้ผู้ดูแลหลัก ทราบโดยตรงกับความเป็นจริง					
.					
.					
13. สามารถรับรู้ปัญหาและความต้องการของผู้สูงอายุ โดยที่ไม่จำเป็นต้องบอกกล่าว					
14. มีความรู้เพียงพอในการดูแลผู้สูงอายุได้อย่าง ปลอดภัย					
.					
.					
22. ตั้งใจรับฟังเรื่องราวที่ผู้สูงอายุบอกเล่าหรือระบาย ความรู้สึก					



## APPENDIX C

### List of experts consulted on validation of the Instrument

The content validity of questionnaire were determined by seven consulting experts included.

1. Associate Professor Dr.Saipin Kasemgitvatana  
Faculty of Nursing, Mahidol University.
2. Assistant Professor Dr. Panida Damapong  
Faculty of Nursing, Chulalongkorn University.
3. Lect. Dr. Jiraporn Kespichayawattana  
Faculty of Nursing, Chulalongkorn University.
4. Lect. Dr. Pornthip Malathum  
Department of Nursing, Faculty of Medicine,  
Ramathibodi Hospital, Mahidol University.
5. Lect. Dr. Worranan Prasاناتikom  
Department of Nursing, Faculty of Medicine,  
Ramathibodi Hospital, Mahidol University.
6. Lect. Chavalee Yamvong  
Department of Nursing, Faculty of Medicine,  
Ramathibodi Hospital, Mahidol University.
7. Mrs. Siripan Vejasith  
Unit Nurse Manager of Gyneobstetic Department, Nopparatrajathanee  
Hospital  
Piyaminkunaruk eldercare training school' s the owner and administrator

## BIOGRAPHY

<b>NAME</b>	Miss Arunsri Chanpradit
<b>DATE OF BIRTH</b>	28 February 1974
<b>PLACE OF BIRTH</b>	Suratthani, Thailand
<b>INSTITUTIONS ATTENDED</b>	Boromarajonani College of Nursing, Suratthani, 1992-1996: Diploma in Nursing Science Mahidol University, 2000-2003: Master of Nursing Science (Adult Nursing)
<b>OFFICE &amp; POSITION</b>	1996-Present, Male Medical Ward Suratthani Hospital Position: Staff Nurse 5

