Health Profile of Hospitalized Older Persons in a Tertiary Hospital in Nanning, Guangxi, China

ภาพสุขภาพของผู้สูงอายุที่เข้ารับการรักษาในโรงพยาบาลระดับตติยภูมิแห่งหนึ่ง ในเมืองหนานหนิง มลฑลกวางสี สาธารณรัฐประชาชนจีน

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ABSTRACT

This cross-sectional descriptive survey study aimed to describe the health profile of hospitalized older persons in a tertiary hospital, Nanning, Guanxi, China. Purposive sampling technique was used to recruit 189 older people in the study. Data were collected by using questionnaire and standard assessment tools. Descriptive statistics were used for data analysis.

Results: (1) Demographic characteristics: Of the 189 older persons, 56.6% were males, 41.3% aged 70-79 years; 71.4%were married; 82.5% had the average length of stay of 14.9 days; and 66.1% had health insurance. **(2) Physical health and illness:** Of 50.3% of older persons perceived their health as fair; 60.3% perceived their health as better than others of the same age. Older persons had an average of 4.6 diagnoses and took 6.2 prescribed medicines per day. Of 65.4% older persons had hypertension. One or two acute symptoms within the past two weeks were reported in 79.9% of older persons. The most common acute symptom was vertigo/syncope (41.3%). Within the past six months, 54.6% had 3 to 5 chronic conditions; and 48.6% had 1 or 2 common geriatric problems. The most common geriatric problem reported was sleep disturbance (61.9%). **(3) Physical function:** Based on Barthel ADL Index, 59.3% were more or less dependent on activities of daily living; **(4) Psychological function:** The scores of GDS-SF indicated that 37.0% were depressed. Among them, 32.8% had mild depression; 4.2% had moderate to severe depression. The MMSE scores indicated that 27.6% of older persons had dementia. **(5) Social function:** Most of older persons lived with their spouses (41.8%) who had a mean age of 71.7 years; 13.8% lived alone; and 49.7% had no caregiver during hospitalization. The main source of financial support of older persons was retirement pension (75.7%). This study provides base line information which is beneficial for planning holistic health care and aged care services to meet the demands of hospitalized older persons.

บทคัดย่อ

การศึกษาเชิงบรรยายแบบภาคตัดขวางนี้ มีวัตถุประสงค์เพื่ออธิบายภาพสุขภาพของผู้สูงอายุที่เข้ารับการรักษาในโรงพยาบาลระดับตติยภูมิแห่งหนึ่ง เมืองหนานหนิง มลฑลกวางสี สาธารณรัฐประชาชนจีน ใช้เทคนิค

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การสุ่มตัวอย่างแบบเจาะจงได้ผู้สูงอายุที่ศึกษาจำนวน 189 คน เก็บข้อมูลโดยใช้แบบสอบถามและเครื่องมือประเมินมาตรฐาน วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณา

ผลการศึกษา: (1) ข้อมูลทั่วไป ผู้สูงอายุจำนวน 189 คน พบว่า ส่วนใหญ่ เป็นชาย (ร้อยละ 56.6) และมีอายุระหว่าง 70–79 ปี (ร้อยละ 41.3) มีสถานภาพสมรสคู่ (ร้อยละ 71.4) จำนวนวันที่เข้ารักษาในโรงพยาบาลเฉลี่ย 14.9 วัน (ร้อยละ 82.5) และเป็นผู้มีประกันสุขภาพ (ร้อยละ 66.1) (2) **สุขภาพทางกายและความเจ็บป่วย** ผู้สูงอายุ ร้อยละ 50.3 รับรู้ว่าภาวะสุขภาพตนเองอยู่ในระดับดีปานกลาง และ ร้อยละ 60.3 รับรู้ว่าภาวะสุขภาพตนเองดีกว่าผู้ที่อยู่ในวัยเดียวกัน จำนวนโรคที่ผู้สูงอายุเป็นเฉลี่ย 4.6 โรค และจำนวนยาที่ได้รับเฉลี่ย 6.2 ชนิดต่อวัน โดยส่วนใหญ่ (ร้อยละ 65.6) เป็นโรคความดันโลหิตสูง ในช่วง 2 สัปดาห์ที่ผ่านมา ผู้สูงอายุร้อยละ 79.9 มีอาการเจ็บป่วยเฉียบพลัน 1–2 อาการร่วมกัน และอาการส่วนใหญ่ คือ อาการวิงเวียนศีรษะ/เป็นลม (ร้อยละ 41.3) ในช่วง 6 เดือนที่ผ่านมา ผู้สูงอายุมีโรคเรื้อรัง จำนวน 3–5 ชนิด (ร้อยละ 54.6) และ มีอาการสำคัญของผู้สูงอายุ 1 ถึง 2 อาการ (ร้อยละ 48.6)โดยส่วนใหญ่มีปัญหาสำคัญ คือ อาการนอนไม่หลับ (ร้อยละ 61.9) (3) **การทำหน้าที่ด้านร่างกาย** โดยใช้ดัชนีบาเธล เอดีแอล พบว่า ร้อยละ 59.3 มีภาวะพึ่งพาในการทำกิจวัตรประจำวันระดับน้อยถึงมากที่สุด (4) **การทำหน้าที่ด้านจิตใจ**โดยใช้แบบประเมินภาวะซึมเศร้า พบว่า ผู้สูงอายุร้อยละ 37 มีภาวะซึมเศร้า โดยร้อยละ 32.8 มีภาวะซึมเศร้าระดับเล็กน้อย และร้อยละ 4.2 มีภาวะซึมเศร้าระดับปานกลางถึงระดับมาก การประเมินโดยใช้แบบประเมิน MMSE พบผู้สูงอายุมีภาวะสมองเสื่อม ร้อยละ 27.6 (5) **การทำหน้าที่ด้านสังคม** พบว่า ผู้สูงอายุส่วนใหญ่ (ร้อยละ 41.8) อาศัยอยู่กับคู่สมรส โดยมีอายุเฉลี่ยของคู่สมรสเท่ากับ 71.7 ปี และมีผู้สูงอายุ ร้อยละ 13.8 ที่อาศัยอยู่ตามลำพัง และร้อยละ 49.7 ไม่มีผู้ดูแลขณะอยู่รักษาในโรงพยาบาล ผู้สูงอายุส่วนใหญ่มีรายได้จากเงินบำนาญหลังเกษียณ (ร้อยละ 75.7) การศึกษาครั้งนี้ทำให้ได้สารสนเทศพื้นฐานที่เป็นประโยชน์ในการวางแผนการดูแลสุขภาพองค์รวมและการจัดบริการสำหรับผู้สูงอายุเพื่อตอบสนองความต้องการของผู้สูงอายุที่เข้ารักษาในโรงพยาบาล

Key Words: Health profile, Older persons, Hospitalization
คำสำคัญ : ภาพสุขภาพ ผู้สูงอายุ การเข้ารักษาในโรงพยาบาล

Introduction

China has the world's largest number of older persons. By the end of 2009, older persons in China comprised 12.7% (167 million) of a total population (China National Committee on Aging, 2010). The huge number of older persons and the rapid growth of this age group have given the government little time to prepare and develop services to accommodate the increasing numbers of older persons.

The hospital is a highly technologic system which in a good position to address both acute and chronic health problems (Meiner, 2006). In 2008, China had 19,852 hospitals, 2,720 of which were Traditional Chinese Medicine (TCM) hospitals (Ministry of Health, 2009). There were 452 hospitals located in Guangxi Province, of which 81 were TCM hospitals. However, the structures, human resources, services, and funding supports of current Chinese health service system still did not match the needs of the group of older persons (Wang, Zhao and Zhang, 2008).

Older persons were the largest group of people utilizing health care rsources (Palmisano-Mills, 2007). They had four times more hospitalizations than adults (Callen *et al.,* 2004) and spent more money for their hospital admissions than any other group of people (Lu, 2009).

The hospitalization rates of older persons increased from 3.6% in 2003 to 6.8% in 2008. Utilization rate of hospital beds was 81.5%, while in Guangxi the rate was 81.9%. Tertiary first-class hospitals were utilized most among all levels of hospitals, with the highest utilization rate of 103.2% and there were 2.5 inpatients per doctor per day (Ministry of Health, 2009).

With the increasing numbers of older persons in the hospitals, most databases kept by hospitals focused on disease spectrum and treatment rather than the health of clients. Moreover, there was a lack of health data to support nurses to plan for nursing care of hospitalized older persons.

It was well documented that older persons' hospitalizations are associated with high incidence of multiple adverse outcomes. Common hazards for this age group included adverse drug reactions, falls, delirium, infection (Meiner, 2006). Older persons with low income, without health insurance, and women appeared to be more vulnerable in their access to hospital care (Gao *et al.,* 2007). Older persons with multiple health problems are vulnerable to hospital admission, and hospitalization increased the risk for institutionalization (Palmisano-Mills, 2007). Wang (2008) found 74.4% of 351 older persons who resided in an elderly residential apartment had a history of hospitalization.

Older persons in residential care institutions shared some characteristics of health profile with those in hospital setting, but these two groups were in different stages of illnesses, had different health care needs, underlying different conditions and received different care (Aroonsang *et al.,* 2009; Wang, 2008).

The health of hospitalized older persons differed from other age groups. The survey of older persons' health profile in hospital setting could provide information for nurses to plan and to implement appropriate nursing care for hospitalized older persons. Therefore, this study aimed to describe the health profile of hospitalized older persons in a tertiary hospital, using a cross-sectional descriptive method. It was expected that the findings could provide based line information on demographic, physical, psychological, and social health of hospitalized older persons.

Conceptual Framework

The conceptual framework (Figure 1) was derived from the World Health Organization [WHO] definition of health and literature reviews (Australian Health Ministers' Advisory Council [AHMAC], 2004; WHO, 1946; the New Zealand Guidelines Group, 2003). Two projects conducted by New Zealand Guidelines Group (2003) and AHMAC Care of Older Australian Working Group (2004) provided guidelines for assessment of older persons. Therefore, the health profile of hospitalized older persons in this study comprised five dimensions: (1) Demographic characteristics; (2) Physical health and illness; (3) Physical function; (4) Psychological function; and (5) Social function.

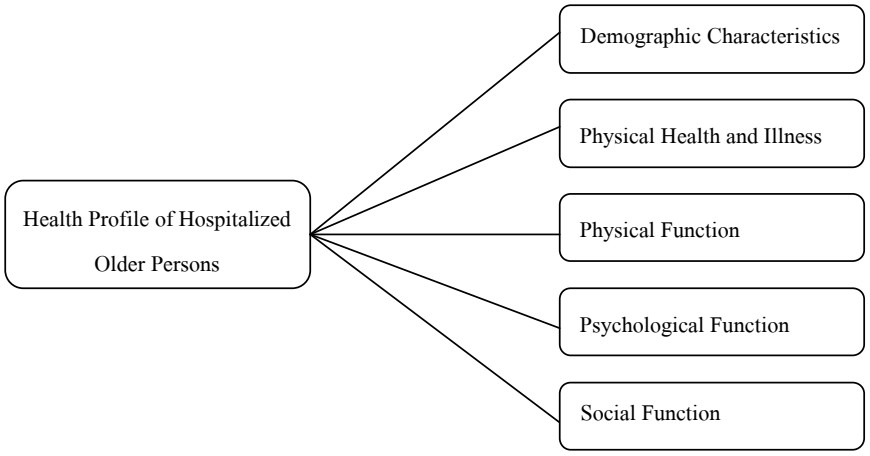

Figure 1 Conceptual Framework

Research Methodology

Design and setting

The study was a cross-sectional descriptive survey study. Data were collected from 12 medical wards of a tertiary hospital-the First Affiliated Hospital of Guangxi Traditional Chinese Medical University located in southwestern China.

Subjects

The target population was older persons aged 60 years or older who were hospitalized in the medical department for at least 24 hours. Older persons were excluded if they had the following conditions: clinically unstable and unable to give information; unconsciousness; history of mental problems or cognitive impairment. Hospital ethical policy prevented the interviewing of cancer patients.

Instruments

The questionnaire consisted of three parts: the interview form; the medical record forms; and four standard scales (Mini Nutritional Assessment Screening Form, MNA-Screening; Barthel ADL Index; 15 items Geriatric Depression Scales, GDS-SF; and the Mini-Mental State Examination, MMSE). The four scales were reviewed by an expert team. The internal consistency reliabilities were tested. It was found that the Cronbach's alpha coefficient of the Barthel ADL Index was 0.82; the MNA-Screening was 0.85; and the MMSE was 0.95. The reliability of the GDS-SF measured by Kuder-Richardson 20 (KR-20) was 0.80.

Data collection and data analyses

An approval letter and documentation were achieved for human subjects from Institutional Review Board of Khon Kaen University, and the First Affiliated Hospital of Guangxi Traditional Chinese Medical University. The researcher met the Director of Nursing Service Division, explain the nature of the study and study procedures to the director, the head nurses and staff nurses. The head nurse of each ward introduced older persons to the researcher. Face to face interviews based on questionnaires were used to collect data.

The software of Statistical Package for Social Sciences (SPSS) was used to analyze the raw data. Data was analyzed by using descriptive statistics. Frequency and percentage were applied to describe the results of the study.

Results

There were 1,148 inpatients during data collection period. Of 605 patients were admitted in 12 medical wards. Older persons accounted for approximately 57.0% (n=345) of the inpatients in medical department and 30.1% of the total inpatients. Of those, 195 met the inclusion criteria and were willing to participate in the study. Four persons withdrew from the interview process and 2 questionnaires were incompleted. Therefore, the total number of older persons for data analysis was 189.

Demographic Characteristics

Demographic characteristics: personal, hospitalization and insurance data of the older persons were shown in Table 1.

Personal characteristics: The mean age of older persons was 74.3 years (SD=7.8), ranging from 60 to 96. The majority of older persons were males (56.6%), 71.4% were married; 82.5% were Han Chinese; and 30.7% had a middle school ducation.

Hospitalization characteristics: The mean length of stay (up to the day of interview) was 14.9 days (SD=15.2), with a range from 1 to 109 days. Most of older persons (36%) stayed less than one week. Most of the subjects were in Neurology & Acupuncture & Moxibustion wards (26.4%), followed by Geriatric Ward (16.4%), Senior-Officials or VIP ward (12.7%), Cardiovascular ward (12.2%), Respiratory ward (7.4%), and others. Subjects chose the hospital mainly from Traditional Chinese Medical (TCM) services, followed by the familiarity with the environment as well as health care providers.

Insurance characteristics: There were four types of medical insurance: provincial medicare, provincial retirement pension, municipal medicare, and New Rural Cooperative Medical Care (NRCMC). Most of the subjects (66.1%) had health insurance coverage. Of 40% were covered by provincial medicare.

Physical Health and Illness

Health perception: Approximately half of the older persons perceived their general health as "fair". Comparing to peers, 60.3% of older persons perceived their health as being better than others (Table 2).

Diseases and illnesses: The average number of diagnoses was 4.6, ranged from 1 to 14. Hypertension (65.5%) was the most common disease while diabetes mellitus (24.9%), cerebral infarction (23.8%), chronic cerebral circulation insufficiency (22.8%), and coronary heart disease (18.0%) were followed (Table 3).

Medication: Among oral medicines, 73% were Western medicines; the rest, 27% were TCMs. On average, each subject took 6.19 oral medicines daily. Of 32.4% of older persons took less than 5 kinds of medicines; 53.3% took 5-10 medicines, and 14.3% took more than 10 medicines (Table 4). However, when asked about their medications, only 10.6% knew their medicines' names, effects, dosages and times to take medicine.

Nutritional status: Older persons' BMIs ranged from 15.6 to 35.7. The mean BMI was 23.1±3.6. The mean BMI of males was 23.3±3.7; and that of females was 22.8±3.4. According to BMI scores cutting points (WHO expert consultation, 2004), 9.0% were in the low weight group, 65.6% were in normal weight group, and 25.4% were in overweight to obese groups. However, the MNA-Screening scores indicated that 68.8% of the subjects were at risk for malnutrition.

Health history: Previous hospitalizations were reported by 71.4% of the subjects: 28.6% had had previous surgery (Table 5). Within the past two weeks, 79.9% of older persons had 1 or 2 presenting complaints. The most common symptoms were vertigo/syncope (41.3%), followed by fatigue/ weakness (40.7%), and pain (35.4%).

Within the past 6 months, 54.6% of older persons had 3 to 5 chronic conditions. The most common chronic diseases were hypertension (62.6%), followed by cerebro-vascular disease and stroke (42.9%), cataract (35.4%), heart disease (33.9%), and rheumatoid arthritis/ joint pain/ osteoarthritis/ gout (28.6%).

Geriatric problems: Most of older persons had 1-2 geriatric symptoms (48.6%). Sleep disturbance was the most common geriatric problem (61.9%), followed by vision problems, memory loss, constipation/fecal incontinence, urinary incontinence, fall, mobility problems, eating problems, and hearing problems (See Table 6).

Physical Function

According to the Barthel ADL Index scores, 40.7% of the subjects were totally independent (Table 7). The remaining 59.3% were dependent in varying degrees. The most common ADL deficit was climbing the stairs (58.7%), followed by bathing (51.3%) and toilet use (41.8%).

The findings of this study were under reported because the most severely or acutely ill and terminally ill cancer patients were not made available to the researcher.

Psychological Function

Psychological function included mood status and cognitive function (Table 8).

GDS-SF indicated that 63.0% had normal mood status; 32.8% had mild depression; and 4.2% had moderate to severe depression. Females had higher mean scores of GDS-SF than males (4.2±3.0 vs. =4.1±2.7).

Cognitive function assessed by MMSE was judged according to participants' educational level based on Zhang's study (1990). MMSE scores indicated 1.7% illiterate subjects had dementia. For older persons with primary school education, 2.2% had dementia. For older persons with middle school or higher education, 23.8% had dementia. Altogether, 27.6% (n=50) older persons were identified as dementia. Dementia was mostly found in men and in older old groups.

Social Function

Social function in this study was represented by living arrangement, care support at home and during hospitalization, financial support, and participation in social/community activities (As shown in Table 9).

Living arrangement: Of 189 older persons, 41.8% lived with their spouse, 28.6% lived with spouse and children, 15.9% lived with children, and 13.8% lived alone. Altogether there were 86.2% older persons lived with spouse or family members. More females than males lived alone.

Care support: When admitted to hospital, 49.7% had caregivers. The spouses were the main caregivers for older persons at home and during hospitalization; and 29 (15.3%) had paid caregivers.

Financial support: Approximately three fourths (75.7%) older persons had retirement pension for their living expenses. Children (30.2%) were the second major source of financial support.

Social/ community activities participation: more than half (55.0%) of older persons participated in social/community activities regularly. Males (53.7%) more than females (46.3%) did not participate in any social/ community activities.

Discussion and Conclusion

This study found that there were more hospitalized males (56.6%) than females (43.4%). More males were found in the oldest-old group (80 years old and more), while more females were found in the young-old group (60-69 years old). In contrast to Wang' study (2008) in a residential apartment in the same city, it was found that females outnumbered males, especially in the oldest old group.

One explanation of why older males were more numerous than females in the hospital setting is that females were more likely to have chronic conditions, while males were more likely to suffer from acute diseases which required hospital care (Thai Gerontology Research and Development Institute, 2008). Females with chronic diseases more commonly resided in community and nursing homes (Shi *et al.,* 2008; Wang, 2008).

Those subjects aged 70-79 had the highest incidence of diseases of older persons, as found in Huang & Yan's study (2009). Wang (2008) also found that the most of older persons (44.4%) in residential apartment were 70-79 years old. These differ from Thai statistics where most of older persons in both the community and hospital were aged 60-69 years old (Aroonsang *et al.,* 2009).

More males (79.4%) than females (61.0%) were married, but more females (36.6%) than males (19.6%) were widowed. The proportion of widowed older persons was higher among residential institutionalized older persons (Wang, 2008) than hospitalized ones. Among the 51 widowed, 39.2% did not have a caregiver; 33.3% of them depended on their children to take care of them and 17.6% of them hired paid-caregivers during hospitalization. Most of older persons (62.7%) relied on retirement pension for their daily lives, while 31.2% got financial support from children.

GDS-SF screening indicated depression in 49% older persons. Notably, 45.1% never participated in social/community activities. Social services, care support, and mental health services need to be improved for this subgroup.

The mean length of stay (when interviewed) of this study was 14.9 days which is longer the than the national hospital length of stay (10.5 days) (MOH, 2008) and of other countries (Aroonsang *et al.,* 2009; McCormack, 2002). Several factors, such as diagnoses, TCM treatments and procedures, re-admissions, social background, insurance status, could affect the length of stay. China's long hospitalizations might be caused by the requirements for medical tests, repeated exams, or standardized discharge requirements. Older persons with sufficient finances can request to stay longer. Moreover, as research was conducted in a TCM hospital, those older persons in internal medical wards of the hospital stayed longer than the national average. TCM treatment is more focused on recovery and recuperation than Western medicine which focuses on acute care.

More than half of the older persons perceived their health as fair. Some subjects perceived their health as excellent even though they were hospitalized (6.9%). Some perceived themselves as better than others because many of their friends had passed away. This result is inconsistent with the surveys conducted in Thailand. Most Thai older persons assessed their

health as good, and followed by moderate, poor/very poor (Thai Gerontology Research and Development Institute, 2008). Older Thai persons in community perceived both their general health status and health when compared with others as better than those older persons in an acute hospital (Aroonsang *et al,* 2009).

More males (8.4%) than females (4.9%) perceived their health as excellent. More females (52.4%) than males (48.6%) perceived their health as fair. The proportion of older females perceiving their health as poor/ very poor was higher than older males. This is similar to Shi and colleagues study (2008) that reported females perceived their overall health as fair while males perceived as excellent. Moreover, females also ranked their overall health as poor or very bad.

Comparing patients' perceptions on their own illnesses and the doctors' diagnoses, it was found that some "small" problems such as eye and sleep problems were not reported or under reported to physicians. The treatments were more focused on acute symptoms. Cataracts were found in many subjects (35.4%), but few were listed among hospital diagnoses. Hu *et al.* (2008) and Wang and Zen (2007) also found higher percentages of cataracts among older persons (57.96% and 41.43%). Although, sleep disturbance was the most common geriatric problem reported by older persons, there was no diagnosis or intervention among health care providers.

Physical function is a measure of independence of older person and a significant component of an older person's quality of life (Meiner, 2006). Going up and down stairs, bathing and toilet use were the main ADL deficits among the subjects. This indicated that health care providers in medical wards needed to refine rehabilitation services concerning physical functions. Hospital facilities might need to be further evaluated for adequate and safe use by older persons.

Age and hospitalization might be risk factors associated with the ADL deficits in this study. More oldest-old persons had more ADL deficits than young-old persons. During hospitalization, reduced mobility, progressive deterioration due to disease as well as other factors might rapidly decrease the older person's ability to perform activities of daily living which are crucial importance for independent living. The inability to perform even one of these ADLs meant they needed help from others. Loss of self-care ability of older persons was not only reflected the demand of physical fitness but also the caring pressure upon their spouse and children.

Based on GDS scores, 37% of older persons were identified as depression. The MMSE scores also indicated that 27.6% of hospitalized older persons had dementia. Depression and dementia are rarely assessed or diagnosed in hospitalized older persons. The hospital treatments are more focused on acute physical conditions. Health care providers may consider the symptoms of depression or dementia as parts of normal aging process. Thus, few options were provided for caring for older persons with cognitive impairment in the hospital. The burden of the family caring for cognitive impaired older person could lead to mental and physical health problems of the caregivers (Li, 2002). This situation demonstrates the importance of performing mental health screening in older persons and encouraging older persons to seek help when symptoms occurred.

Among 189 older persons, 13.8% lived alone and 19.6% had no body to care for when getting sick and admitted in the hospital. In addition, 28.6% did not participated in any social/community

activity at all. These might be related to their illness and the reasons for hospitalization or readmission to the hospital. However, these relationships need to be further explored.

This study provided baseline data of the health profile of older persons in a tertiary hospital. Determining older persons' physical, psychological, and social health is beneficial to hospital administrators and health care providers, especially, nurses, in planning and providing care for older persons in the hospital setting.

Implications

Implications for Nursing Practice

The increasing ratios of hospitalized older persons in the wards/units in the hospital settings signifies the need of the development of holistic health care and aged care services for hospitalized older persons.

For nursing practice, nurses need to provide the highest quality care to older persons, but the gaps in clinical practices or knowledge may prevent them from providing holistic health care for hospitalized older persons. Assessing the health profile of older persons in the hospital units or wards will be one way to raise awareness of nurses when caring for hospitalized older persons. In addition, gerontological/geriatric care in-service training programs for nurses as well as for other health care providers should be implemented in the hospital setting.

Implications for Nursing Education

For nursing education, assessing health profile of older persons in the hospital setting should be added as a competency of professional nurses in nursing curriculum, both at undergraduate and master levels. Increased emphasis on gerontological nursing, in the form of separated subjects, or specialty programs as well as nursing practice areas on gerontological nursing in the hospital settings should be considered by nurse educators and nurse leaders.

Implication for Nursing Administration

The results of this study provide baseline information for nursing administrators in order to develop a systematic recording form and data bases of health profile of older persons using various health services in the hospital settings. This will help in planning, implementing, and monitoring older persons' health profiles and care demands.

Health care provider preparation, human resource planning, and development of geriatric care services should be developed.

Recommendations for Further Study

Recommendations for further research are as followed:

1. Repeat study in a larger sample size or using a census survey across departments is needed in order to capture the overall pictures of health profile of older persons in various departments of the hospital settings.

2. Further research comparing units/wards should be done to better understand older persons' health demands and gerontological nursing needs.

3. Prospective study should be conducted to explore the health changes during hospitalization; for example, to study the ADL levels on admission, during hospitalization, and at discharge.

Limitation of the Study

Firstly, this study was a cross-sectional design. Data were collected at one point of time of subjects' hospital admission. This study was designed only to describe the health profile of hospitalized older

persons. The results could not reflect possible changes of older persons' health during hospitalization. Secondly, older persons' health in this study was clinically stable: critically ill older persons could not be assessed. Cancer patients, due to hospital ethical issues, were not allowed to be interviewed freely. Those biases may influence the results. Therefore, the results of this study can generalize only clinically stable hospitalized older persons admitted during data collection periods.

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Table 1 Demographic characteristics of older persons

Demographic characteristics (N=189)			**N (%)**
Age	Male (n=107)	Female (n=82)	
60-69 yrs.	24	30	54(28.6)
70-79 yrs.	39	39	78(41.3)
80+ yrs.	44	13	57(30.2)
Mean=74.3 / SD=7.8; Min=60 / Max=96			
Gender			
Male			107(56.6)
Female			82(43.4)
Ethnicity			
Han			156(82.5)
Zhuang			26(13.8)
Yao			3(1.6)
Miao			2(1.1)
Others (Shui, Dong)			2(1.1)
Marital status			
Single			1(0.5)
Married			135(71.4)
Widowed			51(27.0)
Divorced			1(0.5)
Re-married			1(0.5)

Table 1 Demographic characteristics of older persons (Cont.)

Demographic characteristics (N=189)	**N (%)**
Length of stay (when interview)	
<1 week	68(36.0)
1-2 weeks	53(28.0)
2 weeks-1 month	45(23.8)
>1 month	23(12.2)
Mean=14.9/SD=15.2; Min=1/Max=109	

Ward of admission	Total beds	Total patients	Older persons (n, %*)	Interviewed persons (n, %**)	Valid cases N(%***)
1.Senior Officials-VIP Ward	37	37	37(100)	24(64.9)	24(12.7)
2.Geriatric Ward	47	47	43(91.4)	32(74.4)	31(16.4)
3.Neurology/Acupuncture and Moxibustion Ward 1	65	65	45(69.2)	23(51.1)	22(11.6)
4.Neurology/Acupuncture and Moxibustion Ward 2	61	61	41(67.2)	28(68.3)	28(14.8)
5.Cardiovascular ward	58	58	39(67.2)	26(66.7)	23(12.2)
6.Respiratory ward	40	34	20(58.8)	14(70.0)	14(7.4)
7.Endocrinology ward	50	42	17(40.5)	15(88.2)	15(7.9)
8.Nephropathy, Rheumatology & Immunology Ward	55	54	19(35.2)	13(68.4)	13(6.9)
9.Gastroenterology ward	52	52	18(34.6)	7(38.9)	7(3.7)
10.Hepatology Ward 1	45	41	11(26.8)	5(45.5)	4(2.1)
11.Hepatology Ward 2	45	44	17(38.6)	5(29.4)	5(2.6)
12.Oncology & Hematology ward	70	70	38(54.3)	3(7.9)	3(1.6)
Total	625	605	345(57.0)	195(56.5)	189(100.0)

Note. *. Percentage of older persons of the total inpatients in each ward
**. Percentage of interviewed older persons in each ward
***. Percentage of older persons in the study

Table 2 Health perception of older persons

Health perception	**N (%)**
1. Self-perceived health (N=189)	
Excellent	13(6.9)
Good	36(19.0)
Fair	95(50.3)
Poor	42(22.2)
Very bad	3(1.6)
2. Compared with other people at the same age (N=189)	
Better than others	114(60.3)
Same as others	27(14.3)
Worse than others	48(25.4)

Table 3 The most common diagnoses

Diagnosis (N=189)	**N (%)**
1. Hypertension	124(65.6)
2. Diabetes Mellitus	47(24.9)
3. Cerebral infarction sequelae	45(23.8)
4. Chronic cerebral circulation insufficiency	43(22.8)
5. Coronary heart disease	34(18.0)
6. Acute attack of chronic obstructive pulmonary disease	22(11.6)
6. Hyperplasia of prostate	22(11.6)
8. Chronic gastritis	17(9.0)
8.Community-acquired pneumonia	17(9.0)
10. Degeneration of cervical vertebra	16(8.5)

Table 4 Older persons' perceptions about medications

Kinds of medicine in subgroups (N=182)	**N (%)**
1-4 medicines	59(32.4)
5-10 medicines	97(53.3)
11-18 medicines	26(14.3)
Percentages of different types of medicine (N=182)	
Western	133(73.0)
TCMs	49(27.0)
Patients' perception on their medication (N=189)	
1. Know the medicine's name, effect, dosage, and how to take	
Don't know	101 (53.4)
Know the effect only	43 (22.8)
Know the effect & name	25 (13.2)
Know the name, effect, dosage, time to take	20 (10.6)
2. Know about how many medicines per day	
Don't know	113 (59.8)
Know	76 (40.2)

Table 5 Health history of the older persons

Health history	**N (%)**
History of hospitalization (N=189)	
Previous hospitalization	
yes	135(71.4)
no	44(23.3)
cannot remember	10(5.3)
been hospitalized	135(100.0)
1 time	93(68.9)
2 times	33(24.5)
3 times	8(5.9)
4 times	1(.7)
History of operation (N=189)	
no	127(67.2)
1 time	52(27.5)
2 times	2(1.1)
cannot remember	8(4.2)

Table 5 Health history of the older persons (Cont.)

Health history	N (%)
Acute illness and symptoms in the past 2 weeks (≥one answer) (N=174)	
Vertigo/syncope	78(41.3)
Fatigue/weakness	77(40.7)
Pain	67(35.4)
Asthma	27(14.3)
Cough	21(11.1)
Angina	17(9.0)
Skin lesions/infection	10(5.3)
Delirium	10(5.3)
Diarrhea	8(4.2)
Fever	7(3.7)
Mood change	6(3.2)
Trauma/injury	4(2.1)
Vomit	3(1.6)
No. of acute illness or symptoms (N=174)	
1-2	139(79.9)
3-5	33(19.0)
>5	2(1.1)
Chronic conditions within the past 6 months (≥one answer) (N=187)	
Hypertension	117(61.9)
Cerebrovascular disease, stroke	81(42.9)
Cataract	67(35.4)
Heart disease	64(33.9)
Rheumatoid arthritis, joint pain, osteoarthritis, gout	54(28.6)
Gastric disease& biliary tract disease	52(27.5)
Diabetes mellitus	47(24.9)
Pulmonary disease	43(22.8)
Kidney disease	27(14.3)
Herniated lumbar disc	24(12.7)
Hyperplasia of prostate gland	14(7.4)
Cancer	10(5.3)
Osteoporosis	6(3.2)
Pulmonary tuberculosis	5(2.6)
Parkinson's disease	3(1.6)
Glaucoma	2(1.1)
No. of chronic conditions (N=187)	
1-2	67(35.8)
3-5	102(54.6)
>5	18(9.6)

Table 6 Common geriatric problems

Common geriatric problems (≥one answer) (N=181)	**N (%)**
1. Sleep disturbance	112(61.9)
2. Vision problems	78(43.1)
3. Memory loss	67(37.0)
4.Constipation/fecal incontinence	64(35.4)
5. Urinary incontinence	61(33.7)
6. Fall	45(24.9)
7. Mobility problems	42(23.2)
8. Eating problems	27(14.9)
9. Hearing problems	15(8.3)
No. of common geriatric problems (N=181)	
1-2	88(48.6)
3-5	82(45.3)
>5	11(6.1)

Table 7 Physical function assessed by Barthel ADL Index

Barthel ADLs Index interpretation (N=189)	**N (%)**
Very severely disabled	24(12.7)
Severely disabled	23(12.2)
Moderately disabled	14(7.4)
Mildly disabled	51(27.0)
Independent	77(40.7)
Mean=14.77/SD=6.66 Min=0/Max=20	

Table 8 Psychological function classified by GDS and MMSE

Psychological function	**N (%)**
Mood status by GDS (N=189)	
Normal	119(63.0)
Mild depression	62(32.8)
Moderate-to-severe depression	8(4.2)
Mean=4.12/SD=2.8 Min=0/Max=14	
Cognitive function by MMSE (according to different educational levels) (N=181)	
1. Cognitive impairment of illiterate older persons (n=32)	
≤17 Dementia	3(1.7)
>17 Normal	29(16.0)
2. Cognitive impairment for primary school educated older persons (n=36)	
≤20 Dementia	4(2.2)
>20 Normal	32(17.7)
3. Cognitive impairment for middle school or higher educated older persons (n=113)	
≤23 Dementia	43(23.8)
>24 Normal	70(38.7)
4. Total Dementia	50(27.6)
Overall Mean=24.0/SD=5.2 Min=0/Max=30	

Table 9 Social function

Social function	N (%)
Living arrangement (N=189)	
Lived with children	30(15.9)
Lived with spouse	79(41.8)
Lived with spouse and children	54(28.6)
Lived alone	26(13.8)
Number of persons lives together (N=189)	
1-2	99(52.4)
3-4	42(22.2)
5-6	46(24.3)
>6	2(1.1)
Care support (N=189)	
Caregiver at home (≥one answer)	
No need	44(23.3)
Nobody	37(19.6)
Spouse	63(33.3)
Children	39(20.6)
Grandchildren	18(9.5)
Hired caregiver	13(6.9)
Neighbors	2(1.1)
Friends	1(.5)
Social worker	1(.5)
Caregiver in hospital (≥one answer)	
None	94(49.7)
Spouse	59(31.2)
Paid-caregiver	29(15.3)
Children	12(6.4)
Other relatives	3(1.6)
Grandchildren	3(1.6)
Sources of financial support for daily life (≥one answer)	
Retirement pension	143(75.7)
Children	57(30.2)
From local government or community	20(10.6)
Spouse	2(1.1)
Grandchildren	2(1.1)
Other people	1(.5)
Participation in social/community activities (N=189)	
Not at all	54(28.6)
Sometimes	31(16.4)
Regularly	104(55.0)