Health Profile of Older People in an Elderly Residential Apartment, P. R. China
ภาพสุขภาพของผู้สูงอายุที่พักอาศัยในสถานที่พักผู้สูงอายุแห่งหนึ่งในสาธารณรัฐประชาชนจีน

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ABSTRACT

This cross-sectional descriptive study aimed to describe health profile of older people living in an elderly residential apartment in capital city NanNing, GuangXi Autonomous Region, P. R. China. A census population of 351 older people was used to achieve minimum data set of the health profile of older people living in an elderly residential apartment. Data were collected using questionnaires and standard assessment tools. Data was analyzed by descriptive statistics using the software of Statistical Package for Social Sciences (SPSS). **Results: 1) Demographic characteristics:** Of 351 older people, majority of them were female (63.8%), aged 70 -79 yrs. (44.4%), and were widow (72.1%). Approximately 51.9% of older people had education at high school level; **2) Physical health:** Of 351 older people, only 281 elders could answer the interviews verbally. Results showed that 39.6% of elders perceived their general health status as fair. Of 351 older people, 74.4% had history of hospitalization and 24.2% had operation. The symptoms reported were: pain (20.8%), mood change (12.3%), fatigue and weakness (10.3%), and vertigo (10.0%). The diseases found were: hypertension (54.1%), stroke (29.6%), and dementia (24.5%). Geriatric problems found were: mobility problem (34.8%), urinary incontinence (24.8%), memory loss (23.9%), fecal incontinence (23.4%), and visual problem (20.8%). Among eight health behaviors, only 5.4% of older people attended social activities, 6.6% had physical check up, and 21.7% had exercise, regularly; **3) Physical function:** Of 351 older people, 36.5% were mild-ADL dependent, and 34.2% were severe-ADL dependent. The most affected IADL among 166 (47.3%) older people were: money management (16.8%), meal preparation (14.2%), laundry (13.7%), and so on; **4) Psychological function:** Of 178 (50.7%) older people, 61 (17.4%) were identified as dementia. Of 171 (48.7%) older people, 15.1% had mild depression, and 4.8% had severe depression. This survey provided base line data on the health profile of institutionalized older people. There is the need to conduct cohort study of health profile of older people in order to monitor health and well-being of older people in long term care settings.

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บทคัดย่อ

การศึกษาเชิงพรรณนา โดยวิธีการสำรวจแบบภาคตัดขวางนี้ มีวัตถุประสงค์เพื่อ อธิบายภาพสุขภาพของผู้สูงอายุที่พักอาศัยในสถานที่พักผู้สูงอายุแห่งหนึ่ง ในเมืองหนานหนิง เขตมณฑลกวางสี สาธารณรัฐประชาชนจีน ศึกษาชุดข้อมูลขนาดเล็กของผู้สูงอายุทุกคน รวม 351 คนที่อาศัยอยู่ในสถานที่พักผู้สูงอายุ ในระหว่างการเก็บรวบรวมข้อมูล ซึ่งใช้แบบสอบถามที่พัฒนาขึ้นและใช้เครื่องมือประเมินมาตรฐาน วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา ด้วยโปรแกรมการวิเคราะห์สถิติทางสังคมศาสตร์ (SPSS) **ผลการศึกษา** มีดังนี้ **1) ลักษณะประชากร** จากผู้สูงอายุทั้งหมด 351 คน พบว่า ส่วนใหญ่ เป็นหญิง (ร้อยละ 63.8) อยู่ในกลุ่มสูงอายุปานกลาง (70-79 ปี) (ร้อยละ 44.4) และมีสถานภาพสมรส เป็นหม้าย (ร้อยละ 72.1) จบการศึกษาระดับมัธยมศึกษา (ร้อยละ 51.9) **2) ภาพสุขภาพด้านร่างกาย** จากผู้สูงอายุจำนวน 351 คน มีเพียง 281 คน ที่สามารถตอบคำถามในส่วนนี้ได้ ซึ่งพบว่า ผู้สูงอายุ ร้อยละ 39.6 รับรู้ว่าตนเองมี ภาวะสุขภาพในระดับปานกลาง และจากผู้สูงอายุ 351 คน พบว่า ร้อยละ 74.4 มีประวัติเคยเข้ารักษาในโรงพยาบาล และร้อยละ 24.2 เคยได้รับการผ่าตัด สำหรับอาการที่พบได้บ่อย คือ มีอาการปวด (ร้อยละ 20.8) อารมณ์เปลี่ยนแปลง (ร้อยละ 12.3) อ่อนเพลียและเหนื่อยล้า (ร้อยละ 10.3) และวิงเวียน (ร้อยละ 10.0) ด้านโรคและความเจ็บป่วยที่พบ คือ ความดันโลหิตสูง (ร้อยละ 51.4) โรคหลอดเลือดสมอง (ร้อยละ 29.6) และภาวะสมองเสื่อม (ร้อยละ 24.5) ด้านอาการสำคัญในผู้สูงอายุ พบมีปัญหาทางการเคลื่อนไหว (ร้อยละ 34.8) กลั้นปัสสาวะไม่ได้ (ร้อยละ 24.8) หลงลืม (ร้อยละ 23.9) กลั้นอุจจาระไม่ได้ (ร้อยละ 23.4) และปัญหาทางสายตา (ร้อยละ 20.8) และด้านพฤติกรรมสุขภาพ พบว่า ผู้สูงอายุเข้าร่วมกิจกรรมทางสังคมน้อยที่สุด (ร้อยละ 5.4) ตรวจสุขภาพเป็นประจำ (ร้อยละ 6.6) และออกกำลังกายสม่ำเสมอ (ร้อยละ 21.7) **3) ด้านการทำหน้าที่ทางร่างกาย** จากผู้สูงอายุ 351 คน พบว่า มีภาวะพึ่งพาระดับน้อย ร้อยละ 36.5 และภาวะพึ่งพาระดับมาก ร้อยละ 34.2 กิจวัตรประจำวันที่ผู้สูงอายุ 166 (47.3%) ได้รับผลกระทบมากตามลำดับ คือ การจัดการด้านการเงิน (16.8%) การตระเตรียมอาหารด้วยตนเอง (14.2%) การซักเสื้อผ้า (13.7%) และอื่นๆ และ **4) ด้านการทำหน้าที่ทางจิตใจ** จากผู้สูงอายุจำนวน 178 คน พบว่ามี 61 คน (ร้อยละ 17.4) อยู่ในเกณฑ์มีภาวะสมองเสื่อม และจากผู้สูงอายุ 171 คน (ร้อยละ 48.7) พบว่า ร้อยละ 15.1 มีภาวะซึมเศร้าในระดับน้อย และร้อยละ 4.8 มีภาวะซึมเศร้าในระดับมาก การศึกษาโดยการสำรวจนี้ ทำให้ทราบข้อมูลพื้นฐานของภาพสุขภาพของผู้สูงอายุที่พักอาศัยในสถานที่พักผู้สูงอายุ ซึ่งมีความจำเป็นต้องศึกษาวิจัยภาพสุขภาพในระยะยาว เพื่อติดตามสถานะสุขภาพและความผาสุกของผู้สูงอายุที่อาศัยในสถานดูแลระยะยาวต่อไป

Key Words : Health profile, Older people, Elderly residential apartment
คำสำคัญ : ภาพสุขภาพ ผู้สูงอายุ สถานที่พักผู้สูงอายุ

Introduction

Nowadays, more population in China is aging. The increasing number of older people is becoming a major concern in Chinese society. The Chinese National Aging Committee (2008) reported that at the end of 2007, people aged 60 or over reached 1.53 billion, accounted for 11.6% of the total national population.

GuangXi is an autonomous region, situated in southern part of China. In the year 2005, the number of senior Chinese aged above 60 reached 6.33 million, accounted for 13.59 percent of

the province's total population (Pan, and Wang, 2007). In the capital city of NanNing, older people aged 60 and over made up to 800 thousands, accounted for 12.7% of the total population of the capital city (Wu, 2005). According to the national census in 2000, and 1% sampling census on population in NangNing city in 2005, it is reported that by the year of 2005, people aged 65 or over made up to 658.1 thousands, accounted for 10.1% of the total population. Moreover, people aged 80 or over had reached 108.5 thousands (Huang, 2006). This indicated that NanNing had entering the aging society.

Apart from demographic transition, China also has experienced an epidemiologic transition in the diseases burden, from communicable to non-communicable diseases and injures. Chronic diseases accounted for almost 80% of all deaths in China in 2005 where there were approximately 60% to 80% of older people who had non-communicable chronic diseases (Wang et al., 2005). Chronic diseases not only diminish quality of life and contribute to mortality, morbidity and disability, but also generate all types of challenges both in the family members and in the society.

Presently, there are three types of care for elderly in China: familial elder care; community-based long-term care; and institutionalized care. Nowadays, increasing elderly institutes are providing as an alternative way to familial elder care. Amongst elderly institutes, elderly residential apartment is a kind of commercial housing provided to older people, which is a combination model of familial care and community care service for older people. To date, little has been known about the health profile of older people in each type of care provided for older people in GuangXi. Moreover, institutionalization has significant influence on older people's health. When institutionalization maintains for long time, it would lead to alteration in health status of the older people. Thus, there was the need to study the health profile of older people resided in an elderly residential apartment which provided care for older people in various stages of health ranged from the well to the end of life.

Assessing and identifying the health profile of institutionalized older people, would not only benefit older people to understand their health conditions, but also to health care providers to have base line data in order to make appropriate care plan to cope with the health problems and to develop and implement effective prevention and promotion programs for the older people.

The purpose of the study was to describe health profile of older people living in an elderly residential apartment in capital city NanNing of GuangXi Autonomous Region, P. R. China. The survey on health profile of older people would contribute to set up base line data of the health profile of older people who were institutionalized in an elderly residential apartment in GuangXi Autonomous Region.

Conceptual Framework

Based on the WHO definition of health (1948), the comprehensive geriatric assessment suggested by the AHMAC Care of Older Australian Working Group (2004), and literature review, the minimum data set of health profile was selected as the conceptual framework of the study. Thus, health profile of older people living in ChongYang City residential apartment in this study was comprised of 4 parts: 1) Demographic profile of older

people, included age, gender, marital status, education level, and occupation before 60; 2) Physical health profile, included health perception and past health; diseases and illnesses; geriatric problems; and health behaviors; 3) Physical function, consisted of basic independence level in activities of daily living (ADL) and more complex independent living skills in daily living (IADL); and 4) Psychological function represented by cognition and mood. The focus of this study was to explore the minimum data set of health profile of older people, thus, social health and spiritual health profile were not included in this study.

Methodology

A census survey using cross sectional design was conducted from October to November, 2007 in ChongYang City, an elderly residential apartment in NanNing, the capital city of GuangXi Autonomous Region, P. R. China. The total of 380 older people and/or their surrogates were participants in the study; 29 older people withdrew from interview due to illnesses or inconvenience. Therefore, the total of 351 older people was recruited in the survey.

Subjects. Census sampling was used in order to achieve minimum data set for the greatest degree of representatives of the total population. Inclusion criteria of this study were: People who aged 60 and over, have been resided in ChongYang City during the data collection period, and who were willing to participate in this study; if people were unable to read, to speak, to listen; or have problem with mental or conscious status, professional health caregivers and their family members can be surrogates to answer the questions and to be interviewed. People who met eligible criteria but were referred to hospital or discharged from ChongYang City during data collection period were excluded from the study.

Instruments. Data were collected in the form of questionnaires developed by the researcher and by using standard tools. A set of questionnaires on health profile comprised 4 sections: 1) Demographic Characteristics Assessment which measured socio-demographic characteristics of older people such as age, gender, marital status, education and literacy; 2) Physical Health Assessment which composed of information about older people's physical health including health perception and past health; chronic diseases and illnesses assessment; geriatric problem assessment; and health behaviors assessment; 3) Barthel ADL Index (BAI), and Lawton Instrumental Activity of Daily Living (IADL); and 4) Mini-Mental State Examination Tool (MMSE) and Geriatric Depression scale (GDS).

Validity and Reliability. Demographic Data Assessment and Physical Health Assessment tools in English version were developed by researcher. Content validity was achieved by expert panel. Back translation of the questionnaires was used in order to assure the validity of the instruments.

The original Barthel ADL Index was developed by Mahoney and Barthel in 1965. Several translated Chinese versions of activities of daily living (ADL), were developed and have been shown to be reliable and valid (Zhang et al, 1998).

Mini-Mental Stated Examination is a commonly used brief measure of cognitive status in cognitive aging research as well as commonly

used in medicine to screen for dementia with high inter-rater (0.95-1.00), test-retest (0.80-0.99) and internal validity (Tombaugh and McIntyre, 1992; Hahn and Cella, 2003; Olin and Zelinski, 1991; Inouye et at., 1991). Translated Chinese versions of Mini-Mental State Examination (MMSE) was developed and have been shown to be reliable and valid (Yu et al., 1989; Zhung, 1993).

The Chinese translation of the short-form of the Geriatric Depression Scale (GDS) developed by Brink et al, (1982) was used to assess the presence of self-reported depressive symptoms. The internal consistency, measured by Cronbach's alpha, was 0.83-0.92. Split half reliability ranged from 0.87-0.94. Sensitivity was 96.8%, while specificity was 88.9% (Liao el at, 1995).

Data Collection Procedures. Data from all of the participants were collected by the researcher along with research assistants in ChongYang City elderly residential apartment, Guang Xi Autonomous Region, P. R. China.

An approval letter and documentation were achieved for human subjects from Institutional Review Board of Khon Kaen University, and Faculty of Nursing, Guang Xi Traditional Chinese Medical University.

The researcher met the Dean, nurse superintendent and head nurses in each unit in the ChongYang City to explain and discuss about the plan of this study, established certain cooperation between researcher and major health care givers of older people in Chong Yang City. The third year nursing students from the Faculty of Nursing, GuangXi TCM University were chosen to be research assistants, and to attend the workshop to get relevant training. A two-day training workshop for research assistants was conducted in NanNing, GuangXi. After training, research assistants were divided into four groups to perform interviews and assessments using the questionnaires and some standard tools. The researcher and research assistants were staffs of the elderly residential apartment, thus, the relationships with older people had been built before data collection. For the completeness of data, the interviews were collected for 2 to 3 consecutive times depending on the readiness and the conditions of older people. In order to assure the quality of data, the researcher reviewed and discussed the collected data with all research assistants.

Data Analysis. 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 using those assessments mentioned above.

Results

1. Demographic Characteristics.

Of 351 older people, 224 (63.8%) were female and 127 (36.2%) were male; 34 (9.7%) were below the age of 70 yrs; 156 (44.4%) were aged 70 through 79 yrs, and 135 (38.5%) were between 80-89 yrs. Of these two old-old (70-79 years) and older-old (80-89 years) age groups, 101 and 84 female older people made up 64.74% and 62.22%, respectively. Moreover, 26 (7.4%) were in the oldest-old (90 years and over) group, including 1(0.3%) centenarian (As shown in table 1).

The majority of ethnic group were Han, accounted for 87.2% of the total older people; 253 (72.1%) were widow, 0.9 % was single, and 0.6 % was separated; 54 (15.4%) were illiterates while the rest of 297 (84.6%) had education. Of those educated people, 222 (63.6%) had at least high school level education. Majority of older people (80.9%) had occupation before age 60 (As shown in table 1).

ChongYang City consisted of four units on basis of functions of regimen, medical treatment, rehabilitation, and terminal care: 1) Yi Yang Yuan provided with basic care to active older people, this unit adopted well older people who were quite healthy, and basically independent; 2) Kang Fu Yuan, mainly adopted older people who were completely dependent, and had serious diseases or illnesses; 3) Qu Zhi Yuan, mainly admitted older people who had dementia, or were irritated and aggressive; 4) Ning Yang Yuan, was specific area for older people who were in the state of end of life. The percentage and number of older people resided in each unit of the elderly residential apartment were shown in table 1.

Table 1 Demographic Characteristic of Older People

Demographic Characteristic			Frequency (N)	Percentage (%)
Gender				N=351 (100)
Male			127	36.2
Female			224	63.8
Age	Male (N)	Female (N)		
60-69 yrs	12	22	34	9.7
70-79 yrs	55	101	156	44.4
80-89 yrs	51	84	135	38.5
90-99 yrs	9	16	25	7.1
100 or over	0	1	1	0.3
Ethnicity				
Han			306	87.2
Zhuang			43	12.3
Yao/ Man			2	0.6
Marital status				
Single			3	0.9
Married			93	26.5
Widow			253	72.1
Separated			2	0.6

Table 1 Demographic Characteristic of Older People (cont.)

Demographic Characteristic	Frequency (N)	Percentage (%)
Education		
No education	54	15.4
Primarily school	75	21.4
High school	182	51.9
Diploma	26	7.4
Bachelor	14	4.0
Literacy		
Illiterate	55	15.7
Can read	60	17.1
Can write	3	0.9
Literate	177	50.4
Literate, but can't do it due to illness	56	16.0
Main occupation before age 60		
House work	67	19.1
Industrial worker	88	25.1
Military personnel	12	3.4
Professional and technical personnel	90	25.6
Commercial or service worker	19	5.4
Agriculturists, foresters, animal raiser	10	2.8
Governmental, institutional or managerial personnel	65	18.5
Type of residential apartment/units		
Yi Yang Yuan (Well care unit)	193	55.0
Kang Fu Yuan (Dependent care unit)	102	29.1
Qi Zhi Yuan (Dementia care unit)	50	14.2
Ning Yang Yuan (End of life care unit)	6	1.7

2. Physical Health.

Physical health of older people was presented by health perception, past health, diseases, geriatric problems, and health behaviors. The results were shown in table 2 and 3.

The percentage of 281 older people's self health perceptions as excellent, good, fair, poor and very bad were: 21 (6.0%), 54 (15.4%), 139 (39.6%), 62 (17.7%), 5 (1.4%), respectively.

For past health, 261 (74.4%) had history of hospitalization, and 85 (24.2%) used to have operation. Of 351 older people, 87 (24.8%) had got one acute illness or symptom within the past 2 weeks during data collection period and 73 (20.7%)

had got more than one acute illnesses or symptoms. The most common illness or symptoms were pain (20.8%), followed by mood change (12.3%), fatigue, weakness (10.3%), vertigo (10.0%), and so on.

The most prevalent diseases among the older people during data collection period were: hypertension (54.1%), followed by stroke or cerebro-vascular diseases (29.6%), dementia (24.5%), osteoarthritis, gout, rheumatoid arthritis, and joint pain (19.9%), heart disease (16.8%), diabetes (15.1%), and cataract (13.1%) (As shown in table 2).

The common geriatric problems among the older people during data collection period were: mobility (34.8 %), urinary incontinence (24.8 %), memory loss (23.9 %), constipation / fecal incontinence (23.4 %), visual problem (20.8 %), and so on (As shown in table 2).

Table 2 Physical Health of Older People

Physical Health	Frequency (percent) N (%)	Total N (%)
Self perception of general health status		281 (80.1)
Excellent	21 (6.0)	
Good	54 (15.4)	
Fair	139 (39.6)	
Poor	62 (17.7)	
Very bad	5 (1.4)	
Past health		351 (100)
Hospitalization	261 (74.4)	
Operation	85 (24.2)	
Acute illnesses or symptoms in the past 2 week		298 (84.9)
Pain	73 (20.8)	
Mood change	43 (12.3)	
Fatigue, weakness	36 (10.3)	
Vertigo	35 (10.0)	
Lack of energy	32 (9.1)	
Diarrhea	22 (6.3)	
Fever	15 (4.3)	
Trauma	12 (3.4)	
Acute illnesses or symptoms in the past 2 week		298 (84.9)
Confusion	17 (4.8)	
Dry skin and itching	6 (1.7)	

Table 2 Physical Health of Older People (cont.)

Physical Health	Frequency (percent) N (%)	Total N (%)
Skin lesion / infection	5 (1.4)	
Cough/Vomit	2 (0.6)	
Diseases within the past 6 months		351 (100)
Hypertension	190 (54.1)	
Stroke, cerebro-vascular diseases	104 (29.6)	
Dementia	86 (24.5)	
Osteoarthritis, gout, rheumatoid arthritis, joint pain	70 (19.9)	
Heart disease	59 (16.8)	
Diabetes	53 (15.1)	
Cataract	46 (13.1)	
Parkinson' disease	28 (8.0)	
Bronchitis, pulmonary emphysema, asthma, pneumonia	21 (6.0)	
Benign prostate hypertrophy	19 (5.4)	
Kidney disease	11 (3.1)	
Gastric duodenal ulcer	10 (2.8)	
Glaucoma	4 (1.1)	
Cancer	3 (0.9)	
Pulmonary tuberculosis	2 (0.6)	
Geriatric problems within the past 6 months		351 (100)
Mobility	122 (34.8)	
Urinary incontinence	87 (24.8)	
Memory loss	84 (23.9)	
Constipation / fecal incontinence	82 (23.4)	
Visual problem	73 (20.8)	
Sleep disturbance	68 (19.4)	
Hearing problem	48 (13.7)	
Eating problem	41 (11.7)	
Fall	38 (10.8)	
Fracture	17 (4.8)	
Bedsore	15 (4.3)	
Others	2 (0.6)	

Of 351 older people, 76 (21.7%) were exercised regularly; only 19 (5.4%) older people attended social activities regularly, such as playing performance, participating in competition and so forth; only 23 (6.6%) had physical check up regularly; 59 (16.8%) older people played hobbies regularly, such as singing, dancing, playing Tai Chi, playing Ma Jiang, playing cards and so forth; 37 (10.5%) older people had no adequate nutrition / foods or fruit at all; and 105 (29.9%) older people did not take food supplement at all (As shown in table 3).

Table 3 Health Behaviors of Older People (N=351)

Health Behaviors	Not at all N (%)	Sometimes N (%)	Regularly N (%)
Action within the past 1 month			
Exercise	157 (44.7)	118 (33.6)	76 (21.7)
Play hobbies	219 (62.4)	73 (20.8)	59 (16.8)
Have adequate nutrition/ foods	37 (10.5)	166 (47.3)	148(42.3)
Take food supplements	105 (29.9)	132 (37.6)	114 (32.5)
Physical check up	125 (35.6)	203 (57.8)	23 (6.6)
Social activities	224 (63 .8)	108 (30.8)	19 (5.4)

3. Physical Function and Psychological Function

Physical functioning was presented by activities of daily living assessed by Barthel Activities of Daily Living (ADL) and Lawton Instrumental Activities of Daily living (IADL). Data of Barthel ADL were collected through interviewing older people in four units. Data of IADL were collected in three units: Yi Yang Yuan, Kang Fu Yuan and Qi Zhi Yuan, through interviewing older people. Caregivers were surrogates to answer the questions and interview, if older people were unable to answer due to illnesses. Older people were excluded from this interview, if they had dementia or had problem with conscious status. Older people who resided in Ning Yang Yuan were not assessed by IADL, because all of them achieved fully "daily care" and "illness care." Their conditions didn't fit the questionnaire of IADL.

Of 351 older people, the commonest Barthel ADL deficit were bathing (53.8%), staring (49.6%) and grooming (45.9%). Interpretation of total scores of Barthel ADL showed that, of 351 older people: 103 (29.3%) older people were independent on ADL. However, 128 (36.5%) older people were mild dependent on ADL, 120 (34.2%) older people were severe dependent on ADL. The comparison of the interpretation of ADL levels among older people in four units of the residential apartment were presented as shown in table 4.

Table 4 Interpretation of ADL among Older People in Four Units (N=351)

ADL	Yi Yang Yuan N (%)	Kang Fu Yuan N (%)	Qi Zhi Yuan N (%)	Ning Yang Yuan N (%)	Total N (%)
Independent group	89 (25.4)	2 (0.6)	12 (3.4)	NA	103 (29.3)
Mild- ADL Dependent group	89 (25.4)	18 (5.1)	21 (6.0)	NA	128 (36.5)
Severe-ADL Dependent group	15 (4.3)	82 (23.4)	17 (4.8)	6 (0.7)	120 (34.2)
Total	193 (55.0)	102 (29.1)	50 (14.2)	6 (1.7)	351 (100)

NA= Not applicable/available

The most affected IADL among 166 (47.3%) older people were: money management (16.8%), meal preparation (14.2%), laundry (13.7%), and so on. The comparison of IADL among older people in three units of the residential apartment was presented in table 5.

Table 5 IADL among Older People in Three Units* (N=166)

IADL	Yi Yang Yuan N (%)	Kang Fu Yuan N (%)	Qi Zhi Yuan N (%)	Total N (%)
Telephone				
Independent	76 (21.7)	2 (0.6)	NA	78 (22.2)
Partially independent	63 (17.9)	1 (0.3)	7 (2.0)	71 (20.2)
Dependent	9 (2.6)	3 (0.9)	5 (1.4)	17 (4.8)
Total	148 (42.2)	6 (1.7)	12 (3.4)	166 (47.3)
Shopping				
Independent	38 (10.8)	1 (0.3)	NA	39 (11.1)
Partially independent	86 (24.5)	2 (0.6)	2 (0.6)	90 (25.6)
Dependent	24 (6.8)	3 (0.9)	10 (2.8)	37 (10.5)
Total	148 (42.2)	6 (1.7)	12 (3.4)	166 (47.3)
Meal preparation				
Independent	46 (13.1)	2 (0.6)	NA	48 (13.7)
Partially independent	65 (18.5)	1(0.3)	2 (0.6)	68 (19.4)
Dependent	37 (10.5)	3 (0.9)	10 (2.8)	50 (14.2)
Total	148 (42.2)	6 (1.7)	12 (3.4)	166 (47.3)
House keeping				
Independent	32 (9.1)	2 (0.6)	NA	34 (9.7)
Partially independent	99 (28.2)	2 (0.6)	5 (1.4)	106 (30.2)
Dependent	17 (4.8)	2 (0.6)	7 (2.0)	26 (7.4)
Total	148 (42.2)	6 (1.7)	12 (3.4)	166 (47.3)

Table 5 IADL among Older People in Three Units* (N=166) (cont.)

IADL	Yi Yang Yuan N (%)	Kang Fu Yuan N (%)	Qi Zhi Yuan N (%)	Total N (%)
Laundry				
Independent	73 (20.8)	2 (0.6)	1 (0.3)	6 (21.7)
Partially independent	39 (11.1)	1(0.3)	2 (0.6)	42 (12.0)
Dependent	36 (10.3)	3 (0.9)	9 (2.6)	48 (13.7)
Total	148 (42.2)	6 (1.7)	12 (3.4)	166 (47.3)
Transportation				
Travel independently	16 (4.6)	NA	NA	16 (4.6)
Partially independent	106 (30.2)	3 (0.9)	3 (0.9)	112 (31.9)
Dependent	26 (7.4)	3 (0.9)	3 (0.9)	38 (10.8)
Total	148 (42.2)	6 (1.7)	12 (3.4)	166 (47.3)
Responsibility for own medication				
Independent	99 (28.2)	2 (0.6)	NA	101 (28.8)
Partially independent	35 (10.0)	2 (0.6)	4 (1.1)	41 (11.7)
Dependent	14 (4.0)	2 (0.6)	8 (2.3)	24 (6.8)
Total	148 (42.2)	6 (1.7)	2 (3.4)	166 (47.3)
Money management				
Independent	28 (8.0)	1 (0.3)	NA	29 (8.3)
Partially independent	76 (21.7)	2 (0.6)	NA	78 (22.2)
Dependent	44 (12.5)	3 (0.9)	12 (3.4)	59 (16.8)
Total	148 (42.2)	6 (1.7)	12 (3.4)	166 (47.3)

* Only Yi Yang Yuan, Kang Fu Yuan and Qi Zhi Yuan; NA=Not applicable / available

Older people's psychological health presented by MMSE and GDS, data were collected through interviewing older people who lived in 3 units: Yi Yang Yuan, Kang Fu Yuan and Qi Zhi Yuan. Older people who lived in Ning Yang Yuan either were unwilling to be interviewed or were unable to answer the questions because of problem with mental or conscious status. The results showed that, of 178 (50.7%) older people, 61 (17.4%) were identified as dementia patients, which 54 (15.4%) lived in Yi Yang Yuan; 1 (0.3%) lived in Kang Fu Yuan and 6 (1.7%) lived in Qi Zhi Yuan (As shown in table 6). For depression, of 171 (48.7%) older people, 53 (15.1%) older people were mild depression, 17 (4.8%) were severe depression. Of those depressed subjects, 49 mild depressions and 17 severe depressions were residents in Yi Yang Yuan (As shown in table 6).

Table 6 Psychological Function of Older People*

Psychological Function	Yi Yang Yuan N (%)	Kang Fu Yuan N (%)	Qi Zhi Yuan N (%)	Total N (%)
Dementia (N=178; 50.7%)	54 (15.4)	1 (0.3)	6 (1.7)	61 (17.4)
Depression (N=171; 48.7%)	66 (18.8)	2 (0.6)	2 (0.6)	70 (19.9)
Mild depression	49 (14.0)	2 (0.6)	2 (0.6)	53 (15.1)
Severe depression	17 (4.8)	NA	NA	17 (4.8)

* Only Yi Yang Yuan, Kang Fu Yuan and Qi Zhi Yuan; NA= Not applicable/ available

Discussion

Among the demographic profile of older people in the elderly residential apartment, age was proven to be associated clearly with risk of nursing home admission (Yael & Baltimore, 2007). In this study, high proportion of older people were in old-old (44.4 %) and older-old (38.5%) age group. Moreover, female (63.8%) outnumbered males (36.2%) in all age groups. Female older people made up high proportion in old-old (70-79 yrs) (64.74 %) and older-old (80-89 yrs) (62.22%) age group. The explanation for high number of female older segments of the population might be the phenomenon of life expectancy, where the average life expectancy for Chinese people were 72.88 years for both sexes, 71 for males and 74 for females (WHO 2007 World Health Report, 2007).

Majority of older people (80.9%) had occupation before aged 60, including professional and technical personnel (25.6%), industrial workers (25.1%), governmental, institutional or managerial personnel (18.5%), because those kinds of occupation were related to steady earnings and governmental welfare. At the same time, 284 (80.9%) older people reported that they had have financial support, so that older people in ChongYang City who had got occupation before aged 60 could ensure certain security of financial affordability for caring. This means that, most of the older people who were residents in ChongYang City were quite economically affordable.

Older people in this study were basically female, lived longer than the average older Chinese population, were well educated and had no money worry. However, results from this study might not apply to other long-term care settings those different from this elderly residential apartment.

For physical health profile, the total of 214 (61%) older people perceived their health as fair, good and excellent; however, 155 (44.2%) older people had history of hospitalization and 60 (17.1%) older people used to have operation. Results of physical function indicated that 80 (22.8%) older people were in mild-ADL dependent group and 46 (13.1%) were in severe-grade ADL group. During the interview, some older people declared that they had good health as long as they did not suffer from serious diseases or illnesses. This indicated that the understanding of health of some older people was related to severity of disease or illness. People are

vulnerable to have more than one chronic disease after they reach 60 years or over, some older people might get used to this kind of health condition. Thus, there was possibility for older people to perceive their poor health status as normal aging process rather than health problem, that might be why some older people's real health status were worst than their self-perception.

During the interview, older people were asked to report the action within the past 1 month, results presented that more than half of older people (57.3%) had no hobbies or interests, 157 (44.7%) older people never exercise at all. More than half of older people (63.8%) had never take part in social activities at all; 10.5% had no adequate nutrition / foods or fruit at all; 29.9% did not take food supplement at all; and 35.6% had no physical check up at all. Drageset & Jorunn (2004) reported associations existed between social relationships and loneliness. In this study, some older people's non participation in their daily living could be considered as one type of isolation and separation, whether or not isolation and separation would be likely to cause aloneness among institutionalized older people, which would be at risk for depression. Further study is recommended to explore whether health behavior can have a significant influence on older people's emotional and physical well-being when they are institutionalized.

Numerous studies have provided evidence of risk factors for functional decline, such as history of falls, stroke, and osteoarthropathy, depressive tendency, arthritis, diabetes mellitus; whereas, in the case of cognitive decline, conditions such as stroke, heart disease, hypertension, and diabetes mellitus are known risk factors (Han, et al., 2002). Certain chronic medical conditions are known to be predictors of nursing home admission, such as stroke, history of cancer, CHF, pulmonary ailments, and diabetes (Yael and Baltimore, 2007). In this study, older people were identified having several chronic diseases, and approximately half of older people (49.1%) had more than one geriatric problems, which were common seen among the aged and were proven to have significant impact on older people's health functioning. Health problem resulted from chronic diseases facing to the older people are distinguished from that facing to any other age group; on the other hand, together with environment change, life style alteration, psychological aspects, would play a significant role in older people' lives. Therefore, health care for the older people need to be specified and different when they are institutionalized.

Physical functioning was assessed by Barthel ADL Index (BI) among all older people in four units as well as by Instrumental Activities of Daily Living (IADL) among available older people in three units. Interpretation of total scores of Barthel ADL showed that, of 351 older people: 103 (29.3%) older people were independent on ADL. The data reflected some major problems in activities of daily living such as bathing, walking up stairs, grooming, meal preparation and laundry. It indicated that health care assistants is in demand, on the other hand, attention should be taken to infrastructure and service in each units, in order to cope with problems resulted from ADL deficit.

Results of IADL revealed that of 166 older people in three units of the elderly residential apartment, the IADL activities that older people could performed independently were: responsibility

for own medication (28.8%), meal preparation (23.7%), telephone (22.2%), laundry (21.7%), shopping (11.1%), house keeping (9.7%), money management (8.3%), and transportation (4.6%). This indicated that although residing in institution, older people could engage in extended ADL activities as possible as they could. In ChongYang City, along with "daily care" and "illness care," "social care" as well as family atmosphere was also generated for independent and active older people. Unlike nursing home, the residential apartment, like ChongYang City is suggested as an alternative institutionalized type of care for older people in the future.

Findings showed that 61 (17.4%) older people were identified as dementia; however, there were only 50 (14.2%) older people in dementia care unit. Thus, there might be some mixed up of dementia older people in the independent and dependent care units. This indicated that Chong Yang City did not have the standard assessment tools to classify older people and to admit dementia clients to the dementia care unit.

In Yi Yang Yuan, there were 66 (18.8%) older people identified as mild to severe depression. This indicated that institutionalized older people, although resided in the well care unit, they did have depression. There is the need to explore into more detail regarding depression in institutionalized older people in each unit of the residential apartment. Many of older people in Kang Fu Yuan were unconscious or at serious stage, during data collection period, thus, only 3 older people in this unit were able to be interviewed and assessed by GDS Scale. Moreover, older people resided in Qi Zhi Yuan were dementia patients, only 8 older people in Qi Zhi Yuan were able to be interviewed and assessed by GDS Scale. Results indicated that 2 clients in dependent care unit and in dementia care unit had mild depression. Therefore, the prevalence of depression among older people in each unit of ChongYong City might be underrated.

Suggestions and Recommendations

Results from this study provided base line data on the health profile of institutionalized older people, especially in the elderly residential apartment. In lights of varied health profile of older people, scientific and proper criteria for admission into each unit of the residential apartment should be established. An arrangement and management for older people in the residential apartment should be re-considered and improved based on the results of elder's health status. After admission, older people need to be assessed and monitored their health profiles when they are placed and referred to different units.

All types of long-term care settings, especially institutionalized care and services should be identified and classified. Key indicators of health profile those reflect the quality of elder's care should be clearly stated as the minimum data set of health profile needed for elderly residential apartments or long-term care settings. It would be detrimental to build up a systematic care guideline for nurses to provide appropriate, effective, holistic care for the elderly, and offer relevant nursing intervention and health promotion.

Future cohort study is recommended to explore more about the changes of older people's health status, and explore more about competency of health professionals who take care of institutionalized older people.

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