

# Health Needs Assessment of the Elderly with Chronic Diseases in Thuy Chau Ward, Huong Thuy Town, Vietnam

Vo Thi Diem Binh<sup>1</sup>, Darunee Jongudomkarn<sup>2</sup>, Nguyen Thi Anh Phuong<sup>3</sup>

<sup>1,3</sup>Faculty of Nursing, Hue University of Medicine and Pharmacy, Hue, Vietnam-53000

<sup>2</sup>Faculty of Nursing, Khon Kaen University, Khon Kaen, Thailand-40002

Email address: vtdbinh @ huemed-univ.edu.vn, darjon @ kku.ac.th, phuong.nta @ huemed-univ.edu.vn:

**Abstract— Introduction:** Health needs of the elderly with chronic diseases are the common health issues in Vietnam health system. Therefore, managing the growth of aging society requires the actual needs assessment. The study aimed to determine the needs and the sufficient assistance for the elderly and identify the relationship between socio-demographic factors and needs of elderlies in community in Thuy Chau Ward, Huong Thuy Town, Vietnam. **Methodology:** This was a cross-sectional study in Thuy Chau Ward, a rural area of Vietnam with 407 persons over 60 years who have at least one chronic disease were randomly sampled. The Camberwell Assessment for The elderly<sup>i</sup> (CANE) questionnaire was translated to Vietnamese; and validity and reliability test were performed. The Cronbach's Alpha coefficient was 0.8. Chi-square test was used for measuring the correlation between socio-demographic factors and needs. **Results:** Cardiovascular diseases were the most common chronic diseases at 72.7%, followed by diabetes at 5.9% and asthma/COPD at 4.9%. The majority of the elderly did not need support or who need help also received enough support for their condition. The proportion of un-met needs in the area accidental self-harm was highest with 11%, followed by the eyesight/hearing/communication at 5.2%. There were the significant relationships between gender with need ( $p < 0.05$ ). **Conclusions:** Given the evidence from this study, action to meet the needs of the elderly with chronic diseases in the community is clearly urgent. Further research findings are required to explore health needs among the elderly with chronic disease regarding the needs assessed person's and family member's participation in the needs assessment process.

**Keywords—** Elderly; chronic diseases; Camberwell Assessment of need for the Elderly questionnaire (CANE); Vietnam.

## I. INTRODUCTION

The real needs of the elderly with chronic diseases are necessary for providing appropriate care and management while the world population is become aging and the long life expectancy makes the elderly suffer from a number of diseases especially chronic diseases (Vietnamese HSDI, 2016).

In some developing countries like Vietnam, founding the cost-effective intervention with the limited resources to meet the needs of elderly is the country consider issue (Kim et al., 2020; Yadollah et al., 2012). Because that the growth of Non-communicable diseases not only lead to economic burden, shorter life expectancy, and premature death (1,2) but also have negative effect on quality of life for the patient (3–5) and the family caregiver (3).

The need for health care services among elderly at the primary health care level had been increasing. However, the specific geriatric services have not yet received adequate attention; even though there are many policies to support health care for elderly people, the financial burden for the family of elderly with non-communicable diseases was still high (6). Thus, Vietnam's health system faces a lot of challenges when applying politics to improve the quality of life and health care of elderly people in the community. Lacking of funding and human resources as well as the awareness of health care workers so it is not possible to applying the suitable health care program. Some specific geriatric services have not yet received adequate attention; even though there are many policies to support health care for the elderly, the financial burden for the family of elderly people with non-communicable diseases is still high (6)

The biopsychosocial model was developed by George Engel published in 1977 to demonstrate the interaction between biological, psychological, and sociological factors for health and illness (7–10). The biopsychosocial model was applied more and more common into the complex health care intervention to be better understanding and employment of the health care resources devoted to chronic disorders and the accompanying needs to improve the chronic diseases patient outcome with cost-effectively and controlling funding (Wade and Halligan, 2017). The Camberwell Assessment for elderly people (CANE) and the bio-psycho-social model, that takes into account cultural and existential dimensions, for a comprehensive assessment of the perspective needs of elderly people with chronic diseases (11,12). CANE is the comprehensive needs assessment tool with 24 items that cover all aspects of a person like psychological, sociological, and mental health.

The elderly in rural Vietnam are thus a vulnerable population, and efforts to offer them health care protection through health care funds for the poor policy had limited success. Consequently, it is important to determine the needs and the sufficient support for elderly with chronic diseases in the community. Therefore, our study aims to describe prevalence of the health needs among the elderly people with chronic diseases to monitor the trend of needs of the patients and describe the relationship between socio-demographic characteristic and needs of the elderly with chronic diseases

for giving the health data for formulating the appropriate intervention in the near future.

## II. METHODOLOGY

*Study design, setting and participant selection:* This is a descriptive cross-sectional study conducted among the elderly with chronic diseases at Thuy Chau Ward, Huong Thuy Town, Vietnam.

The inclusion criteria were having at least 1 chronic disease, age  $\geq 60$  years, able to read, write and understand the Vietnamese language, having the Mini-Mental State Exam (MMSE) score over 24 and having a stable health status enough to participate in the study. On the other hand, patients with MMSE score lower than 24 points, and unwilling to participate were excluded.

*Sample size:* The 422 participants sample size was calculated by using following formula  $n = (z)^2 p (1 - p) / d^2$ . Where: n: Sample size, Z: The standard normal deviate for  $\alpha$ ; d: tolerated margin of error and p: the sample proportion. The researcher determined the confidence level 95%,  $\alpha = 0.05 \Rightarrow Z_{\alpha} = 1.96$ , the power 95%  $\Rightarrow d = 0.05$  and sample proportion  $p = 0.5$  and a attrition rate was 10%.

*Research instrument:* There were 24 areas in the CANE questionnaire version IV including accommodation, household skills, food, self-care, caring for someone else, daytime activities, memory, eight/hearing, mobility, continence, physical health, drugs, psychotic symptoms, psychological distress, information, safety (deliberate self-harm), safety (accidental self-harm), safety (abuse/neglect), behavior, alcohol, company, intimate relationship, money, benefits, career's need for information, care's psychological distress (11). There are 4 options when rating the need of the patients such as "no need"; "met need"; "unmet need" and "unknown". No needs are scored 0 if the patients are adapting independently and does not need any further assistance. Met need is score 1 when the problems are receiving the appropriate intervention and potential benefit. Unmet need is scored 2 if the patients not receiving the appropriate support or wrong type or level of help. Unknown is scored 9 when the patients cannot identify the nature of the problems or about the support the person receives.

The total CANE score is based on the rating of section 1 of each of the 24 problem areas. Count total number of met needs out of a maximum 24. Count total number of unmet needs identified out of a maximum score 24. Count total number of needs identified out of a maximum 24.

A pilot study was conducted among the 15 elderly with the similar characteristic to check the reliability of the instruments when the reliability CANE was 0.8. The content validity of the instrument was performed by a panel of three experts.

The translation process follows the guideline "Process of translation and adaptation of instruments" of WHO (2018). This process included 4 steps including forward translation; expert panel back translation; back translation, re-testing and cognitive interviewing.

*Data collection:* Initially, the list of participants who met the inclusion criteria was attained by the Head of Thuy Chau Ward Health Station. Subsequently, the potential participants

were contacted and asked an appointment for home visit. Then the researcher trained the investigators and study assistants about the collecting data process. 10 health village workers in each neighbor were trained to collect data. Then, the detail information on the objective of study and the data collection process was explained as well as their concerns were cleared. MMSE was used to evaluate their cognitive status, and a consent form was signed. The researcher introduced research instruments to the participants in detail and informed them that it may take about 30 minutes to complete all the questions. Finally, the questionnaire was interviewed to participants. During the interview, if the participants feel uncomfortable or tired, the interview could be stopped. The researcher asked them for an additional appointment which was suit to the participants regarding the venue and time. The interviewer must answer or explain any questions of the participants related to the questionnaire. In the other hand the participants with the MMSE score lower than 24 points, the researcher informed the head of primary care center and the chair of Association of the Elderly of the study sites about this problem so that they can help these people. During the data collection process 15 participants were lost because of several reasons involved feeling headache, dizziness, and having urgent working.

*Data analysis:* Statistics Package for Social Sciences (SPSS) version 20.0 was used to analyze data. Frequency, percentage, and mean for presenting the demographic characteristic and all 24 needs areas covered by CANE. Chi square test was applied to measure the correlation between social demographic characteristic and needs. A p-value of  $<0.05$  was considered statistically significant

*Ethical consideration:* The study was approved by the Ethical Committee of Human Research at Khon Kaen University (KKU), Thailand (HE632154). Participant's identity was masked with a code number; was completely voluntary with right to refuse at any time. All information collected in this study were kept confidential and used only for research purposes.

## III. RESULTS

*Socio-demographic data:* The social-demographics characteristics of the study sample were given in Table 1. The proportion of females was over than that of males. The majority of them were age from 60 to 79 and the mean age was 71.76 years old (SD 8.74). 100% of participants belonged to the Kinh - a major ethnic group in Vietnam. Elderly people were married (60.7%) and almost one-third of them were widowed (34.9%), the proportion of separated and discovered is equal (0.2%). The prevalence of elderly people living with their partner and their relative was highest (89%). Just one-fifths of the elderly were literate (who joined the literacy classes, which are not part of school programs, including in-service, complementary, and vocational programs. People after finish this class did not go to primary school and only can read and write) and the percentage of illiterate person was 23.1%. The proportion of the elderly work in agriculture was ranked first with 57.5%, followed by the merchant-business owner at 17.0%.

TABLE 1. The demographic characteristics of the elderly with chronic diseases at Thuy Chau Ward (n=407)

Demographic characteristics	Number	Percentage
<b>Age</b>		
60-79	326	80.1
≥ 80	81	19.9
Mean: 71.79	SD: 8.70	Range: 60 -98 years
<b>Gender</b>		
Male	163	40
Female	244	60
<b>Religion</b>		
Christian	14	3.4
Buddhism	209	51.4
None	184	45.2
<b>Marital status</b>		
Single	16	3.9
Married	247	60.7
Divorce/separated/ widowed	144	35.3
<b>Living situation</b>		
Alone	44	10.8
With spouse/relative	363	89.2
<b>Education</b>		
Primary level (primary school or less)	292	71.7
Middle level (secondary or high school)	113	27.8
High level (college/university or higher)	2	0.5
<b>Occupation</b>		
Government officer/retired	55	13.5
Merchant/business owner	69	17.0
Agriculture	234	57.5
General labor	39	9.6
Stay home	10	2.5

*Chronic diseases model:* The proportion of the elderly with chronic diseases was as presented on Table 2. Cardiovascular diseases were the commonest chronic diseases among elderly people with 77.6%. The proportions of the elderly with diabetes and asthma/COPD were appropriate equal to 5.9% and 4.9% respectively. Cancers and Severe vision reduction had very few cases reported, less than 1% for each.

TABLE 2. The chronic diseases model of the elderly with chronic diseases at Thuy Chau Ward (n=407)

Diseases	Number	Percentage
Cardiovascular diseases	316	77.6
Cancer	3	0.7
Chronic respiratory diseases	20	4.9
Diabetes	24	6.0
Musculoskeletal diseases	34	8.3
Eye disease	3	0.7
Other diseases	20	4.9

*The frequently of needs of elderly with chronic diseases in Thuy Chau:* Overall, the proportions of no-needs in the 24 areas were the highest, followed by the meets needs and the percentage of un-met needs were the lowest. In particular, the proportions of un-meet needs in the area accidental self-harm were the highest with 11%, followed by the eyesight/hearing/communication with 5.2%, daytimes-activities was ranked the third. Meanwhile, the number of persons scored met needs in the information area was highest with 55.5%; the second was in the foods area with 22.1%. The most frequent identified need was in biology categories with physical needs but the highest percentages of unmet need was found in the social and environmental categories (Table 3)

TABLE 3. The needs of the elderly with chronic diseases at Thuy Chau Ward Health Station classified by Biopsychology model (n=407)

Categories	No needs n (%)	Needs n (%)	
		Met needs n (%)	Unmet needs n (%)
<b>Biology</b>			
Eyesight/hearing/communication	346 (85)	39 (9.6)	22 (5.4)
Mobility/falls	339 (83.2)	58 (14.3)	10 (2.5)
Continenence	401 (98.6)	3 (0.7)	3 (0.7)
Physical health	77 (18.9)	322 (79.1)	8 (2.0)
Drugs	403 (99.1)	3 (0.7)	1 (0.2)
<b>Psychology</b>			
Memory	363 (89.2)	32 (7.9)	12 (2.9)
Psychotic symptom	397 (97.5)	6 (1.5)	4 (1.0)
Psychological distress	391 (96.1)	11 (2.7)	5 (1.2)
Deliberate self-harm	403 (99.1)	3 (0.7)	1 (0.2)
<b>Social and environment</b>			
Accommodation	401 (98.6)	3 (0.7)	3 (0.7)
Food	301 (74.0)	90 (22.1)	16 (3.9)
Money	362 (88.9)	32 (7.9)	13 (3.2)
Company	388 (95.3)	2 (0.5)	17 (4.2)
Intimate relationships	397 (97.5)	2 (0.5)	8 (2.0)
Looking after the home	355 (87.3)	49 (12.0)	3 (0.7)
Self-care	387 (95.1)	12 (2.9)	8 (2.0)
Caring for someone else	383 (94.1)	21 (5.2)	3 (0.7)
Daytimes activities	369 (90.6)	19 (4.7)	19 (4.7)
Information	132 (32.3)	266 (55.5)	9 (2.2)
Accidental self-harm	338 (83.1)	24 (5.9)	45 (11.0)
Abuse/neglect	402 (98.8)	1 (0.2)	4 (1.0)
Behaviors	406 (99.8)	1 (0.2)	-
Alcohol	403 (99.0)	4 (1.0)	-
Benefits	390 (95.9)	3 (0.7)	14 (3.4)

*The relationships between demographic characteristic and needs of elderly with chronic diseases at Thuy Chau Ward:* The relationships between demographic characteristic and needs of elderly with chronic diseases at Thuy Chau Ward (Table 4). The significant relationship between occupation and biology needs was identified. It quite surprising that the highest “no needs” proportion was found among the agriculture job and 100% elderly stay at home needs support for care. There were the significant relationships between the gender, marital status, education level and social and environment needs. In particularly, the female tended to need more care and support than male. According to the marital status data, the married elderly need supports less than other groups. According to education data, the higher education levels the lower requirement needs support for care

#### IV. DISCUSSION

According to the percentage of the elderly in the population, Thuy Chau population was classified as “aging” (13). This could be shown that improving the health care system that is allowing access to chronic care, allowing people to live longer with chronic diseases. This study indicated that the prevalence of chronic diseases was higher 4-folds for the 60-79 age groups to those aged over 80 years. It can be seen that the people who lived without chronic diseases have longer life-expectancy; consistent with a previous conclusion that mortality from chronic diseases reduces life expectancy (14).

TABLE 4. The associate between demographic characteristic and needs of elderly with chronic diseases at Thuy Chau Ward (n=407)

Factor	Need		Chi square	P-value
	No need	At least 1 need		
<b>Biology needs</b>				
<b>Occupation</b>				
Government officer/retired	5 (9.1%)	50 (90.9%)	18.26	0.001
Merchant/business owner	6 (8.7%)	63 (91.3%)		
Agriculture	54 (23.1%)	180 (76.9%)		
General labor	2 (5.1%)	37 (94.9%)		
Stay home	0	10 (100%)		
<b>Social and environmental needs</b>				
<b>Gender</b>				
Male	42 (25.8%)	121 (74.2%)	5.337	0.021
Female	40 (16.4%)	204 (83.6%)		
<b>Marital Status</b>				
Single	0	16 (100%)	12.773	0.002
Married	63 (25.5%)	184 (74.5%)		
Divorce/separated/widowed	19 (13.2%)	125 (86.8%)		
<b>Education</b>				
Primary level (primary school or less)	57 (19.5%)	235 (80.5)	5.772*	0.018
Middle level (secondary or high school)	23 (20.4%)	90 (79.6%)		
High level (college/university or higher)	2 (100%)	0		

The proportion of females was higher than males (60% and 40%). A result of a cross-sectional study in a rural Vietnam showed the similar results that the significant relationship between gender with the risk of chronic diseases ( $p < 0.05$ ) and being a female were important key predictors of having chronic diseases (15) because the women frequently experience a healthy lifestyle rather than men; the percentage of smoking and alcohol using was more and more common in the men (16,17).

The finding of this study indicates that the education level of the elderly with chronic diseases at Thuy Chau Commune was low; as a result, the health care workers face many difficulty to improve the awareness of them. The previous studies showed that there was a positive relationship between education level with good health outcomes and mortality rates from chronic diseases ((18). This fact probably reflects lower education being associated with decreased knowledge about health matters, leading to a consequent increase in ill-health and risky health behaviors (19). This result is similar with the study in the rural Quoc-Oai District of Hanoi, Vietnam that the study shows that 10.8% of the elderly with chronic diseases are living alone so this situation causes the shortage of career for the patients when necessary and in the emergency issues (20). This issue caused by the increasing migration of the young labor force from the rural to urban for finding the job (21); and the transition from extended household to the nuclear household (22). The health care support for this vulnerable elderly should be considered in the future health care program.

The finding of this study founded that hypertension was the commonest chronic disease among the elderly followed by diabetes and asthma/COPD. Cancer and Severe vision reduction had very few cases reported, less than 1% for each. Meanwhile, another study conducted in the rural of Vietnam showed that joint problems were the most common chronic diseases, and followed by hypertension and chronic bronchitis there is no case of diabetes and cancer (15). The results demonstrate the effectiveness of the national hypertension screening at the community level, had been applied in the Thuy Chau Ward Health Station for 7 years, to reduce the unknown hypertension patient in the community but there is still lack of diabetes and cancer screening and the capacity of diabetes and cancer care services as well could not meet the needs of a rapidly increasing Vietnamese population (23).

Regarding the health needs of the elderly, this study showed that the majority of the elderly do not need support or who need help also received enough support for their condition. There were very few un-meet needs cases reported, one-tenth of the elderly had the needs of accidental self-harm was ranked the first and followed by the needs of eyesight/hearing/communication and the daytime activities. Regarding the needs of accidental self-harm and eyesight/hearing/communication, the elderly sometimes forgets to turn off the gas stove; has difficulty hearing what someone say to them or in watching television and newspaper so they require the support from their family members for meet their needs. Most of the elderly live with their children and receiving the main support from their children and their grandchildren when they get sick or requiring supporting so these characteristics indicated that an improvement in home-based care is more important in future interventions than institutional care. But in the recently, there is an increasing migration of the young labor force from the rural to urban for finding the job (21); and the transition from extended household to the nuclear household (22) so it needs to develop the community- based care for the elderly parceled with the home-based care. There are not the leisure activities which organized by the social committee for the elderly at the Thuy Chau Ward. There is an elderly club with 57 members in this area and every morning, the members of the club jogging together and join the health care education with the topic of health care for elderly people every quarter. Currently, there are no special policies to encourage the activity of this club. According to Asian culture, village culture is the dominate in all communities especially in the rural area, where the elderly to be “immersed” in the community. Moreover, there were several study indicated that participation in social activities decrease the risk of depression among the elderly (24,25) The significant relationship between occupation and biology needs was identified. It quite surprising that the highest “no needs” proportion was found among the agriculture job and 100% elderly stay at home needs support for care. There were the significant relationships between the gender, marital status, education level and social and environment needs. In particularly, the female tended to need more care and support than male. This result was similar with the study in Chiang Mai, a rural area in Thailand, that here were more female

participants identified that they had at least one needs than male. According to the marital status data, the married elderly need supports less than other groups. According to education data, the higher education levels the lower requirement needs support for care. To the best of our knowledge, there are not any published on the health needs assessment of the elderly assessed by the CANE questionnaire from previous studies in Vietnam.

## V. CONCLUSION

The majority of the elderly did not need support or who need help also received enough support for their condition. The most frequent identified need was in biology categories with physical needs but the highest percentages of unmet need was found in the social and environmental categories. There was the positive relationship between the gender and needs. To our knowledge, this is the first study in Vietnam using the CANE for holistic assessing the needs of elderly people with chronic diseases and find the relationship between socio demographic characteristic with needs. It is recommended that healthcare practitioners should use CANE as a useful tool in identifying the needs of the elderly to tailor interventions, long-term monitoring, or promoting health in the elderly with chronic diseases in the community.

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