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**Research Article**

# Self-Care Ability among the Elderly in the Mekong Delta, Vietnam: Recommendations on Health Policy for Elderly Care

**Luong Minh Cu[1], Hanh Tran Thi[2*], Vuong Bao Thy[3], Peter Chang[4], Cuong Tran Quoc[5] Chi Tran Ngoc Truc[6], and Phuc Du Trong[6]**

**ABSTRACT**

**Background:** Self-care is a cornerstone of a sustainable health system in support of Sustainable Development Goal 3. Limitations of self-care ability among the elderly in the Mekong Delta, Vietnam have been commonly observed. It needs to be identified to support them.
Objectives: This study aims to describe self-care ability and to recommend health policy for elderly care in the Mekong Delta, Vietnam.
**Method:** The study applied cross-sectional descriptive research. The subjects consist of 410 people aged 60+ living in Cantho City, the center of the Mekong Delta Region. Self-care Ability for the Elderly Scale was used. Data were analyzed using Minitab, of which t-test and ANOVA with a p-value of 0.05.
**Results:** The subjects showed an unsatisfactory self-care ability (SCA). The overall SCA mean score was 51.09 (range 8-78 scores) with differences in (1) Taking medications, (2) Recognizing and managing symptoms, (3) Daily living, and (4) Managing changes in condition, dependent on living area, age, education, and housing condition.
**Conclusion and recommendations:** Self-care ability among the elderly in the Mekong Delta is unsatisfactory. Appropriated self-care programs should be implemented, and public health nurses should be educated accordingly in Vietnam.

**Keywords:** Human Resources; Mekong Delta; Self-Care; Solutions; Training Health

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[1] *President of the University of Cuu Long, National Highway 1A, Phu Quoi, Long Ho, Vietnam. E-mail: minhculuong@gmail.com*

[2] *Vice Dean of Health Science Faculty, University of Cuu Long, National Highway 1A, Phu Quoi, Long Ho, Vietnam. E-mail: hanhtranmku@gmail.com*

[3] *Dean of Health Science Faculty, University of Cuu Long, National Highway 1A, Phu Quoi, Long Ho, Vietnam. E-mail: vuongbaothy79@gmail.com*

[4] *Professor in Show Chwan Medical Group; Taiwan. E-mail: peter.chang3@gmail.com*

[5] *MD, Thu Duc City Health Center, HCMC, Vietnam. E-mail: quoccuong.mph@gmail.com*

[6] *Cantho Medical College; Vietnam. E-mail: trucchiruacon@yahoo.com.vn; duphuc0@gmail.com*

[*] *Corresponding author, E-mail: hanhtranmku@gmail.com*

## Introduction

Self-care is the ability (SCA) of individuals, families, and communities to promote health, prevent disease, and cope with illness and disability with or without the support of a health worker (WHO, 2022a). Self-care as part of primary healthcare represents a cornerstone of a sustainable health system to ensure healthy lives and promote well-being for all at all ages (WHO, 2022b), (World Health Organization. Regional Office for South-East, 2009).

The context of the elderly's self-care needs in the Mekong Region shows some disadvantages. Its aging population is increasing alarmingly and mostly with non-communicable diseases (NCDs) (Ngoc et al., 2020). There is a big shortage of healthcare manpower in elderly care (Bang *et al*., 2017, Glinskaya *et al*., 2021). Further, the elderly need healthcare in the region have faced a lack of care resources from their families, because younger people seek opportunities to study and work outside of their families (Anh *et al*., 2020, (Dang et al., 2022). This requires the elderly to have a better ability to care for themselves.

More seriously, the COVID-19 pandemic has uncovered the limitations of self-care ability (SCA) and its negative impacts on the elderly people in the region. The majority of the elderly had difficulties not only in meeting their physical health but also in a society that applies online communication. As a result, elderly care is done by family or the older people themselves, who have limited or no training. There were a series of cases of patients suffering from respiratory failure, kidney failure, and stroke, and dying at home after a few days (Thuy, 2020).

It is necessary to identify the status of SCA among older people in the Mekong Delta, Vietnam, to improve this situation. This study's objectives were:

1. To describe the status of SCA among the elderly in the Mekong Delta, Vietnam.
2. To compare SCA among different groups in characteristics of the elderly in the Mekong Delta, Vietnam.
3. To recommend health intervention programs for the regional healthcare system in improving elderly care in the Mekong Delta, Vietnam.

## Methodology

### Research Setting and Design

Cantho City, the general and typical aspects of the Mekong Delta, was chosen as the research setting. A cross-sectional descriptive research design was used.

### Research Subjects, Selection Criteria, and Sample Size

Included were individuals of both genders aged 60 and above; living in Cantho City; being able to understand and respond to the questions independently; and agreeing to participate.

We excluded patients being cared for at the final stage of life. The sample size was determined by the formula (1).

$$n_0 = z^2_{1-\frac{\propto}{2}} \frac{p(1-p)}{d^2} \quad (1)$$

when ∝=0,05; p=0,5; d=0.05

$n_0$=384

Then at least 384 elders should be recruited. We got 410 elders according to the sampling procedure in the real setting (Figure 1).

**Sampling Technique**

Multistage sampling technique was applied at district, commune, and hamlet levels. The subjects at the hamlet level were chosen with a systematic sampling tool. Finally, 410 elders were recruited from 25 hamlets using a systematic sampling technique (Figure 1).

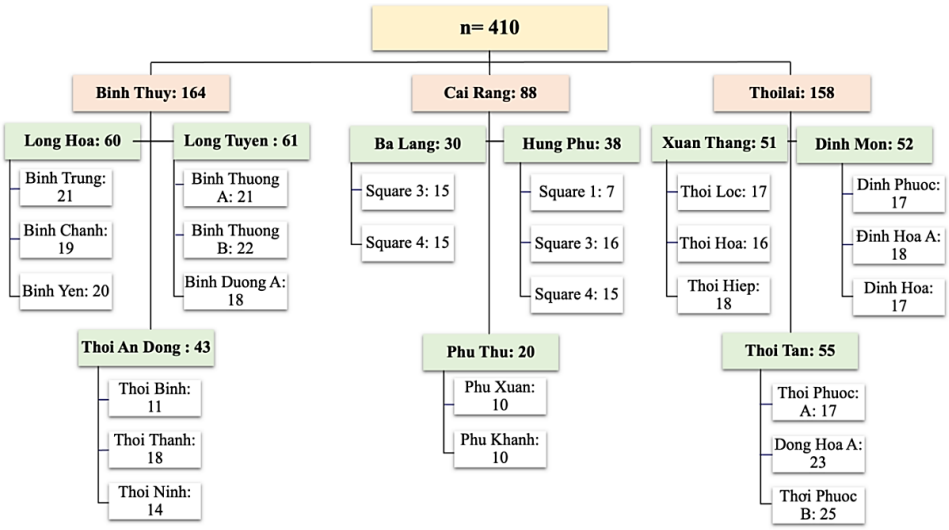


**Figure 1. Sampling procedures**

**Variable Measurement and Reliability of The Tool**

A questionnaire consisting of two parts was used to collect data. The 1st part was to find out information on independent variables. The 2nd part was to uncover SCA, as the dependent variable.

All variables, except “Status of poor households”, “House condition” and “Self-care ability”, were measured with 4 standard scales.

The variable “Status of poor households” was measured using a binary scale: “Yes” if the household’s monthly average income per capita is less than 1.5 million Vietnam dong (VND). “No” if that of the households is at 1.5 million VND or above.

The variable “House condition” was measured by the nominal scale. “Permanent” if the whole of their houses were built with reinforced concrete; “Temporary” if the pillars of their houses were built with

trees and the roofs were covered with cheap items. “Semi-permanent” if their houses were mixed with “Permanent” and “Temporary”

The variable “Self-care Ability” was measured by The Self-care Ability Scale for the Elderly (SASE) with 7 level-Likert scales. SASE consists of 13 items, and is divided into 4 following subscales:

- Items 1-3 measure the elderly’s Taking medications;
- Items 4-8 measure the elderly’s Recognizing and management of symptoms;
- Items 9-11 measure the elderly’s Carrying out activities of daily living and
- Items 12-13 measure the elderly’s Managing changes in condition

Each item of SASE is scored anchored with not at all (0) and very much so (6). High scores indicated high levels of SCA (Sidani & Doran, 2014).

SASE was translated into Vietnamese piloted with 25 elders and excluded from the sample size. We got Cronbach’s Alpha=0.85 of SASE for the Vietnamese version.

### Data Collection

A team consisting of 2 lecturers and 4 students at Cantho Medical College were trained and practiced with each other to avoid data bias and to gain correct information and reliability. Then data collection was conducted in September 2021.

### Data Analysis

Data were cleaned and analyzed using Minitab® 19 Statistical Software for Mac Descriptive statistics were used for all variables. ANOVA and t-test with a significance level of 0.05 were applied.

### Ethical Considerations

The study was approved by the local scientific committee, according to Decision No.398/QD-CDYT dated December 8$^{th}$, 2020. The local government permitted data collection. Those qualified for the inclusion criteria were explained the study’s purpose. They had the right to cancel participation without explanation.

## Results

### The Subjects’ Characteristics

There were 410 elders in the study. Their mean age was 72.80 years. Most of them are Kinh, the largest ethnic group in Vietnam, (95.85%); females (62.44%) and live with families (92.20%). Their education level was low, (72.20% less than grade 5). Their sons/daughters had the highest education in the family and their jobs differed from their parents (Table 1).

More details, the mean height, weight, and BMI were 153.65cm; 52.57 kg, and 22.62. Most of them had health insurance (95.37); 15.12 % with poor households; 23.17% kept on earning for living; 18.78% with social security money. The majority lived in remote areas (71.95%); 56.83% lived in permanent houses and almost had good-condition bathrooms and toilets (Table 1).

**Table 1. Characteristics of the subjects**

| Characteristics | Number (%) |
|---|---|
| **Personal Characteristics** | |
| Living areas | |
| Binh Thuy district | 164 (40.00) |
| Cai Rang district | 88 (21.46) |
| Thoi Lai district | 158 (38.54) |
| Age (Mean=72.80±8.15; Min=60; Max=98; Median=71; Mode=69); | |
| 60-80 | 332 (80.98) |
| >80 | 78 (19.02) |
| Gender | |
| Male | 154 (37.56) |
| Female | 256 (62.44) |
| Family members | |
| Min - Max | 1-16 |
| Mean | 3.82±2.02 |
| Living | |
| Living alone | 32 (7.80) |
| Living with other/s | 378 (92.20) |
| Ethnicity | |
| Kinh | 393 (95.85) |
| Others | 17 (4.75) |
| Religions | |
| Ancestor worship | 224 (54.63) |
| Having a religion | 148 (36.10) |
| None | 38 (09.27) |
| Previous job | |
| Famers/Gardeners | 239 (58.29) |
| Other | 171 (41.71) |
| Education level (Grade): Mean= 5±2.77; Min=0; Max=12; Median=5 | |
| ≤5 | 296 (72.20) |
| >5 | 114 (27.80) |
| The family member with highest level of education | |
| Son/daughters | 323 (78.78) |
| Others | 87 (21.22) |
| Education level of above person (Min=1; Max=12; Median=7); | |
| ≤ Grad of 5 | 154 (37.56) |
| Grad of 6 –9 | 119 (29.02) |
| Grad of 10 – 12 | 137 (33.41) |
| Jobs of above person | |
| Farmers/business | 71 (17.32) |
| Government staffs/workers | 137 (33.41) |
| Others | 202 (49.27) |
| **General physical condition** | |
| Height (cm) (Mean=153.65±8.26; Min=123; Max=175; Median=153) | |
| ≤150 | 150 (36.59) |
| >150 | 260 (63.41) |
| Weight (kg) (Mean=52.57±10.98; Min: 30; Max=110; Median=52; Mode=55) | |
| 30-50 | 182 (44.39) |
| >50 | 228 (55.61) |
| BMI (Mean=22.62±4.42; Min: 12.90; Max=43.51; Median=21.90; Mode=22.64) | |
| Normal range | 252 (61.46) |
| Underweight | 72 (17.56) |
| Overweight | 86 (20.98) |
| **Socioeconomic status** | |
| Healthcare insurance | |
| Yes | 391 (95.37) |
| No | 19 (4.63) |
| Other insurance | |
| Yes | 11 (2.68) |
| No | 399 (97.32) |
| Status of poor household | |
| Yes | 62 (15.12) |
| No | 348 (84.88) |
| Social security money | |
| Yes | 77 (18.78) |
| No | 333 (81.22) |
| Keep on earning for living | |
| Yes | 95 (23.17) |
| No | 315 (76.83) |

| Characteristics | Number (%) |
|---|---|
| Living close to the market/downtown | |
| Yes | 115 (28.05) |
| No | 295 (71.95) |
| House condition | |
| Permanent | 233 (56.83) |
| Semi-permanent/temporary | 177 (43.17) |
| Bathroom | |
| Both inside and outside of the house | 345 (84.15) |
| Outside of the house | 65 (15.85) |
| Toilet | |
| Both inside and outside of the house | 350 (85.37) |
| Outside of the house | 60 14.63) |

## Self-Care Ability

Their self-care ability (SCA) needs improvement. The overall SCA mean score was 51.09 (range 8-78 scores). In more detail, their SCA had differences in (1) Taking medications, (2) Recognizing and managing symptoms, (3) Daily living, and (4) Managing changes in condition as shown in Table 2 and Figure 2.

**Table 2. Self-Care Ability among the subjects**

| No. | Self-Care Ability | 7-level Likert scale ~~(0-6)~~ | | |
|---|---|---|---|---|
| | | Mean±SD | Min | Max |
| **I** | **Taking medications** | **11.57±3.97** | **0.00** | **18.00** |
| 1 | Knowing the medications to take | 3.85±1.34 | 0.00 | 6.00 |
| 2 | Understanding the purpose of medications | 3.85±1.34 | 0.00 | 6.00 |
| 3 | Taking medications as recommended | 3.87±1.34 | 0.00 | 6.00 |
| **II** | **Recognizing and managing symptoms** | **19.31±5.78** | **0.00** | **30.00** |
| 4 | Recognizing symptoms | 3.86±1.18 | 0.00 | 6.00 |
| 5 | Understanding reasons for symptoms | 3.84±1.19 | 0.00 | 6.00 |
| 6 | Knowing how to manage symptoms | 3.83±1.20 | 0.00 | 6.00 |
| 7 | Carrying out treatment recommendations | 3.89±1.21 | 0.00 | 6.00 |
| 8 | Carrying out treatment recommendations to avoid symptoms | 3.90±1.18 | 0.00 | 6.00 |
| **III** | **Carrying out activities of daily living** | **12.17±2.86** | **3.00** | **18.00** |
| 9 | Getting help, as needed, to carry out activities of daily living | 3.87±1.22 | 1.00 | 6.00 |
| 10 | Performing activities of daily living | 4.14±1.01 | 1.00 | 6.00 |
| 11 | Taking care of self | 4.16±0.99 | 1.00 | 6.00 |
| **IV** | **Managing changes in condition** | **8.03±2.06** | **2.00** | **12.00** |
| 12 | Getting help in case of emergency | 3.91±1.23 | 1.00 | 6.00 |
| 13 | Adjusting activities of daily living in relation to symptoms of aging changes in condition | 4.12±1.04 | 0.00 | 6.00 |
| | **Overall** | **51.09±12.60** | **8.00** | **78.00** |

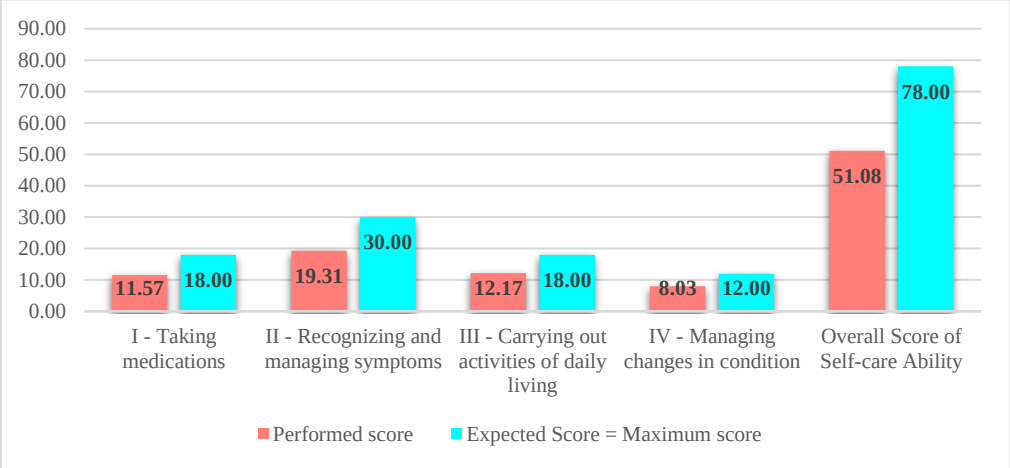


**Figure 2. Self-care Ability of the subjects**

**Self-care Ability and Personal Characteristics**

Statistically significant differences in SCA were found regarding living areas, age, gender, and education. Those living in Cai Rang district had poorer SCA than the other districts. (The mean of SCA was 48.36; 50.01 and 53.73 for those in Cai Rang; Binh Thuy and Thoi Lai respectively; at p=0.002). Surprisingly, those aged over 80 had better SCA in comparison to those less than 80. (The mean of SCA was 51.98 for those over 80 and 47.31 for those under 80; at p=0.003). Next, male people had better SCA than female ones. (The mean of SCA was 53.16 for males and 49.84 for females, at p=0.001). In particular, those with an education level of over grade 5 had better SCA than the others (The mean of SCA was 54.89 for those of over grade 5 and 49.63 for those less than grade 5 at p<0.001). (Table 3; Figure 2).

**Self-Care Ability and General Physical Condition**

Second was the influence of general physical conditions, such as height and weight. Those higher than 150 cm had better SCA in comparison to those shorter than 150 cm (Mean of SCA was 52.62 for those higher than 150 cm and 49.17 for those shorter than 150 cm at p=0.006). Surprisingly, those weighing over 50 kg had better SCA in comparison to those less than 50 kg (Mean of SCA was 52.39 for those weighing over 50 kg and 48.84 for those less than 50 kg; at p=0.006. (Table 3; Figure 2).

**Self-Care Ability and Socio-Economic Status**

Finally, there was a statistically significant impact of other insurance and house conditions. Those with other insurance (having private insurance) had better SCA (Mean of SCA was 59.27 for those with other insurance and 50.86 for the others at p=0.029). Those living in permanent house conditions had better SCA than the others (the Mean of SCA was 52.29 for those living in permanent house conditions and 49.50 for those living in semi-permanent/temporary house conditions; at p=0.026). (Table 3; Figure 2).

**Table 3. Self-care Ability among the subjects' characteristics**

| Characteristics | N=410 | Mean±SD | df | p-value |
|---|---|---|---|---|
| **Personal Characteristics** | | | | |
| Living areas | | | 2 | 0.002* |
| Binh Thuy district | 164 | 50.01±10.78 | | |
| Cai Rang district | 88 | 48.36±13.96 | | |
| Thoi Lai district | 158 | 53.73±13.14 | | |
| Age | | | 1 | 0.003* |
| 60-80 | 332 | 47.31±13.42 | | |
| >80 | 78 | 51.98±12.25 | | |
| Gender | | | 1 | 0.010* |
| Male | 154 | 53.16±12.79 | | |
| Female | 256 | 49.84±12.35 | | |
| Family member to live with | | | 1 | 0.216 |
| Living alone | 32 | 48.44±13.90 | | |
| Living with other/s | 378 | 51.31±12.48 | | |
| Ethnicity | | | 1 | 0.945 |
| Kinh | 393 | 51.11±12.61 | | |
| Others | 17 | 50.88±12.92 | | |
| Religions | | | 1 | 0.922 |
| None/Ancestor worship | 262 | 51.04±12.23 | | |
| Others | 148 | 51.17±12.38 | | |
| Previous job | | | 1 | 0.213 |
| Famers/Gardeners | 239 | 51.75±12.61 | | |
| Other | 171 | 50.17±12.57 | | |
| Education level (Grad) | | | 1 | <0.001** |

| Characteristics | N=410 | Mean±SD | df | p-value |
|---|---|---|---|---|
| ≤ 5 | 296 | 49.63±12.46 | | |
| >5 | 114 | 54.89±12.23 | | |
| The family member with highest level of education | | | 1 | 0.065 |
| Son/daughters | 323 | 51.68±12.07 | | |
| Others | 87 | 48.87±14.28 | | |
| Education level of above person | | | 1 | 0.993 |
| ≤7 | 227 | 51.09±12.51 | | |
| >7 | 183 | 51.08±12.76 | | |
| Jobs of above person | | | 2 | 0.557 |
| Famers/business | 71 | 52.37±12.93 | | |
| Government staffs/workers | 137 | 50.37±13.30 | | |
| Others | 202 | 51.12±12.02 | | |
| **General physical health condition** | | | | |
| Height | | | 1 | 0.006* |
| ≤150 | 150 | 48.84±12.81 | | |
| >150 | 260 | 52.39±12.32 | | |
| Weight | | | 1 | 0.006* |
| 30-50 | 182 | 49.17±11.51 | | |
| >50 | 228 | 52.62±13.24 | | |
| BMI | | | 2 | 0.103 |
| Normal range | 252 | 50.76±12.59 | | |
| Underweight range | 72 | 49.39±11.44 | | |
| Overweight range | 86 | 53.47±13.34 | | |
| **Socio-economic status** | | | 1 | 0.221 |
| Healthcare insurance | | | | |
| Yes | 391 | 51.26±12.53 | | |
| No | 19 | 47.63±13.89 | | |
| Other insurance (besides health insurance) | | | 1 | 0.029* |
| Yes | 11 | 59.27±15.66 | | |
| No | 399 | 50.86±12.46 | | |
| Status of poor household | | | 1 | 0.536 |
| Yes | 62 | 49.73±11.71 | | |
| No | 348 | 51.33±12.76 | | |
| Welfare of social protection | | | 1 | 0.115 |
| Yes | 77 | 53.13±13.15 | | |
| No | 333 | 50.62±12.45 | | |
| Keep on earning for living | | | 1 | 0.113 |
| Yes | 95 | 52.88±13.52 | | |
| No | 315 | 50.55±12.29 | | |
| Living close to the market/downtown | | | 1 | 0.148 |
| Yes | 115 | 52.53±11.29 | | |
| No | 295 | 50.53±13.06 | | |
| House condition | | | 1 | 0.026* |
| Permanent | 233 | 52.29±12.03 | | |
| Semi-permanent/temporary | 177 | 49.50±13.19 | | |
| Bathroom | | | 1 | 0.336 |
| Both inside and outside of the house | 345 | 51.35±12.39 | | |
| Outside of the house | 65 | 49.71±13.68 | | |
| Toilet | | | 1 | 0.351 |
| Both inside and outside of the house | 350 | 51.33±12.36 | | |
| Outside of the house | 60 | 49.68±13.96 | | |

* p<0.05; ** p<0.001

## Discussion

The findings of this study revealed that SCA among the elderly was on an unsatisfied level, with some differences as follows:

### Self-Care Ability and Elderly Characteristics

**Living areas**: Those living in the Cai Rang district had poorer SCA in comparison to Binh Thuy and Thoi Lai districts. This could be original from the historical order of district establishment. Cai Rang

District is the youngest district established in 2004 (Vietnamese Government, 2004). As a result, the district's elderly people may learn and follow the guidance from the healthcare programs longer and more often than those of the two other districts.

**Age:** Those aged over 80 had better SCA than those less than 80. This can be original from their historical communication in their lives. The older would have longer and more often communication, and they have more opportunities to learn and to share their life experiences, including SCA. This led to their SCA being better than that of those living in the other districts.

**Gender:** Males had better SCA than females. This difference could be from the cultural characteristics involving the Mekong Delta region. Cantho City belongs to the Mekong Delta Region, a new modernized region in comparison to other regions in Vietnam. This region's cultural characteristics are mostly still rural. The majority of elder female people had worked at their homes as household tasks. Besides, means of transferring information and entertainment such as the internet, and television were not as many as those living in modernized regions. The elderly females will have fewer opportunities to improve their SCA as much as the males.

**Education:** Those with an education level of over grade 5 had better SCA in comparison to those less than grade 5. This difference is logical. Those with better education could intake new information better than those with lower education. This leads to better health behaviors including SCA.

**The Other Difference in SCA Among the Elderly**

The study found that there were some SCA differences among the different groups of Height, Weight, Other Insurance, and House conditions of the elderly subjects. This could be in more detail as follows:

**Height:** Those higher than 150 cm had better SCA than those shorter than 150 cm.

**Weight:** Those weighing over 50 kg had better SCA in comparison to those less than 50 kg.

**Other Insurance:** Those with other insurance had better SCA than the others.

**House conditions:** Those living in permanent house conditions had better SCA.

Those differences above could be impacted by the elderly living circumstances involving the Mekong Delta region. The elderly people who have lived in the Mekong Delta Region might have both advantageous and non-advantageous conditions, which are considered determinants of health in this region. Evidence confirms that many factors combine to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have a significant bearing on our well-being and health (WHO, 2017). As a result, those with advantageous conditions would have taller height, better weight, better affordability for *other insurance,* and *permanent house conditions*. Saying further, *height, weight, other insurance,* and *house conditions* could be considered as the outcomes of the special characteristics of this region. Those outcomes could be factors that create the difference in their SCA.

**Self-Care Ability Among the Elderly in Other Researchers**

Some studies on SCA among the elderly using SASE and cross-sectional descriptive study design have been found.

In general, the SCA from our study is lower than that of some other authors. Findings from our research show that the SCA of the elderly was 51.09 out of 78 comparing 56.69 and 53.86 to the findings of Tabrizi *et al*. (2018) and Noohi *et al*. (2022).

More details, our study found higher SCA in those living in longer established districts, older people, males, those with higher education, those with higher height, those overweight, those with additional insurance besides health insurance, and permanent stable house conditions.

Other authors found some similarities and differences. (Tabrizi *et al*., 2018) found that SCA was associated with factors of educational level, life status, employment, and marital status. The findings of (Noohi *et al*., 2022) showed that SCA was worse in men, illiterate people, and villagers and that it decreased with age. Results (Tavares, 2022) confirmed that sex, age group, income, education, marital status, and housing arrangement were related to health status and self-care practice. The results of (Dale *et al*., 2011) reflected that predictors for high SCA included not receiving family help, and not perceiving helplessness.

In short in comparing the elderly in some recent studies, we found that the SCA score in our study was the lowest, due to some similarities and differences.

The similarities are: 1) SCA was not related to their family members; 2) Those with higher education would have better SCA; 3) Those with better housing conditions would have better SCA. Those similarities are logical.

Our finding also showed that among elderly people, the older or males would have better SCA. Nevertheless, Noohi *et al*. (2022) found that among elderly people, the younger or females had better SCA. Those differences could be original from different cultural backgrounds and living conditions.

## Recommendations

Based on the study's findings, our recommendations on health care policies for elderly people are as follows:

**1) Collaborated implementation of SCA programs**

Implementing specific SCA programs at the primary healthcare level. These programs should be different in different stages of NCDs.

**2) Collaboration on updating data**

The status of SCA in elderly people should be frequently updated.

**3) Improvement of competencies**

Workshops or training workshops should be carried out for healthcare staff to improve their competencies in health education.

**4) Implementation of public health nursing programs**

The Ministry of Health should collaborate with the Ministry of Home Affairs to establish the official salary levels for public health care nurses.

## Conclusion

The self-care ability of the study sample of 410 elderly people was unsatisfactory. It significantly depended on living area, age, gender, education, height, weight, insurance, and general house conditions. Recommendation: Public health nursing programs should be implemented in Vietnam to improve health behaviors in the community, including SCA for aging people. The programs of continuous education for healthcare workers should focus on the capacity to provide better self-care interventions to the elders.

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