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## Original Article

# Effect of Negative Life Events and Resilience on Health Status of Older Adults with Possible Sarcopenia: A Qualitative Research

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## SUMMARY

**Background:** As adults age, they eventually experience a decline in physical functioning and various life events. Inadequate physical activity and malnutrition have been recognized as major causes of possible sarcopenia. Many studies have addressed the risks of disability and fall associated with possible sarcopenia. However, information on the subjective life experiences of older adults with possible sarcopenia is insufficient. This study therefore aimed to gain an insight into the feelings and life experiences of older adults with possible sarcopenia in Taiwan.

**Methods:** We conducted a qualitative study involving 12 Taiwanese older adults with possible sarcopenia. Comprehensive, semi-structured interviews were conducted with the participants using a phenomenological approach.

**Results:** Three main themes emerged from the participants' description of aging: (1) the impact of aging, (2) developing health care strategies, and (3) mental reorganization.

**Conclusions:** The findings showed that some factors associated with better resilience. Increased personal resilience, social support, and environmental adjustment stimulate the elderly to recover from negative life events more quickly, and reduce the occurrence of injuries. Resilience is a learning process, it can continue impact late life and help them handle daily life stressor. Our study shed light on various physical and mental issues that older adults with possible sarcopenia might not express to health professionals due to limited outpatient time. Our results provided information that can help health professionals develop interventions for this population. The quality of care offered to older adults can be enhanced if their perspectives are taken into consideration.

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## 1. Introduction

In old age, people may encounter problems related to retirement, interpersonal relationships, death of family members, personal or family-related finances, and serious medical emergencies. Older adults who are unable to cope with stress may experience a rapid decline in their physical and mental functioning, as well as their daily protein intake.<sup>1–3</sup> Such degeneration can lead to insufficient physical activity and a subsequent sedentary lifestyle, increasing the risk for all-cause mortality among the elderly.<sup>4</sup>

Previous studies have shown that lack of physical activity<sup>5</sup> and protein deficiency<sup>6</sup> lead to the occurrence of possible sarcopenia among older adults,<sup>7</sup> with sarcopenia consequently being related to certain physical and mental conditions.<sup>7–9</sup> It is also associated with poor lifestyle habits, such as deficient or imbalanced diet<sup>1</sup> and low physical activity.<sup>10</sup> These conditions increase the risk of mortality,<sup>11</sup> huge medical expenses, and burden of care.<sup>12</sup> Older adults with possible sarcopenia are particularly susceptible to physical and mental health issues.<sup>3</sup> Although aging is a life process, adapting to aging with decline physical function might be a big challenge, resulting in

mental health issues in this population.

Amidst all the challenges, resilience acts as a key factor enabling older adults to recover from adversity.<sup>13</sup> Resilience refers to one's dynamic ability to deal with negative or stressful life events.<sup>14</sup> It is affected by personal characteristics, like personality and coping strategies, and incorporative characteristics related to time and context.<sup>15,16</sup> Resilience is a positive reaction to a high intensity stressor and a reaction to equilibrium, following low intensity stressors.<sup>12</sup> It is also a process of reacting to, learn about, and overcome adversity.<sup>17</sup> Studies have found that older adults with low resilience tend to have a poorer quality of life, including poor physical functioning, a tendency toward a sedentary lifestyle, and negative mental qualities.<sup>18</sup> Higher resilience is associated with better nutrition and higher participation in leisure activities among older adults with possible sarcopenia.<sup>4</sup> Suitable interventions involving physical activity<sup>19</sup> and nutritional education/intervention<sup>20</sup> can have a protective effect against developing possible sarcopenia.<sup>21–23</sup>

The present study will therefore explore the true perceptions and coping styles of older adults with possible sarcopenia, when dealing with major life events as well as their impact on diet and physical activity. Our findings will serve as a reference for healthcare workers in their care provision.

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## 2. Methodology

### 2.1. Study design

This study was part of the project, titled “Resilience, nutrition and physical activity in sarcopenia older adults with cardiovascular disease-qualitative and quantitative longitudinal research” (MOST 106-2314-B-010-059-MY3). The study followed a quantitative longitudinal research design, with data being collected at three time points over two years. Post this phase, a qualitative approach was used to conduct semi-structured interviews at a geriatric outpatient department in Taiwan. These interviews aimed to capture the participants’ perceptions on the topic at hand, and content analysis<sup>24</sup> was used to identify the emergent themes.

### 2.2. Participants

Participants for this study were recruited using purposive sampling. The inclusion criteria for the participants were as follows: (1) diagnosis of possible sarcopenia by means of the revised European Working Group on Sarcopenia in Older People, using cutoffs provided by the Asian Working Group for Sarcopenia (handgrip strength under 26 kg for men, and under 18 kg for women, gait speed of ≤ 0.8 m/s, and calf circumference of < 34 cm for men and < 33 cm for women), (2) age ≥ 65 years, (3) ability to communicate in Chinese or Taiwanese, (4) availability to spare at least 30 mins for the interview, and (5) no psychiatric diagnosis. The participants were selected for the two-year-long quantitative longitudinal research. Possible sarcopenia was defined based on the Asian Working Group for Sarcopenia (AWGS).<sup>25</sup> Their resilience levels were assessed and determined by the Chinese version of the Resilience Scale (CRS).<sup>26</sup> The total score of CRS ranges from 25 to 175, with a higher score indicating higher resilience and a score below 120 showing low resilience.<sup>16</sup> After the longitudinal research, participants who gave their consent for the qualitative interview, proceeded to the next phase of the study.

### 2.3. Data collection

Data collection for the interviews took place from January 2019 to April 2019. A semi-structured interview guide was used (Table 1) to collect data on participants’ perceptions and feelings. In this study “recently” defined within three years.<sup>27</sup> Face-to-face, in-depth, audio-recorded interviews were conducted until data saturation was reached. Each interview was held in a quiet and comfortable private space, and lasted around 30–45 mins. The audio recordings of the interviews were transcribed verbatim within 24 hours.

### 2.4. Data analysis and study rigor

The data was analyzed using content analysis,<sup>28</sup> which followed the Lincoln and Guba’s (1985) four essential characteristics of rigor: credibility, consistency, application, and neutrality.<sup>10</sup> Content analysis involved reading the full transcripts, coding relevant content,

**Table 1**

Interview guide.

1. Please tell me about your recent physical condition in daily life.
2. Please tell me about your appetite changes recently.
3. Please tell me what kind of difficult events you faced recently.
4. Please tell me how you face difficult events.
5. Would you want to share any other relevant experiences?

and identifying main themes. Through narrative analysis, themes and subthemes for this study emerged. In addition, data collection was conducted by a single researcher in order to ensure interview consistency. Another qualitative researcher with an experience of more than four years was involved in the peer review of the data.

### 2.5. Ethical considerations

Ethical approval and Institutional Review Board approval were obtained from Taipei Veterans General Hospital, Taiwan (IRB No. 2017-01-008BC). The data was collected at the hospital’s geriatric outpatient department.

## 3. Results

Twelve participants (seven men and five women), aged 74–96 years, (mean = 88.8 years) participated in the study. Their demographic characteristics are summarized in Table 2. Three themes and nine subthemes emerged from the participants’ descriptions.

### 3.1. Impact of aging

“Impact of aging,” as a theme, referred to the participants facing the aging process; they also experienced different changes in their daily life and unexpected deaths of family members. Under this theme, three subthemes emerged from the data: physical limitations, appetite and taste changes, and unexpected life events.

#### 3.1.1. Physical limitations

“Physical limitations” referred to the challenges related to physical functioning, including weakness or discomfort of limbs, decline in hearing and vision, and chronic diseases. Some patients experienced falls and decreased capacity for physical activities.

Poor joint mobility and lower limb weakness:

*“I usually feel a lot of pain and soreness in my shoulder and lower legs; I can’t raise my arms even though I usually go to rehabilitation therapy. I can’t walk for a long distance. I usually feel like I could fall down.”* (C)

#### 3.1.2. Appetite and taste changes

This subtheme referred to the decrease in the participants’ appetites despite attempting to eat more. In addition, because of taste changes, they may prefer foods with strong or mild taste. Although they understood the importance of healthy nutrition, they faced many difficulties related to food intake.

**Table 2**

The demographics characteristics of participants.

Participants	Gender	Age	Resilience level	Marital status	Primary caregiver
A	Male	87	Moderate-high	Widowed	Son
B	Male	74	Low	Widowed	Self
C	Female	89	Moderate-high	Widowed	Son
D	Male	87	Moderate-high	Married	Wife
E	Male	94	Low	Married	Son
F	Female	93	Low	Widowed	Daughter-in-law
G	Female	95	Low	Widowed	Son
H	Female	89	Low	Widowed	Son
I	Male	82	Moderate-high	Married	Wife
J	Male	93	Low	Widowed	Daughter
K	Female	87	Moderate-high	Widowed	Daughter
L	Male	96	Moderate-high	Married	Wife

Not feeling hungry:

*"I don't like to eat; I feel full after eating a little amount of food. I just eat half a bowl of rice, and I feel it is enough for me, but I could eat more than one bowl of rice before."* (A)

Preference for foods with a strong taste:

*"My daughter always cooks meat or vegetables for me. I know that good food is healthy for me; however, I don't like to eat if it tastes light. Instant noodles are my favorite because they smell good and delicious."* (K)

Effect of chronic disease on dietary intake:

*"I had a stomach operation a few years ago; therefore, I can't eat more food because I feel very uncomfortable when I am full. Therefore, food intake limitation is important for me. I eat a little bit at once, but at several times."* (B)

### 3.1.3. Unexpected life events

This subtheme referred to sudden life events, such as illness or the passing away of family members.

Sudden onset of illness:

*"I felt my physical strength was good after retirement; therefore, I went to the USA and lived with my daughter. I did not control my diet and got a stroke when I returned to Taiwan. I can't believe it."* (B)

Losing a spouse:

*"I lived with my wife and we took care of each other. However, she passed away a few years ago. I couldn't eat anything and I felt really sad, so I got a urinary tract infection and was admitted to the hospital for 2 months..."* (E)

Facing the death of offspring:

*"My young daughter died of ileus because of delayed operation three years ago. My heart is really hurt; I can't eat and sleep well, but I still need to get back to normal life."* (K)

Business failure and illness of offspring:

*"My eldest son's business in mainland China failed, and he lost more than 10 million dollars. When he came back, I added a rooftop unit on the fifth floor for his family to live in. I even asked my grandson if he needed money, but he did not want it and worked to earn it by himself."* (D)

## 3.2. Developing healthcare strategies

This theme referred to participants attempting to cope with aging by developing several health care strategies.

### 3.2.1. Storing protective reserves

Storing protective reserves (money, friendship, and muscle strength) helped with emergencies or overloads, thus preventing sudden and rapid deterioration of life.

Financial reserves:

*"When I was young, I saved money and even managed my finances. Now, I don't need to rely on my daughter or my daughter-in-law financially. I can even support them."* (F)

Friendship reserves:

*"After I retired, I regularly met my friends every 2 months. There are 7–8 of us, and we take turns hosting. Sometimes, we bring our*

*wives to meet up with our friends. I don't bring up my son's physical condition particularly. We just have a chat together to maintain our friendship."* (I)

Regular routine reserves:

*"When I was 50 or 60 years old, I would play tennis regularly. Now, my knees cannot cope with it, but I still go for walks every day to maintain my activity and muscle strength."* (K)

### 3.2.2. Paying attention to diet

"Paying attention to diet" referred to the participants realizing nutritional food is important and must be consumed in moderation; therefore, they attempted to intake protein-rich food and cut food intake into smaller portions.

Good adherence to recommendations:

*"I usually have an egg, a cup of milk, and bread for breakfast. Egg and rice are my lunch meal. I eat two eggs every day. My son prepares me meat and vegetables for dinner. We pay attention to my nutrition status because the doctor suggests that proteinaceous food is important for older adults."* (A)

Avoiding choking on food:

*"My son always prepares small-sized foods for me because of my dentures. Soft food is better for me because it is suitable for swallowing."* (J)

### 3.2.3. Participation in leisure activity

This subtheme referred to the participants attempting to take part in leisure activities in order to improve their physical and mental health.

Identifying preferred hobbies:

*"I usually watch TV and sing songs. Singing makes me happy and I also have some friends. I am retired; therefore, I prefer reading books or singing. I feel good."* (I)

Enriching individual life:

*"I usually walk for half hour a day and I take up some other activities, such as gardening, travelling with my family, or playing with my grandson. I enjoy this retired life because I do not feel bored."* (K)

### 3.2.4. Support from health professionals

This subtheme referred to the participants seeking professional resources to maintain or improve their health.

Concerns about health conditions:

*"I would like to join nutrition or health classes for older adults. I pay attention to my nutrition status, such as protein intake or eating light meals, to improve my health."* (B)

Following health education guides:

*"I have been visiting a day care center to take part in some classes. These classes include exercise and singing. The nurses give me some health suggestions for daily life. That is interesting."* (E)

## 3.3. Mental reorganization

This theme referred to the participants establishing a social network with peers to avoid loneliness when they retired. Religion-based support also helped older adults stabilize their emotions.

### 3.3.1. Afraid of loneliness

"Afraid of loneliness" referred to the participants attempting to go out and connect with other people who were of similar ages because they were afraid of being alone.

Connecting with peer group and establishing a network of friendships:

"I get together with my friends every 2 months. The group has 7–8 older people. We like to share different experiences and opinions, chat, and eat. My friends make me happy and support me. That is so much fun." (I)

### 3.3.2. Seeking religion-based support

"Seeking religion support" referred to the participants attempting to gain mental peace from religion when they faced some disturbing events in their life.

Avoiding negative thinking:

"I like to visit temples when I have free time or on a sunny day because I feel I can connect with Chinese Gods. I can tell everything to the Gods and that makes me gain a sense of spiritual peace. I find that I can think more positively." (H)

Seeking a sense of spiritual security:

"I am a Christian; I always pray to God when I feel sad or unhappy. God can give me the power to feel better or help my emotions calm down. Although my health state has declined and my child passed away, I still pray to God for emotional security." (B)

## 4. Discussion

The main findings of this study are that older adults with possible sarcopenia experience decline in their physical functioning and various negative life events that affect their life. More resilience can help them back to normal life, however they must be able to adapt and develop strategies in order to face their current situation.

Older adults often experience swallowing, chewing disorders, and changes in taste that result in nutritional problems leading to possible sarcopenia.<sup>1,20</sup> Nutritional education/intervention can reduce the occurrence of possible sarcopenia among older adults,<sup>11,18</sup> and our study reported similar findings. Our participants also developed coping strategies by seeking professional help to control their diet, and seeking family support to take protein-rich diets to maintain their daily lives. Therefore, dietary recommendations and food preparation suggestions are important for older adults.

Previous studies have also shown that lack of physical activity with sedentary lifestyle can lead to possible sarcopenia among older adults.<sup>4,5</sup> Suitable interventions involving physical activity can have a protective effect against developing sarcopenia in old age.<sup>7,21</sup> In our study, fall accidents made the participants more wary of receiving high intensive exercise. Therefore, it is necessary for this population to receive guided exercise trainings in the future.

Negative life events also influence the mental health of older adults; some cope with these events by adopting positive thinking. In our study, the majority of participants had planned for their retirement (reserve capacity<sup>13</sup>), shifted to low intensity physical activity after fall accidents, increased protein rich diet, and avoided relying on their children financially. Older adults with higher levels of resilience also paid more attention to their nutrition and engaged in suitable activities to maintain an independent lifestyle.<sup>7,11</sup> However, some participants adopted negative views. Older adults with low income, poor health, and no participation in community activities

tended to have poor mental health;<sup>30</sup> depression triggered by life events was highly correlated with possible sarcopenia.<sup>30</sup> Therefore, fostering resilience can enable individuals to cope with high stress loads, while also promoting their mental health and wellbeing.<sup>18</sup> In addition to resilience, social support is an essential factor for older adults.<sup>11</sup> Seeking help from health professionals is the main strategy adopted by older adults to improve health outcomes. Family support is yet another vital factor for successful aging, and older adults are concerned about family interactions and their feelings.<sup>3</sup> Therefore, providing health information to older adults and helping them increase their social interaction and support network, are important steps towards ensuring a good quality of life.

## 5. Conclusion

In Taiwan, rapid aging has been reported, which results in various health-related problems. While possible sarcopenia is a common problem among the aging population, resilience is a crucial factor that may help them through adversity. Our study found that older adults with possible sarcopenia experienced issues related to the impact of aging, developing health care strategies, and mental reorganization.

We found that having a primary caregiver was positively related to higher resilience, better nutrition, and more participation in physical activity. In addition, some factors were also associated with better resilience. Resilience is a learning process, early life issue and experience can continue to play a role in the level of resilience in later life. In our study, some participants with initially low levels of resilience due to negative life events, were able to increase their resilience through self-reliance, family support and professional interventions. It can continue impact late life and help them handle daily life stressor.

Social support is an essential factor and seeking for health professionals is the main strategy adopted to improve health outcomes. These are the positive correlated associated factors with possibility to intervene. Therefore, we recommend the implementation of interventional measures as early as possible. Age-related health problems require the input of multi-disciplinary medical teams, and specific strategies must be designed to help them adapt effectively to the aging process, and further study should be focus on these issues.

## Author disclosure statement

There are no potential conflicts of interest to disclose.

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